

SIXTEEN NEW LEAFHOPPERS AND NOTES (HOMOPTERA: CICADELLIDAE)

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During the past fourteen years of intensive collecting, many puzzling forms of leafhoppers have been taken. Some of these, a rather miscellaneous assortment, are described here. Study has progressed with the constructive help of Dr. P. W. Oman of the U. S. National Museum and Dr. R. H. Beamer of the University of Kansas. To them and especially to Prof. Josef N. Knull for drawings, collecting and other help, I wish to express gratitude.

Unless other deposition is mentioned, type material described here is deposited in the Collection of The Ohio State University.

***Alconeura splendida* n. sp.**

Plate II, Figures 1, 5, 6

Near *A. tricolor* (V. D.) but not black below. No black dot in apex of elytron, but genitalia and venation place it in *Alconeura*. In form of inner ♂ genitalia near *A. balli* Beamer, but with narrower aedeagus and straighter pygofer spine.

Head bluntly produced, shorter than pronotum in ♂, almost as long in ♀. Background cream-colored with irregular red spots, on vertex two before middle and four behind between eyes; pronotum with two large discal spots separated medially by narrow pale area, five to seven irregular small spots on each side; scutellum with basal angles, two median basal streaks, and a small triangle either side of apex before tip. Elytra golden with a small hyaline area in base of inner apical cell. Dorsum golden with thorax and last abdominal segments darkened. Face below apex orange, legs and venter greenish yellow, somewhat darkened, giving sordid general appearance.

♀ last ventral segment long, triangular, produced to blunt tip, convex, ovipositor dark brown. ♂ aedeagus in lateral view twice as long as width at base, apical portion at right angle to base and less than half as wide, three lanciform processes, two lateral and one heavier ventro-medial, arising in basal third and extending to apical third, parallel to shaft and separated from it by its width; lateral processes narrower, extending half length of shaft along its ventral surface. Pygofer spine slender, almost as long as aedeagus, tapering from base to sharp tip, and curving gently ventrad.

Length: 2.6 mm.

Taken in California: ♂ holotype, 2 ♂ paratypes, allotype and 6 ♀ paratypes, Palm Springs, Riverside Co., June 5, 1946; 1 ♀ June 19, 1941; and 2 ♀ paratypes, Santa Rosa Mts., Riverside Co., May 27, 1946, D. J. & J. N. Knull, in collection of writer.

***Emposca mira* n. sp.**

Plate I, Figure 9

A minute, brilliantly colored and intricately patterned species, appears cross-banded.

Head bluntly produced. Background of head, pronotum and scutellum and discal elytral crossband white, with bright red vermiculate mottling as illustrated. Red darkens toward mid-posterior part of pronotum and on scutellum becomes almost black at margins of apex. Elytra golden with broad white, irregularly red-margined, transverse area occupying middle third of clavus and adjacent corium, not reaching costa. Narrow red markings encircle this white saddle and branch through it with a larger darker red blotch on posterior claval half of it. Tips of elytra hyaline, veins pale, area before and below crossveins washed with dark smoky, especially dark near veins. Below green to yellowish green, legs near joints and tips bright

blue green, head white with bright red vermiculate markings becoming orange toward clypeus. Dorsum of abdomen dark.

♀ last ventral segment long, transverse, faintly produced, twice as long as preceding segment. ♂ styles swollen at base, narrowed to sharp out-turned apices, outer lateral margin sinuate. Lateral processes narrowed to fine, sharp, out-turned tips on apical fourth. Aedeagus short and straight with dorsal lip and pair of small spines on ventral base; spine of ninth segment with bulbous base and sharp projection longer than width of base extending ventrad from lower corner, curved, forming semicircle with base.

Length: 2.2 mm.

♂ holotype, allotype, 3 ♂ and 1 ♀ paratypes, Chisos Mts., Texas, July 17, 1946, D. J. & J. N. Knull, in collection of writer.

***Erythroneura fiduciaria* n. sp.**

Plate I, Figure 10

A large red species of the Vulnerata Group related to *E. tecta* McAtee and nearest to *E. calva* Beamer.

Vertex ivory with median pagoda-shaped red spot including narrow longitudinal pale area which does not reach base, and two minute pellucid spots before apex; orange spot against eye connected with median spot basally. Pronotum red with three small ivory spots, one at mid-anterior margin, one behind it below inner eye corner; posterior margin narrowly pale smoky, disk somewhat darkened. Scutellum red with mid-basal spot and transverse bar below impressed line, ivory. Elytra red but for a basal heart-shaped white spot below scutellum, narrow, irregularly formed pale diamond around red claval apical third, small diamond on corium before plaque reaching claval vein; costal area whitish hyaline with large, roughly oval black spot in lower part of plaque; crossveins red, apical cells hyaline with smoky vitta based in upper half of two inner cells and extending diagonally to lower outer margin. Below pale with dark spot below eye; mesosternum, dorsum and sides of pygofer darkened.

Length: 3.6 mm.

♀ holotype, Great Smoky Mt. National Park, Tennessee, 5,000-6,000 ft., June 21, 1942, D. J. & J. N. Knull, in collection of writer.

***Erythroneura maga* n. sp.**

Plate II, Figures 15, 16, 23

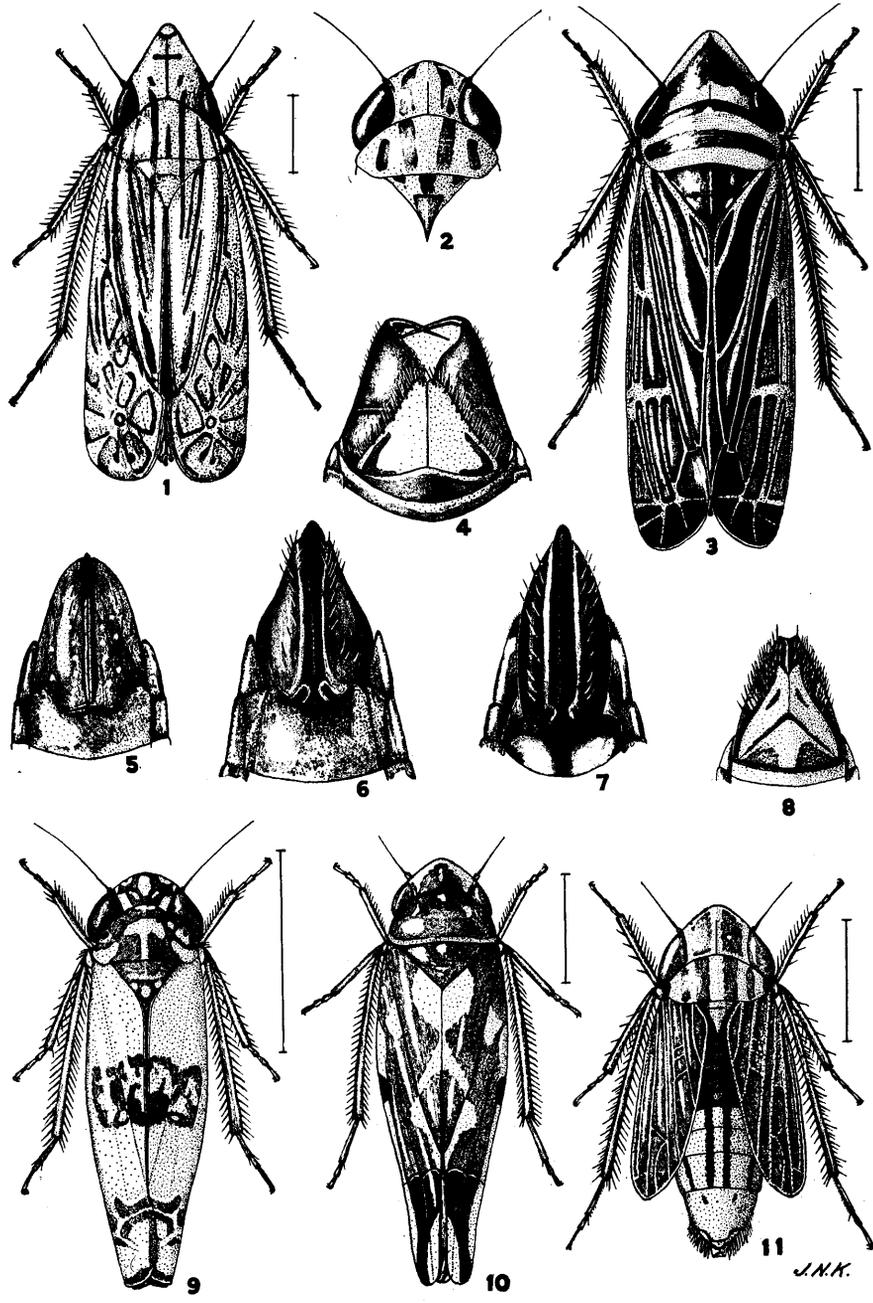
In the Maculata Group near *E. solita* Beamer and *E. macra* Beamer, but with longer, heavier pygofer hook and foot with more drastically curved base and longer, heavier posterior point.

Ground color white with pale orange diffuse markings. Vertex with three rounded white spots margined by thin orange bands. Pronotum with median oblong spot with indications of two small forward prongs not reaching margins; triangular spot behind each eye. Scutellum with tip orange, basal angles pale except for orange outer corner. Elytral markings diffuse, three spots on clavus; corium with dash near base, another extending diagonally from anterior end of plaque toward apex of clavus. Black spot at posterior end of plaque and one a little larger in base of cell M_4 . Small red spot at margin on outer crossvein. Venter creamy white.

♂ pygofer hook single, heavy, straight, extending to tip of pygofer, with blunt teeth on outer fourth of inner margin. Style with large foot; base curved strongly; heel large, directed down; anterior point short and sharp, less than right angle; posterior point very heavy, broad at base, and almost as long; straight, tip blunt. Aedeagus of medium size, a straight cylinder with rounded tip.

EXPLANATION OF PLATE I

1. *Flexamia miranda* n. sp. ♀. 2. *Laevicephalus paulus* n. sp. ♂. 3. *Cochlorhinus atratus* n. sp. ♀. 4. *Ballana diversa* n. sp. ♂ genitalia. 5. *Flexamia miranda* n. sp. ♀ genitalia. 6. *Ballana diversa* n. sp. ♂ genitalia. 7. *Cochlorhinus atratus* n. sp. ♀ genitalia. 8. *Mocuellus perdignus* n. sp. ♂ genitalia. 9. *Empoasca mira* n. sp. ♂. 10. *Erythroneura fiduciaria* n. sp. ♀. 11. *Mocuellus perdignus* n. sp. ♂.



Length: 3 mm.

Described from 10 ♂ specimens from Scioto Co., Ohio, holotype and 5 paratypes, June 9, 1943; 3 paratypes June 15, 1944; and 1 June 9, 1945, D. J. & J. N. Knull, in collection of writer.

***Erythroneura fausta* n. sp.**

Plate II, Figures 25, 26, 27

Similar in characters of inner ♂ genitalia to *E. knightli* Beamer, but with shorter aedeagus and pygofer hook.

Color and pattern as in *E. maga*, except that angles of scutellum are pellucid orange, basal claval spots are joined, outer crossveins red and black spot in base of cell M_4 is of medium size.

♂ pygofer hook stout, straight, curving in faintly toward apex, narrowed to sharp tip, as long as pygofer. Style heavy, heel large, projecting, blunt; base short, straight, thin toward toe; anterior point prominent, long, narrow, blunt, as long as base of posterior point, meeting base at less than right angle curve, longer than foot, tapering from broad base to sharp tip. Aedeagus short, spiny, with rounded tip.

Length: 2.8 mm.

♂ holotype, Hocking Co., Ohio, June 20, paratype, April 12, 1945, D. J. & J. N. Knull; paratype, Coalgrove, Ohio, April 24, 1934, J. S. Caldwell, in collection of writer.

***Erythroneura spinea* n. sp.**

Plate II, Figures 20, 21, 22

Inner ♂ genital characters near those of *E. tantilla* Beamer and *E. trautmanae* Knull, but with larger aedeagus than in the former, and differently shaped pygofer hook with fewer teeth than in the latter.

Ground color yellowish white, orange markings. Vertex with some pellucid spots, four forming square from base on median third; pronotum with small irregular orange triangle on middle, an irregular arc of pellucid spots behind anterior margin. Tip of scutellum orange, base pellucid. Clavi with large basal anchor-shaped spot and spot at apex; costa, vitta before humeral angle, angulate vitta more or less surrounding plaque and joined to one opposite apex of clavus; outer crossvein bright red, small black spot in base of cell M_4 , venter creamy and pellucid.

♂ pygofer hook single, S-curved, widened on outer two-thirds, with three prominent teeth on inner margin. Style with small foot; heel large, projecting; base slightly curved; anterior point small, projecting sharply; posterior point as long as base of foot, curving gently in; aedeagus long, straight and narrow in ventral view; very broad in lateral view and with many small teeth on dorsal portion, tip broadly rounded.

Length: 3 mm.

♂ holotype, Ames, Iowa, July 1, 1895, E. D. Ball Collector, in the Herbert Osborn Collection, The Ohio State University.

***Erythroneura tersa* n. sp.**

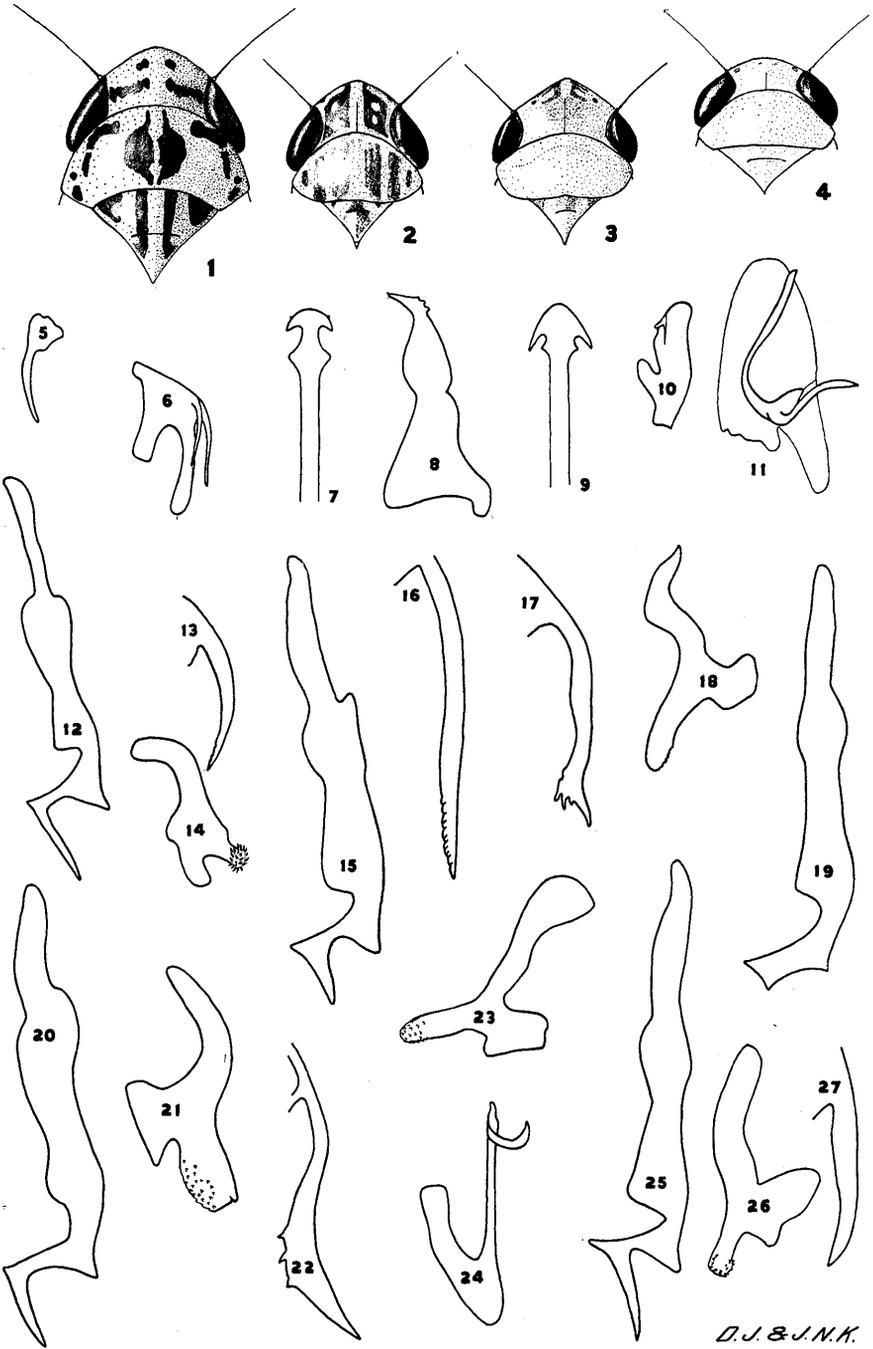
Plate II, Figures 12, 13, 14

In characters of inner ♂ genitalia near *E. dira* Beamer and *E. direpta* Knull, but with pygofer hook as in *E. torella* Rob.

Ground color creamy white with orange markings. Vertex with semblance of five white

EXPLANATION OF PLATE II

1. *Alconeura splendida* n. sp. ♂. 2. *Laevicephalus canyonensis* n. sp. ♂. 3. *Laevicephalus obivius* n. sp. ♂. 4. *Aligia riscoana* n. sp. ♂. 5, 6. *Alconeura splendida* n. sp., pygofer spine, aedeagus. 7. *Laevicephalus canyonensis* n. sp., aedeagus. 8, 9. *Laevicephalus obivius* n. sp., style, aedeagus. 10, 11. *Aligia riscoana* n. sp., aedeagus and pygofer. 12, 13, 14. *Erythroneura tersa* n. sp., style, aedeagus, pygofer hook. 15, 16, 23. *Erythroneura maga* n. sp., style, pygofer hook, aedeagus. 17, 18, 19. *Erythroneura cristata* n. sp., pygofer hook, aedeagus, style. 20, 21, 22. *Erythroneura spinea* n. sp., style, aedeagus, pygofer hook. 24. *Laevicephalus canyonensis* n. sp., aedeagus. 25, 26, 27. *Erythroneura fausta* n. sp., style, aedeagus, pygofer hook.



D.J. & J.N.K.

spots more or less surrounded with bands of color. Pronotum with median triangular or sometimes rectangular spot not touching either margin and angular spot back of each eye. Scutellum with tip red and basal angles yellow. Clavi with basal anchor-shaped mark and spot before tip. Coria with angulate spot on costa before humeral angle, another broken vitta arising on costa at anterior end of plaque, more or less surrounding it, ending on mesal margin near tip of clavus in enlarged area. Outer crossvein red. Small black spot in base of cell M_4 and smaller one in posterior end of plaque. Tips of elytra smoky. Venter stramineous.

♂ pygofer hook stout at base, short, tapering to sharp tip and turned in. Style of medium size, base curved, heel projecting out, less than a right angle; anterior point almost a right angle, inconspicuous; posterior point longer than base of foot, narrow, straight, sharp, meeting base in a broad curve. Aedeagus quadrate, spiny.

Length: 3 mm.

Described from a series of ♂s, holotype, seven paratypes, five specimens, Hocking Co., Ohio, April 12, 1945, D. J. & J. N. Knull, in collection of writer.

***Erythroneura cristata* n. sp.**

Plate II, Figures 17, 18, 19

General ground color white, semihyaline, markings orange, pellucid anteriorly. Vertex with basal pellucid V at middle with lateral extension to each eye enclosing pale square; faint dash at apex; pronotum with median Y reaching margins and angular spot behind each eye; scutellar angles pellucid. Elytra hyaline with dark tips, red dash on outer crossvein; anchor spot on basal clavus and spot near apex diffuse, orange; corium with spot near humeral angle, parallel vittae originating at ends of costal plaque and extending down anterior to apex of clavus and posterior to base of cell M_4 . Round black spot in base of cell M_4 and dot in posterior end of plaque.

♂ pygofer hook swollen at middle, narrowed, then broad on apical fifth, with outer point broad, sharp, turned out and four sharp irregular teeth, with some smaller ones on rounded inner margin. Aedeagus large, long, oval, with a few minute teeth on posterior margin in lateral view near apex.

Length: 2.5 mm.

♂ holotype, Scioto Co., June 10, 1944, D. J. & J. N. Knull, in collection of writer.

***Cochlorhinus atratus* n. sp.**

Plate I, Figures 3, 7

Near *C. bidentatus* Beamer in coloring and form of ♀ genital segment, but larger and with head more produced.

Large, robust, with vertex and pronotum alternately straw and black banded, elytra with all cells dark brown to black, all veins pale and raised. Vertex as long as pronotum, shorter than basal width, triangularly produced, disc depressed, pale, thin margin including ocelli narrowly carinate above, transverse dark band on disc produced medially; pronotum broadly rounded in front, slightly emarginate behind, marked with four almost equally wide transverse bands, anterior dark, dark bands not reaching lateral margins. Scutellum chiefly black with indications of lighter areas. Below, black, but for pale transverse band crossing lower half of face, anterior part of genital segment and edges of pygofer along ovipositor. Legs dark, tibiae white-lined inside.

♀ segment a little longer than preceding, lateral lobes broadly rounded from base to posterior margin which is broadly and shallowly emarginate.

Four ♀s, holotype and paratypes, Clear Lake, Lake Co., California, June 18, 1941, D. J. & J. N. Knull.

***Ballana diversa* n. sp.**

Plate I, Figures 4, 6

Smaller than but resembling *B. dissimilata* (Ball). ♂s green, ♀s brown, mottled.

♂. Head yellow, half longer at middle than next to eye, a little shorter than pronotum, obtusely angled, disc depressed, ocelli dark brown, uppermost dark arc of front visible from

above, eyes dark, traces of light brown markings with pair of spots above base nearer eye than middle. Pronotum green with paler anterior and lateral margins; scutellum yellowish green. Elytra green with veins paler especially toward apex; apical cells and costa on apical half fumose. Dorsum black. Below mostly straw colored, face with eight light arcs.

♀. Vertex and anterior portion of pronotum yellow, with scutellum irrorate with brown; elytra milky subhyaline, heavily irrorate with brown, apical veins pale and tips more solidly brown.

♀ segment half as long as basal width, narrowed strongly below base, and produced, narrowing a little, to shallowly excavated broad apex; lateral lobes round; black, longitudinally striate area either side of center of excavation; whole segment convex.

♂ genitalia as a whole from ventral view almost square. Valve bluntly triangular, a little longer at middle than preceding segment. Plates together as long as basal width, narrowed gradually to bluntly round tips, exceeded by pygofer half their length. Pygofer sides straight, terminating ventrally in long transverse black spines which narrow to sharp crossed, upturned tips, often visible in uncleared specimens. Seen from the dorsal view, each spine has a smaller spine projecting in from base, and there is a heavy, short, strongly out-curved spine either side of anal tube. Styles with long finger-like projection inside, reaching half length of plate. Aedeagus narrow, strongly S-shaped, slightly wider before long narrow, sharp tip.

Length: 5.8 mm.

Collected from manzanita (*Arctostaphylos* sp.) near Carrizo, Arizona, ♂ holotype, allotype, 17 ♂ paratypes, 34 ♀ paratypes, July 18, 1950, D. J. & J. N. Knull. Paratypes sent to U. S. National Museum and University of Kansas Collections.

***Aligia riscoana* n. sp.**

Plate II, Figures 4, 10, 11

Resembling *A. lutea* Hepner, but larger, apex of pygofer in ♂ rounded instead of triangular, and aedeagus stouter.

Vertex rounded, parallel-margined, half as long as pronotum, transverse groove definite; crossveins sparse, inconspicuous except where darkened toward apex.

Color. Golden yellow in ♂, paler in ♀, with basal angles of scutellum bright yellow; elytra with dark spot in apex of clavus and inner apical cells darkened as well as veins and costal reflexed veinlets.

♂ genitalia: pygofer elongate, broadly rounded at tip, pygofer hook bifid, outer prong extending to apex, blunt-tipped, a little broader on outer half; inner prong half as long, outer third broader, somewhat leaf-like, tip sharp, curved out at apex. Aedeagus short and broad in lateral view, with short, triangular latero-dorsal spine before apex. Styles twice as long as basal width, sinuately narrowed to outer third, with blunt apices.

♀ segment transverse with narrow median tooth produced about one-third length of segment.

Length: ♂ 5.2 mm.; ♀ 5.6 mm.

♂ holotype, allotype, 1 ♀ paratype, Chiricahua Mts., Arizona, Sept. 29, 1947; a ♀ paratype, Huachuca Mts., Arizona, Sept. 9, 1938, D. J. & J. N. Knull.

***Mocuellus perdignus* n. sp.**

Plate I, Figures 8, 11

Related to *M. collinus* (Boh.) but much smaller, and similar in character of external ♂ genitalia to *M. larrimeri* (DeL.) but with broader valve and shorter plates.

Robust, straw colored with darker brown markings in form of longitudinal stripes, broad blunt head, and elytra not covering abdomen.

Head half longer at middle than next to eyes, blunt, rounded to front, as long as pronotum with two broad dark stripes from just below anterior margin to base, extending across short pronotum where they are a little narrower. A pair of still narrower stripes on pronotum extending behind inner eye corners and a third pair near short lateral margins. Pronotum broadly rounded in front, slightly emarginate behind, with very narrow sharp lateral margins. Scutellum small, stripes indicated as continued over basal angles, tip sharp, pale. Dorsum dark basally, light background on abdominal segments with dark area separating into four narrow longitudinal dark

stripes reaching pale pygofer. Elytra straw-colored, semi-hyaline with veins paler, broad, appearing slightly raised, three crossveins in outer clavus, reaching base of pygofer, narrowed apically to rounded tips.

Below, face pale with dark arcs, abdomen dark with lateral margins broadly pale to last abdominal segment which is pale with narrowly dark posterior margin; valve with triangular dark area either side before middle, plates pale with elongate streak near middle, and pygofer dark and hirsute. Valve triangular, as wide as plates at base, twice as long as segment, blunt apex; plates extending length of valve beyond it, narrowing to rounded tips, apically divergent; pygofer extending half length of valve beyond plates, edges carinate, overlapping slightly at apex. Styles visible from side (specimen not dissected) of medium size, parallel margined to apex where they are broadened, rounded on inner side, apex transverse, and produced laterad on outer side in sharp point half as wide as shank.

Length: 3.2 mm.

♂ holotype, Yosemite National Park, Mariposa Co., California, August 1, 1940, D. J. & J. N. Knull.

***Laevicephalus paulus* n. sp.**

Plate I, Figure 2; Plate II, Figure 24

Remarkable for difference in form of head in ♂'s and ♀'s. In ♂ blunt head is not as long as middle as is pronotum; in ♀ it is triangularly produced, a little longer than pronotum.

Color. Ground color cinereus, frontal sutures brown, frons with brown arcs coalescing medially. Vertex with median brown inverted U with arms projecting toward ocelli, and elongate dash either side on base next to eye. Pronotum with six longitudinal stripes, the inner pair approaching one another basally. Scutellum with basal angles, median spot and apex brown. Elytra grayish subhyaline with cell margins embrowned. Elytra exceeding abdomen.

Genitalia. ♀ last ventral segment long, roundly and a little sinuately produced. ♂ valve small, triangular, plates long, broad as pygofer basally, tapering gradually to rounded tips, reaching two-thirds of way to apex of spiny pygofer. A single row of long white spines on lateral margins of plates behind which is a row of fine longer hairs. Spines of pygofer thick and dark. Aedeagus shaft long and straight, tip knobbed with pair of semi-circularly curved lateral processes crossing tips ventrally, shaft slightly more than a third longer than basal arm.

Length: ♂ 3 mm.; ♀ 3.6 mm.

♂ holotype, paratype, 2 ♀ paratypes, Patagonia Mts., Arizona, August 20, 1940; and allotype, 2 ♂ paratypes, August 7, 1950, D. J. & J. N. Knull.

***Laevicephalus canyonensis* n. sp.**

Plate II, Figures 2, 7

Smaller than, but very similar to *L. paulus* but with different aedeagus and color pattern on head. Lateral stripes meet on apex, have projections to just below ocelli and basally form squares with white dot in center either side of middle and against eyes. Pronotal stripes wider than in *L. paulus*.

♀ genital segment long, sides sharply emarginate at half length to median half which is produced in a broad truncate median lobe. ♂ genitalia as in *L. paulus* but with plates and pygofer more constricted at middle. Aedeagus with very long straight narrow shaft, twice as long as base, ending in rounded tip with straight sides, and just before it, a lateral blunt tooth projects on either side.

Length: ♂ 2.5 mm.; ♀ 3 mm.

♂ holotype, allotype, 1 ♂ paratype, Sabino Canyon, Arizona, July 30, 1950; a ♀ paratype, Tucson, Arizona, August 27, 1938; 1 ♂ paratype, Mt. Lemmon, Arizona, August 2, 1950, D. J. & J. N. Knull.

***Laevicephalus obvius* n. sp.**

Plate II, Figures 3, 8, 9

Similar in form and coloring to *L. aridus* Oman, but larger.

Color. Pale greenish white, head and scutellum yellow-tinged, front with distinct brown bars full length, vertex with curved brown dashes either side of apex, approaching ocelli; eyes dark, and dark dorsum showing through elytra gives sordid appearance to insect.

Vertex bluntly produced, almost as long as pronotum in ♀, two-thirds as long in ♂. Elytra extending well beyond tip of abdomen, veins straight, regular, pale green.

♀ segment very large, produced half its length in a broad rounded median lobe, sides sinuate, slightly notched at middle, and often appearing creased at center from base. Ovipositor black. ♂ valve equilaterally triangular, small, not as wide as preceding segment. Plates long and broad, narrowing gradually to rounded tips; exceeded by pygofer two-fifths their length. Aedeagus with long narrow shaft as in *L. canyonensis*, ending in rounded tip with sharp up-turned corners and often with small lateral point just before tip. Style with three or more rounded protuberances on heel part of apical foot-like structure which is heavily chitinized.

Length: ♂ 3.4 mm.; ♀ 4.2 mm.

Taken in mountains of southern Arizona: ♂ holotype, allotype, 16 ♂ and 20 ♀ paratypes, Huachuca Mts., August 12-19, 1950; 78 ♂ and 51 ♀ paratypes, Patagonia Mts., August 7, 1950; Chiricahua Mts., August 28, 1940, 2 ♀s; Sept. 5, 1947, 1 ♂, 5 ♀s; Sept. 12, 1947, 1 ♀; Sept. 14, 1938, 1 ♀; Tucson Mts., August 1, 1950, 1 ♂; Sabino Canyon, July 30, 1950, 1 ♂, 1 ♀, D. J. & J. N. Knull; 1 ♂, 6 ♀, Huachuca Mts., Arizona, Sept. 5, 1936, E. D. Ball, received for study from and returned to U. S. National Museum.

***Flexamia miranda* n. sp.**

Plate I, Figures 1, 5

Closely related to *F. mexicana* DeLong & Hershberger, but shorter head and distinct ♀ genital segment.

Large, creamy white with dark brown markings and long, flaring elytra exceeding abdomen. Vertex flat, strongly produced, bluntly pointed, as long as pronotum and about as long as basal breadth between eyes.

Color. Vertex pale, tip encircled by an irregular dark band, a transverse bar marking apical third, a pair of pellucid marks appears midway between upper corners of eyes and center, each as far from each other as from eyes. Nine narrow longitudinal stripes on pronotum, median on basal two-thirds, inner pair extending on to vertex base briefly, two inner pairs cross scutellum on inner and outer margins of basal angles, outer short pair on lateral margins. Elytra pale with area either side of center length of clavus immaculate, veins narrowly and irregularly brown margined, apical and costal cells washed with light brown.

Below, face pale, except for dark anterior band which contains five pale lines, a band across antennal cavity, eye margin and mesonotum, dark thorax, margins of abdominal segments and bases of spines and some bands and lines on legs dark. Inner margin of genital segment black as is apical half of ovipositor.

♀ segment three times as long as preceding, excavated from rounded broad lateral angles to one-third its depth with faintly produced median lobe nicked at its center. Pygofer plump with round white discal spots at base of spines.

Length: 5.3 mm.

♀ holotype Huachuca Mts., Arizona, August 19, 1950, D. J. & J. N. Knull.

NEW OHIO RECORDS

Idiocerus telus DeLong & Hershberger, 1 ♂ Hocking Co., Ohio, April 12, 1949, D. J. & J. N. Knull.

Erythroneura (Maculata Group)

" *maga* Knull, *fausia* Knull, *tersa* Knull, and *cristata* Knull (this paper).
" *vittata* Knull & Auten, Hocking Co., April 12, 1945, D. J. & J. N. Knull.

Erythroneura coxi Ross & DeLong, Delaware Co., May 11, 1947, D. J. & J. N. Knull.
" *igella* Ross & DeLong, Hocking Co., April 12, 1945, D. J. & J. N. Knull.

" *quercalbae* Ross & DeLong, Hocking Co., April 12, 1945, D. J. & J. N. Knull.

" *rangifer* Ross & DeLong, Hocking Co., April 12, 1949, D. J. & J. N. Knull.

SYNONYMY

Erythroneura alternata Johnson, *Bull. Ohio Biol. Surv.* 31:72, 1935 (July 8) is a synonym of *E. cauta* Beamer, *Jour. Kans. Ent. Soc.*, 8:100, 1935 (July 1).
