

SOME ERYTHRONEURA FROM THE SOUTHWEST
(HOMOPTERA: CICADELLIDAE)

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Descriptions of ten species of *Erythroneura* from the Southwest are included here. Unless otherwise indicated all collections were made by D. J. and J. N. Knull, and specimens are deposited in the collection of the authors.

Ovipositors were described and drawn by M. Auten.

With the exception of *E. juglandis* which belongs to the *Obliqua* Group, these species belong to the group typical of southwestern forms, in which the inner male genitalia have two pygofer hooks.

Erythroneura juglandis n. sp.

(Figs. 1 and 11)

This is a strikingly marked species of the *Obliqua* Group with but one pygofer hook and a diagnostic foot on the style in the inner male genitalia. It is quite unique in its color pattern.

Background pale creamy white marked with yellow vittae and black to dark brownish gray areas. Vertex with broad golden yellow inverted V-shaped vitta not touching margins, its center filled from base with black rectangular wedge; scutellum, basal angles black margined with yellow, narrow median longitudinal strip white, apex black. Elytra pale, washed with golden yellow along costal margin and with two ordinary oblique stripes on corium and clavus; apical half of clavus and inner part to apex of scutellum filled with solid sooty stripe, also area of corium adjacent to apex of clavus and inner apical cell dark, spreading the stripe a bit in this region; outer apical cells smoky semihyaline. Below, venter pale, yellowish, pellucid, spot on thorax next to base of first leg, and tip of ovipositor dark.

Inner male genitalia: Foot of style stout, heel about a right angle; anterior point sharp, less than right angle; posterior point about as long as foot is wide, stout, curving in slightly and narrowed to sharp point; oedagus from ventral view, shaft long and moderately heavy, lacking processes and tapering slightly from base; in lateral view wide, apex curving dorsad at more than right angle; pygofer hook single and of typical *Obliqua* Group form.

On the oedagi in two of the male paratypes examined there appeared to be traces of delicate lateral median expansions. On one side of one was a rather large, triangular expansion with a sharp point directed

caudad on its outer edge. However such processes appeared to be entirely lacking on the oedagus of the holotype and of two other paratypes. This species can be determined readily by its external markings alone.

Female genitalia, the larger dentated blade of the ovipositor: Short narrow blade three times as long as wide; teeth becoming distinct about one-third of distance from base of dentated margin; basal one-third with irregular shallow teeth; ventral margin approaching a straight line; tip blunt with ventral margin irregularly, finely serrated.

Length, 3 mm.

Described from a large series taken from walnut in the Davis Mts., Texas, near Fort Davis, August 2, 1937. Twenty paratypes from Concan, Texas, July 6, 1936, collected by R. H. Beamer and D. R. Lindsay, are deposited in the collection of The Entomological Museum, University of Kansas, Lawrence, Kansas. These were also collected from walnut. Paratypes from the Davis Mts. are placed in The Ohio State University Collection.

Erythroneura spectabilis n. sp.

(Figs. 2 and 12)

A small, stout, brightly and strikingly marked species, near *E. nicholi* and *E. rubicunda* Beamer, but with distinct coloring and inner male genitalia.

Ground color white with scarlet vittae and black eyes; vertex pale with trace of narrow vittae dividing pale area into five spots, the median one longer; pronotum with basal half grayish white, anterior half scarlet but for narrow, elongate transverse median apical spot, and two small roundish spots on either side behind eyes and within the color band; scutellum scarlet but for very narrow white median streak between basal angles and tiny pale triangle at outer margin of basal angles which are slightly brownish; elytra scarlet but for the following pale areas: a transverse oval about covering basal fourth of clavus and extending almost to costa, another more round one including apical third of clavus and adjacent corial area; the costal plaque white with darker red median area and a transverse pale band before crossveins; apical cells smoky. Below, face red, legs pale, body brownish pellucid, darker on abdomen; in female, pygofer scarlet, ovipositor dark, last ventral segment strongly produced in small rounded tip.

Inner male genitalia: Oedagus from lateral view parallel with base, constricted near middle and broadening again to below apex of tube where there is a narrow dorsal extension; from ventral view narrow, tapering to tip, a heavy pair of ventral processes arises at base, follows shaft on ventral surface about one-third its length; two pygofer hooks, the dorsal short, stout, emarginately bispinose at apex; the apical long, rather heavy, with a segmented appearance, extending to tip of pygofer and directed dorsad; styles lacking diagnostic characters, anterior point short, sharp, turned up.

Female genitalia, the larger dentated blade of the ovipositor: Very long narrow blade, three and one-half times as long as wide; teeth so shallow that the subdenticles of one are not easily separated from those next to it, making the number of teeth difficult to determine; ventral margin curved at about same angle as dorsal; tip sharply pointed with fine serrations on ventral margin.

Length, 2.5 mm.

Three specimens, male holotype, allotype and female paratype, taken in the Huachuca Mts., Arizona, July 20, 1937.

Erythroneura munda n. sp.

(Fig. 3)

Background yellowish white, marked with traces of vittae and fuscous spots; vertex without markings; pronotum, median two-thirds from base with pale orange roughly triangular area extended by two narrow pellucid projections to anterior margin; scutellum, basal angles and apex pale orange; elytra yellowish orange, subhyaline, with the following fuscous blotches—one on clavus before apex, costal plaque with one at either end and a paler one at anterior lateral margin, apical cells and region just anterior to crossveins faintly fumose.

Inner male genitalia: Root of style fairly long and heavy for the western type, the anterior point extending cephalad, triangular, base concave; oedagus in ventral view long, narrow, tapering to apex, pair of lateral processes extends two-thirds length of shaft, diverging gently; from lateral view broad, curved dorsad, tip or keel turned dorsad at more than right angle, narrowing to apex; two pygofer hooks, the anal of medium thickness, tapering to sharp tip and curving in very slightly, the apical curved scythe-like, about a third longer than the anal, almost as thick and curved under the pygofer.

Length, 3 mm.

Male holotype, allotype and paratype taken in the Chiricahua Mts., Arizona, July 26, 1937.

Erythroneura sola n. sp.

(Figs. 4 and 13)

A slender, inconspicuous species with background yellowish white, semihyaline on elytra, vittae golden yellow to orange; vertex pale apically and on median line, with rather broad golden yellow vitta surrounding basal pale spot next to each eye and larger triangular median spot, except at apex where band is broken; pronotum, lateral and anterior borders pale, also antero-median indentation of orange discal triangle which reaches base even with basal triangles of scutellum; scutellum with median square pale, basal angles golden yellow and apex orange; elytral vittae golden yellow with distinctly orange region near apex of clavus, indistinctly margined; clavus with elongate spot starting at humeral angle and not touching margins, another larger square spot

before middle and small flushed orange area at apex; corium with curved row of small indefinite spots, growing more orange toward clavus, starting just opposite posterior margin of median claval spot, curving toward plaque and then back toward apex of clavus; costal area broadly golden yellow; apical cells and region just before pale crossveins smoky subhyaline. Below whitish, more or less translucent.

The males have more extensive coloring. In some of the females the anterior vittae are lacking and the elytral vittae become small spots. The ovipositor is dark near its base and tip, and pale on the middle.

Inner male genitalia: Style with foot short; broad; anterior point short, sharp, directed up; posterior point truncate, base concave; oedagus from ventral view straight, narrow, thin lateral processes extend half length of shaft from base, diverging very little; from lateral view, wide, sharply expanded just before apex of tube on dorsal surface into keel, with sharp barb directed cephalad; pygofer hooks very heavy and rather spiny, the dorsal curving in and having at its apex a swollen somewhat foot-like portion; the apical a little shorter, straight and of same thickness.

Female genitalia, the larger dentated blade of the ovipositor: Long narrow blade about three times as long as wide; nine large deep teeth with no subdenticles, set at almost right angles to the plate; ventral margin curved about same angle as dorsal margin; tip broadly blunt with four distinct denticles on ventral side.

Length, 3 mm.

A series taken on oak in the Chiricahua Mts., Arizona, July 26, 1937.

Resembling *E. ritana* Beamer somewhat, but it has less extensive orange markings and distinct inner male genitalia.

***Erythroneura modula* n. sp.**

(Fig. 5)

A short, shining species with rather swollen vertex. Background yellowish white, elytra yellowish subhyaline, no definite color markings; smoky spots before crossveins. Below pale, outer row of spines on hind tibiae dark.

Inner male genitalia: Foot small, base concave, anterior point small, sharp, extending cephalad, posterior point broadly truncate; oedagus from lateral view narrow, curving gently dorsad with slight apical dorsal keel, the long processes following shaft closely; from ventral view long and straight with pair of ventral processes arising at base and turning out slightly at tips which reach to opening of tube; two pygofer hooks, the dorsal narrow, sharp-pointed, faintly curved in; the apical a third longer than dorsal and narrower, curving dorsad.

Length, 2.75 mm.

Male holotype and allotype from the Huachuca Mts., Arizona, July 20, 1937.

Its small size and distinct inner male genitalia will distinguish this from *E. pallenta* Beamer to which it would be referred in Beamer's key.¹

***Erythroneura novella* n. sp.**

(Fig. 6)

A slender white species with orange vittae. Background yellowish white with trace of inverted V on vertex; pronotum with discal U-shape mark with heavy base on posterior margin and narrow arms reaching anterior margin, remainder pale; scutellum with angles orange and tiny black spot at apex; elytra with narrow orange vittae of obliqua type, one following claval suture, one paralleling it on middle of corium, and costal margin with hyaline orange stripe entire length and the following fumose spots, one at middle and one at apex of clavus, another on corium just below apex of clavus. Below decidedly yellowish translucent, outer row of spines on hind tibiae dark brown, tip of ovipositor black.

Inner male genitalia: Style with small foot, short anterior point, sharp, pointing cephalad, base straight; oedagus with apical lateral processes directed dorsad and curved out, with apex of tube making the tip three pointed; from lateral view stout, sinuate, a pair of ventral processes at base stout and sharp-tipped, extends less than half the length of shaft, apex equilateral triangle with dorsal part straight and point extending out ventrad, a pair of narrow, short lateral apical spines extends back at right angle to shaft, a trifle longer than side of apical triangle; two pygofer hooks, slender and delicate, the dorsal short, heavy at base, tapering abruptly to fine sharp tip, the apical twice as long, narrow, straight and sharp-tipped.

Length, 3.1 mm.

Holotype and allotype collected in Chiricahua Mts., Arizona, July 26, 1937.

***Erythroneura arizonica* n. sp.**

(Fig. 7)

A pale stout species in which the general ground color is white, and the markings pale orange. Vertex without definite markings, eyes black; pronotum with trace of U-shaped vitta, based on posterior margin with arms narrow and not reaching anterior margin; scutellum lacking vittae; elytra white, more hyaline on outer margins and apices, very narrow faint vittae, one from humeral angle to middle of claval margin, another starting on corium just opposite anterior margin of costal plaque and extending to crossveins. Below entirely pale.

Inner male genitalia: Style with small foot, anterior point very short, sharp, pointing cephalad; base concave; oedagus from ventral view with cephalo-laterad spines from apex overlapped by heavy basal

¹Beamer, R. H., *Erythroneura* from the Southwest, *Ann. Ent. Soc. Am.*, xii, pp. 115-129, 1929.

lateral processes; from lateral view straight, rather thick, with heavy lateral processes diverging from base and meeting finer lateral diverging spines of apex, tip with dorsal rounded keel and triangular ventral expansion directed cephalad; two pygofer hooks, the dorsal very heavy at base and tapering to blunt tip, as long as pygofer; the apical heavy at base but narrowed abruptly to half width of dorsal, remotely S-curved. Length, 3 mm.

Male holotype and six male paratypes from the Huachuca Mts., Arizona, July 20, 1937; one male paratype, Santa Rita Mts., Arizona, July 13, 1937; and one male paratype, Chiricahua Mts., Arizona, July 26, 1937.

The inner male genitalia resemble those of *E. casta* Beamer, but the processes of the oedagus are heavier and longer, and there are no dark markings on the vertex. The specimen from the Huachuca Mts. has the vertex brown-tinged.

***Erythroneura agnata* n. sp.**

(Figs. 8 and 14)

A small, slender, pale species with a creamy white background marked with golden yellow vittae. Vertex with inverted yellow V with heavy lateral projections toward eyes; pronotum, U-shaped marking at center with heavy base and slender arms reaching anterior margin; scutellum pale with basal angles and apex pale yellow; elytra, clavus with narrow golden oblique vitta extending on humerus to beyond middle, another paralleling it full length of corium, costal margin narrowly yellow-tinged; probably most distinctive markings are two smoky spots, one just above and the other below pale apex of clavus, apices and region before crossveins also clouded, semihyaline.

Inner male genitalia: Style with small foot, anterior point sharp, pointing cephalad; base slightly concave; oedagus from ventral view, broad, expanded, with lateral extensions before apex which curve dorsad and are together about equal to length of oedagus, basal lateral processes extend to narrowed portion of apical branches and cross them; from lateral view narrow, curving slightly dorsad, a small triangular apical dorsal keel, about one-fourth distance from apex a pair of delicate lateral spines extends at right angles from shaft latero-dorsad, a pair of ventral processes arises at base, parallels shaft diverging slightly at apex, extending to just below emergence point of apical processes; two pygofer hooks, the dorsal very stout at base, curving in a little and narrowing swiftly to sharp point; apical very short, triangular, base very broad, broader than base of dorsal hook, and narrowing very abruptly to short, sharp apex.

Female genitalia, the larger dentated blade of the ovipositor: Short broad blade, about two times as long as wide; 16 large shallow teeth, each with subdenticles on face toward tip; ventral margin curved at about same angle as dorsal margin; tip bent ventrad with fine denticles of ventral face ending abruptly.

Length, 2.75 mm.

Male holotype, allotype and paratypes of both sexes in series from the Huachuca Mts., Arizona, July 20, 1937.

Erythroneura nuda n. sp.

(Figs. 9 and 15)

A pale, stout species with white ground color and traces of two indefinite narrow oblique orange vittae on each elytron, one near center of clavus from humeral angle to below middle, the other paralleling it on corium; elytra more hyaline toward costa.

Inner male genitalia: Style with large foot, straight base, large anterior point; oedagus from ventral view, heavy, tapering to sharp tip, lacking processes; from lateral view short, stout, unadorned, broadened a little at apex, curved gently ventrad from base and dorsad at apex; two heavy pygofer hooks, the dorsal with triangular base, S-curved, narrowed to blunt tip, apical of about same length, turned in at right angles to base, straight, narrowed on outer third.

Female genitalia, the larger dentated blade of the ovipositor: Long narrow blade about three times as long as wide; 17 irregular teeth with one to four subdenticles each; ventral margin almost forming a straight line; tip pointed with ventral margin finely serrated.

Length, 3 mm.

Male holotype, allotype and paratypes collected from the Santa Rita Mts., Arizona, July 13, 1937.

Erythroneura blanda n. sp.

(Figs. 10 and 16)

A slender, pale species with pointed vertex. Entirely pale white, faintly tinged with yellow but lacking color markings.

Inner male genitalia: Foot of style with large triangular anterior point directed cephalad, base straight; oedagus from ventral view straight; parallel-sided to apex where there are lateral leaf-like expansions extending up along shaft a short distance and then expanding out at right angles to shaft; from lateral view very wide, straight, narrowed below apex of tube, lateral leaf-like apical expansions extending out at sides of apex of tube; two pygofer hooks, the dorsal broadly triangular, the base half the length, tip sharp; apical a third the width of and almost as long as dorsal, directed dorso-caudad.

Female genitalia, the larger dentated blade of the ovipositor: Narrow blade about three times as long as wide; 21 irregular, shallow teeth with no uniformity of subdenticles; ventral margin curved about same angle as dorsal; tip rounded with very shallow serrations on ventral side.

Length, 3.1 mm.

Male holotype, allotype and paratypes collected in the Huachuca Mts., July 20, 1937.



1. JUGLANDIS



2. SPECTABILIS



3. MUNDA



4. SOLA



5. MODULA



6. NOVELLA



7. ARIZONICA



8. AGNATA



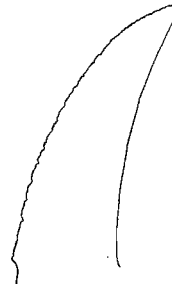
9. NUDA



10. BLANDA



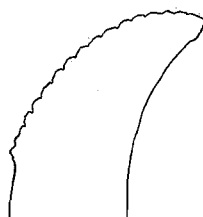
11. JUGLANDIS



12. SPECTABILIS



13. SOLA



14. AGNATA



15. NUDA



16. BLANDA