Review of the New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae)

I. Genera *Erythroneura*, *Erasmoneura*, *Rossmoneura*, and *Hymetta*

Dmitry A. Dmitriev and Christopher H. Dietrich

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Acknowledgments

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Review of the Species of New World Erythroneurini
(Hemiptera: Cicadellidae: Typhlocybinae).
I. Genera Erythroneura, Erasmoneura, Rossmoneura, and Hymetta

Dmitry A. Dmitriev and Christopher H. Dietrich

Abstract
This review provides descriptions, illustrations, keys for identification, and summaries of distributions and host plants for all known species of the genera Erythroneura (54 species), Erasmoneura (12 species), Rossmoneura (3 species), and Hymetta (5 species). Erythroneura browni sp.n., E. ortha sp.n., E. carinata sp.n., E. glabra sp.n., E. bakeri sp.n., E. kerzhneri sp.n. from Central and Eastern USA, E. triapitsyni sp.n. from New Mexico, Erasmoneura margaritae sp.n. from Illinois, and E. emeljanovi sp.n. from South Carolina are described as new. The following new synonyms are recognized: Erythroneura prima Beamer equals E. maritima Hamilton syn. n.; E. diva McAtee equals E. tricincta var. complementa McAtee syn. n.; E. octonotata Walsh equals E. comes var. compta McAtee syn. n., E. cherokee Robinson syn. n., E. compta var. rufomaculata McAtee syn. n., and E. nigroscuta Johnson syn. n.; E. cymbium McAtee equals E. tricincta var. disjuncta McAtee syn. n.; E. calycula McAtee equals E. tricincta var. erasa McAtee syn. n. and E. tricincta var. noncincta Johnson syn. n.; E. ziczac Walsh equals E. ziczac var. walshi Beamer syn. n.; E. delicata McAtee equals E. comes var. accepta McAtee syn. n., E. scripta Robinson syn. n., and E. tudella Robinson syn. n.; E. rosa Robinson equals E. repetita McAtee, syn. n.; E. kerzhneri sp.n. equals E. vaga sensu Beamer, 1938 (not Johnson, 1934); Erasmoneura vulnerata Fitch equals E. gradata Robinson syn. n.; Erasmoneura fulmina McAtee equals E. bicolorata Beamer syn. n.; Erasmoneura nigra Gillette equals E. vulnerata var. decora McAtee syn. n.; Erasmoneura nigerrima McAtee equals E. atrata Johnson syn. n.; Hymetta balteata McAtee equals H. trifasciata var. albata McAtee syn. n. and H. balteata var. mediana Fairbairn syn. n.; H. anthisma McAtee equals H. distincta Fairbairn syn. n.; Erasmoneura atrata Johnson, 1935 is restored and equal to E. nigerrima sensu Beamer, 1946 (not McAtee, 1920). Neotypes are designated for Erythroneura octonotata Walsh, E. tricincta Fitch, and Hymetta trifasciata Say.

Keywords: Auchenorrhyncha, Homoptera, leafhopper, morphology, phylogeny, taxonomy, USA.
Introduction

The leafhopper tribe Erythroneurini is a diverse group of tiny, delicate leafhoppers that, in the New World, appears to be most diverse in the deciduous forests of temperate North America where species occur on a wide variety of woody host plants. In a recent paper (Dietrich and Dmitriev 2006), we proposed a revised genus-level classification for New World Erythroneurini, recognizing 18 New World genera, including three taxa previously treated as subgenera of *Erythroneura* (sensu lato). Species belonging to five genera restricted to South America, and the small North American genera *Azegina* Dietrich and Dmitriev, *Hepzygina* Dietrich and Dmitriev, *Illinigina* Dietrich and Dmitriev, *Mexigina* Dietrich and Dmitriev, and *Nelionida* Dietrich and Dmitriev were treated by Dietrich and Dmitriev (2006). In this and subsequent papers, we provide species-level treatments of the remaining genera of Erythroneurini known to occur in North America. This paper treats the genera *Erythroneura*, *Erasmo- neura*, *Rossmoneura*, and *Hymetta*. Revisions of the genera *Erythridula*, *Eratoneura*, and *Zygina* are in preparation.

Taxonomic study of New World Erythroneurini began with Fitch (1851), who described the genus *Erythroneura* based on one species from New York. Later, Oshanin (1912) designated *E. tricincta* Fitch as the type species. The genus was first revised by McAtee (1920), who described many additional species and varieties, and organized the species into six informal groups based on wing venation. McAtee (1918, 1919, 1920, 1924a, 1924b, 1924c, 1926) recognized species and varieties based on color pattern, usually selecting females as holotypes. Lawson (1920) and Robinson (1926) were the first to recognize the importance of the male genitalia for diagnosing species of *Erythroneura*, and provided the first drawings and descriptions of these structures. However, their keys continued to include only characters of the forewing venation and color pattern. Robinson recognized five groups of species within the genus. In a series of publications, Beamer (1927, 1929, 1930a, 1930b, 1931a, 1931b, 1931c, 1931d, 1932a, 1932b, 1932c, 1932d, 1932e, 1932f, 1932g, 1932h, 1932i, 1937, 1938, 1946) revised *Erythroneura* comprehensively, treating each of four species groups (Beamer 1938) in turn: (Beamer 1930b – *obliqua* group; Beamer 1931a–1932h – *maculata* group; Beamer 1938 – *comes* group; Beamer 1946 – *vulnerata* group).

Beamer provided illustrations of the male genitalia for all known species, incorporated these characters into his keys, and associated males with most of the species and varieties that had been described by McAtee based on females. Johnson (1935) independently revised the species of *Erythroneura* from Ohio and provided a key for their identification. She described many new species in this and subsequent papers (Knurl 1945, 1946, 1951a, 1951b, 1954a, 1954b, 1955). In his generic revision of Western Hemisphere Typhlocybinae, Young (1952) established subgenera for each of Beamer’s species groups: *Erythridula*, *Eratoneura*, *Erythroneura*, and *Erasmo- neura*, respectively, and included these in a new tribe, Erythroneurini, along with two other genera: *Zygina* Fieber and *Hymetta* McAtee (revvised by Fairbairn 1928b). After these revisions, H.H. Ross (with D.M. DeLong) and L.W. Hepner described about 300 additional species of *Erythroneura*. Dietrich and Dmitriev (2006) elevated the subgenera to the genus level, and transferred three species of *Erasmo- neura* into the new genus *Rossmoneura*.

Species presently included in the four genera treated here are all apparently native to temperate North America, where they feed and oviposit mainly on woody deciduous hosts. A few species of *Rossmoneura* utilize herbs as hosts for both feeding and oviposition. Adults overwinter in leaf litter. In the spring, they emerge and feed on the new leaves of early emerging deciduous plants before migrating to their “definitive” summer host plants where they mate and lay the eggs (Ross and DeLong 1953). Most species oviposit and undergo nymphal development on a single (or a group of closely related) plant species. In the southern USA, they complete two or more generations per year, but in the North there may be but a single generation. In the fall, adults may again feed on variety host plants prior to seeking out winter shelter. Most New World species of Erythroneurini have no known economic importance, but a few are important pests of grape (McAtee 1920, Robinson 1926, Martinson and Dennehy 1995, Zimmerman et al. 1996, Duso, et al. 2005) and apple (Beamer 1930a).
Material and Methods

Few previous workers have specifically targeted Erythroneurini in their collecting, and specimens from trap catches and other general collecting that find their way into curated collections are often in very poor condition. Because of this, and due to time and budget constraints, this study focused only on collections known to contain large numbers of well-curated specimens of Erythroneurini, as well as those housing primary types: Illinois Natural History Survey (INHS), Ohio State University (OSU), University of Kansas Natural History Museum (KSEM), Mississippi State University, Mississippi Entomological Museum (MEM), Canadian National Collection of Insects, Arachnids and Nematodes (CNC), Smithsonian National Museum of Natural History (USNM), Colorado State University (CSUC), California Academy of Sciences (CAS). The numbers of studied specimens from each collection are summarized in Table 1. Future collecting will undoubtedly show that the distributions of most species are much broader than indicated on the maps accompanying individual species treatments. Although these maps show regional biases reflecting the locations and holdings of the studied collections, they are based on vouchered collection records and, thus, accurately reflect current knowledge of species distributions. The type locality is marked with a star on the maps.

Identification of species was mainly based on type material. In some cases, when the type was not located, or the holotype is a female (e.g., most McAtee’s species), we followed Beamer’s (1927, 1929, 1930a, 1930b, 1931a, 1931b, 1931c, 1931d, 1932a, 1932b, 1932c, 1932d, 1932e, 1932f, 1932g, 1932h, 1932i, 1937, 1938, 1946) interpretation, based on study of dissected male specimens that he labeled “allotype” to indicate that they had been compared to the female primary types of previous workers. Although Beamer’s “allotypes” have no official standing in nomenclature, these dissected male specimens facilitate unambiguous interpretation of Beamer’s concept of the species.

Morphological terminology follows Dietrich and Dmitriev (2006). Although individual genera, and in many cases species, have a characteristic color pattern, details and intensity may be highly variable both inter- and intraspecifically. Overwintering individuals tend to be more brightly colored than adults of the summer generation of the same species. This has resulted in many species being described multiple times based on different color forms. Species of Erythroneura have the most diverse color patterns. In the descriptions below, the pattern of fully colored individuals is described, although completely or almost completely discolored forms are known for most species. Thus, identification keys are based mainly on male genitalia, with external characters used only for supplemental purposes.

Each species is illustrated by one or more habitus photos taken using a Microptics digital imaging system. Original drawings were prepared only in cases where those available from other sources were deemed inaccurate. Thus, numerous figures are reproduced from other sources, as noted in the figure captions. Inconsistencies (e.g., in line thickness) among line drawings reflect differences in the drawing styles of previous authors. In all cases, figures reproduced from previous publications are either in the public domain or are reproduced with permission.

Line drawings of the male genitalia accompanying each species treatment are labeled as follows:

a – habitus;
b – pygofer or pygofer dorsal appendage, lateral view;
c – style apex, broad aspect;
d – aedeagus, lateral view;
e – aedeagus, ventral view;
f – connective.

Nomenclatural, distributional, morphological and host-plant data summarized below were extracted from a relational specimen-level database of Erythroneurini (Dmitriev & Dietrich, 2003 onwards), developed using the 3I software package (Dmitriev 2006). The online database provides more detailed information for each species, including a complete list of specimens examined, photos of type specimens, and interactive keys to species and genera.

In the species treatments below, only summer host plants are listed, although most species have also been collected from plants other than their oviposition hosts.

To examine the phylogenetic relationships among species, a matrix of 63 morphological characters was compiled for 73 species.
of Erythroneura, Erasmoneura (excluding E. bipentagona Beamer), Rossoneura, Hymetta, and 13 species from the related genera Erythridula, Eratoneura, Illinigina, and Neoimbecilla. Erythridula was selected as the outgroup based on results of a previous analysis (Dietrich and Dmitriev 2006). Phylogenetic analysis of this matrix was performed using PAUP* 4.0 (Swofford 1998) with 10,000 random addition sequences (nchuck = 5, chuckscore = 1), and subsequent TBR branch swapping on islands of most parsimonious trees. All multistate characters were treated as non-additive (unordered) except one: Articulation of dorsal pygofer appendage with three ordered states—articulated, not articulated but separated by suture, and fused. Characters were assigned different weights a priori based on their complexity and intraspecific variability. Complex characters that varied little within species were assigned weight = 4; color pattern characters, which are highly variable within some species, were assigned weight = 1; all other characters were assigned weight = 2.

Branch support was measured by calculating the decay index (Bremer 1994) for each consistently resolved node on the most parsimonious trees. This was accomplished using the “enforce topological constraints” option to search for the shortest tree(s) not compatible with each node, using the heuristic search algorithm in PAUP*.

Specimens of newly described taxa are deposited in the insect collections of the Illinois Natural History Survey (Champaign), University of Kansas Natural History Museum (Lawrence), and Mississippi State University (Starkville).

Table 1. Collections and studied material.1

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The phylogenetic analysis of morphological data with a priori character weighting recovered 2,325 equally parsimonious trees of length 1,119, rescaled consistency index 0.236, and retention index 0.725. The 50% majority rule tree (Plate 2) recovered all included genera as monophyletic, although on some trees *Eratoneura* was paraphyletic with respect to *Erythroneura*, and many relationships within *Erythroneura* were poorly resolved.

Analysis of the same data with all characters having weight = 1 recovered 484 equally parsimonious trees of length 699. Although these trees were 12 steps shorter than the trees obtained in the analysis based on weighted characters (length calculated based on all weights = 1), we prefer the latter estimate because it requires less homoplasy in the characters considered to be more reliable, and the consensus tree resulting from the analysis of equally weighted characters (not shown) was considerably less well resolved.

### Results

The table shows the number of studied specimens from each collection. See “Material and Methods” for the museum abbreviations.

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1 The table shows the number of studied specimens from each collection. See “Material and Methods” for the museum abbreviations.
Plate 2. 50% majority rule tree from phylogenetic analysis. Percentage of the trees supporting the node are given above the branches, and decay indices are given below the branches.
**Taxonomy**

Tribe **Erythroneurini** Young, 1952  
Zyginae Zachvatkin, 1946:152, nom.nud.  
Erythroneurini Young, 1952:70 (Type: *Erythroneura* Fitch, 1851)  

Genus **Erythroneura** Fitch, 1851  
*Erythroneura* Fitch, 1851:62  
*Eurythroneura* Rathvon, 1869:551, missp.  
*Erythroneura* Oshanin, 1912:114 (Type: *Erythroneura tricincta* Fitch, 1851 designated)  
*Erthroneura* Matsumura, 1932:190, missp.  
*Erythroneura* (Erythroneura) Young, 1952:79

**Description:** Length 2.4–3.7 mm, relatively slender. Head narrower than pronotum; crown fore margin strongly produced and angulate medially; ocelli absent or vestigial. Face depressed in profile, less than 45° from horizontal; anteclypeus narrow in both sexes. Forewing outer apical cell about 2X as long as wide or longer; second apical cell quadrate (ir crossvein present); third apical cell parallel sided, straight; CuP longer than segment of CuA between Cu and MP; basal segment of MP longer than basal segment of CuA; inner apical cell with transverse base; Pcu not visible. Hindwing apex broadly rounded or truncate; submarginal vein not extended to wing apex; RA present; MP and CuA fused or separated by m-cu crossvein. Front femur AV row with one basal seta distinctly larger than others; PV row without fine basal setae. Pygofer apex not extended to apex of subgenital plate; dorsal emargination extended to base of segment; dorsolateral internal ridge absent; basolateral setae in distinct group, small; distal setae undifferentiated; sparse long fine setae present; apex with rigid setae on internal surface. Pygofer dorsal appendage immovably fused to margin, without basal suture, bifurcate near base, usually C-shaped, branches widely separated; ventral appendages absent. Subgenital plates free, lateral margin with angulate subbasal projection, section basad of medial constriction shorter than distal section; with four basal macrosetae uniseriate along margin; distinct marginal subbasal small rigid setae forming continuous row. Style preapical lobe prominent; apex usually with three points. Aedeagus articulated to connective; dorsal apodeme broadly expanded in lateral view, usually triangular in ventral view, without sclerotized connection to anal tube or pygofer appendages. Aedeagus with preatrium short or long; shaft symmetrical, in most cases with ventral and/or distal processes. Connective without median anterior lobe; arms long; stem well developed; depressed. Anal tube without processes.

Coloration highly variable among, and in some cases within, species; usually white or yellow overall with orange, reddish, or brownish oblique vittae forming continuous zigzag pattern or broken into separate flecks; crossbands present in some species; forewing often with dark spot on costal margin, near apex of apical cell II, and at base of inner apical cell. **Distribution:** Temperate North America; *E. elegantula* Osborn is known from Panama (apparently introduced). Species of *Erythroneura* described from the Old World were listed as *incertae sedis* by Dietrich and Dmitriev (2006) and need to be transferred into other genera. **Host plants:** Deciduous trees, shrubs, and vines; most species recorded from *Vitis* spp.
Key to Adult Males of Erythroneura

1. Pygofer dorsal appendage three-pointed (ventral branch bifurcate) (Fig. 1b) .................................................. 2
1'. Pygofer dorsal appendage two-pointed (C-shaped) (Fig. 4b) .......................................................... 4
2(1). Aedeagus ventral processes distally bifurcate (Figs. 2d, 2e) ......................................................... 3
2'. Aedeagus ventral processes not bifurcate, strongly sinuate in lateral view (Figs. 1d, 1e) .................
   3(2). Lateral branch of aedeagus ventral process longer than medial branch (Fig. 2e).
   Anteclypeus pale. Larger (3.3–3.7 mm). ................................................................. 2. E. fiduciaria Knull
   3'. Lateral branch of aedeagus ventral process shorter than medial branch (Fig. 3e).
   Anteclypeus dark. Smaller (2.7–3 mm). ................................................................. 3. E. prima Beamer
4(1). Aedeagus with ventral processes (Figs. 4d, 4e) ................................................................. 5
4'. Aedeagus without ventral processes (Figs. 52d, 52e) .......................................................... 52
5(4). Aedeagus ventral processes as long as shaft or longer (Figs. 4d, 4e) ........................................... 6
5'. Aedeagus ventral processes shorter than shaft (Fig. 46d) .................................................. 46
6(5). Aedeagus ventral processes bifurcated or with preapical projection (Figs. 6d1, 7d) ............ 7
6'. Aedeagus ventral processes simple (Fig. 10d) .......................................................... 11
7(6). Aedeagus ventral process with short preapical projection (Fig. 6d1) ........................................ 8
7'. Aedeagus ventral process with two long branches subequal in length (Fig. 7d) ..................... 10
8(7). Third point of aedeagus apex shorter than distance between other two points (Fig. 4c).
   Forewing with narrow red crossband (Fig. 4a) ............................................................... 4. E. diva McAtee
8'. Third point of aedeagus apex longer than distance between other two points (Fig. 6c).
   Forewing without crossband. ................................................................. 9
9(8). Apex of aedeagus extended well beyond bases of distal processes, with distinct spicules
   (Fig. 5e) ....................................................................................... 5. E. browni sp.n
9'. Apex of aedeagus not extended beyond bases of distal processes, without spicules
   (Fig. 6e) .......................................................................................... 6. E. comes Say
10(7). Aedeagus ventral processes bifurcate close to base (Fig. 7d). Clavus with black spot
   (Fig. 7a) ......................................................................................... 7. E. octonotata Walsh
10'. Aedeagus ventral processes bifurcate more distad from base (Fig. 8d). Clavus without
   black spot; forewing with broad red crossband (Fig. 8a). ........................................ 8. E. amanda McAtee
11(6). Third point of style apex elongate, about as long or longer than distance between
   other two points (Fig. 16c). ................................................................................... 12
11'. Third point of style apex shorter than distance between other two points (Fig. 19c) ....... 21
12(11). Aedeagus ventral processes nearly parallel to each other (Fig. 9e) ............................................. 13
12'. Aedeagus ventral processes strongly divergent apically (Fig. 16e) .......................................... 15
13(12). Aedeagus ventral processes strongly sinuate in lateral view (Fig. 9d)..............................
   13'. Aedeagus ventral processes straight or only slightly sinuate in lateral view (Fig. 10d) .... 14
14(13). Apex of aedeagus extended well beyond bases of distal processes, compressed, with
   distinct apical spicules. Aedeagus processes strongly divergent in ventral view (Fig. 10e).
   Anteclypeus pale. ................................................................................................. 10. E. ortha sp.n
14'. Apex of aedeagus extended little beyond bases of distal processes, rounded in crossection,
   without spicules. Aedeagus distal processes parallel in ventral view (Fig. 11e).
   Anteclypeus dark. ............................................................................................... 11. E. festiva Beamer
15(12). Apex of aedeagus extended well beyond bases of distal processes (Fig. 11e) ................ 16
15'. Apex of aedeagus extended little if any beyond bases of distal processes (Fig. 16e) ........ 18
16(15). Shaft of aedeagus denticulate distally (Figs. 5d, 5e) ........................................................ 5. E. browni sp.n
16'. Shaft of aedeagus smooth (Figs. 12d, 12e) ........................................................................... 17
17(16). Aedeagus ventral processes curved dorsad distally in lateral view (Fig. 12d).
   Vertex with orange pattern (Fig. 12a) ........................................................................ 12. E. gilensis Beamer
17'. Aedeagus ventral processes curved ventrad distally in lateral view (Fig. 13d). Vertex
   usually black (Fig. 13a) ............................................................................... 13. E. pontifex McAtee
18(15). Aedeagus distal processes only slightly divergent distally in ventral view (Fig. 14e); dorsal
   carina not reaching apex (Fig. 14d) .............................................................. 14. E. palimpsesta McAtee
18'. Aedeagus distal processes strongly divergent distally in ventral view (Fig. 16e); dorsal carina
   reaching apex (Fig. 16d) .............................................................................. 19
19(18). Aedeagus ventral processes abruptly bent laterad 90° distally in ventral view (Fig. 15e),
sinuate distally in lateral view (Fig. 15d); shaft without distal vestiture.............................. 15. E. beameri Robinson

19'. Aedeagus ventral processes evenly curved distally in ventral view (Fig. 16e), straight
or curved ventrally in lateral view (Fig. 16d); shaft with distal vestiture. ......................... 20

20(19). Aedeagus ventral processes strongly compressed basally (Figs. 16d, 16e). Forewing
with oblique vittae forming continuous zigzag pattern (Fig. 16a). ............... 16. E. reflecta McAtee

20'. Aedeagus ventral processes only slightly compressed (Figs. 17d, 17e). Forewing with
broken oblique vittae (Fig. 17a). ................................................................. 6. E. comes Say

21(11). Forewing with narrow crossband (rarely incomplete) near midlength, apex dark,
based pale; mesonotum dark (at least lateral triangles) (Figs. 17a, 20a). ....................... 22

21'. Color pattern not as above. ................................................................. 26

22(21). Ventral branch of pygofer dorsal appendage much longer than dorsal branch
(Fig. 17b). ..................................................................................................... 27. E. integra McAtee

22'. Branches of pygofer dorsal appendage of subequal length (Fig. 18b). ..................... 23

23(22). Aedeagus with strong dorsal keel, apex extended well beyond bases of distal processes
(Figs. 18d, 18e). .......................................................................................... 28. E. carinata sp.n.

23'. Aedeagus without dorsal keel, apex extended little if any beyond bases of distal processes
(Figs. 20d, 20e). ................................................................. 18. E. tricincta Fitch

24(23). Aedeagus ventral processes strongly sinuate in lateral view, with apices curved
dorsad (Fig. 19d). .......................................................................................... 19. E. tricincta Fitch

24'. Aedeagus ventral processes straight or with apices curved ventrad (Fig. 20d). ........ 25

25(24). Aedeagus distal processes more slender, their apices more distal in lateral view
(Fig. 20d). ................................................................................................... 20. E. cymbium McAtee

25'. Aedeagus distal processes broader, their apices more basal in lateral view (Fig. 21d). 
................................................................................................................... 21. E. calycula McAtee

26(21). Third point of style apex subequal to or longer than half distance between other
two points (Fig. 22e). .................................................................................. 27

26'. Third point of style apex shorter than half distance between other two points (Fig. 32c). ........ 34

27(26). Aedeagus distal processes slender (Figs. 22d, 22e). ............................................. 28

27'. Aedeagus distal processes broad (Figs. 25d, 25e). .................................................. 30

28(27). Aedeagus ventral processes evenly divergent (Fig. 22e). .............................. 22. E. vagabunda Knnull

28'. Aedeagus ventral processes parallel to each other on ventral side of aedeagus (Fig. 24e). ... 29

29(28). Shaft of aedeagus straight in lateral view, with dorsal distal lobe (Fig. 23d). ........ 30

29'. Shaft of aedeagus curved dorsally, without dorsal distal lobe (Fig. 24d). ............. 26. E. aza Robinson

30(27). Aedeagus ventral processes parallel or slightly divergent in ventral view
(Figs. 25e, 26e). Pronotum usually pale with Y-shaped orange vita medially (Fig. 26a). ... 31

30'. Aedeagus ventral processes strongly divergent apically in ventral view
(Figs. 27e, 28e). Pronotum mostly dark brown (Figs. 27a, 28a). ................................. 32

31(30). Apex of aedeagus extended beyond bases of distal processes (Fig. 25e). Mesonotum
with black basal triangles (Fig. 25a). ................................................................. 25. E. elegantula Osborn

31'. Apex of aedeagus not extended beyond bases of distal processes (Fig. 26e). Mesonotum
without black basal triangles (Fig. 26a). .......................................................... 26. E. acuticephala Robinson

32(30). Aedeagus distal processes each with two sharp points, falcate distally in ventral view
(Figs. 27d, 27e). Lateral margins of pronotum pale contrasting with dark brown medial area
(Fig. 27a). ................................................................................................... 27. E. aclys McAtee

32'. Aedeagus distal processes each with one sharp point, diamond-shaped in ventral view
(Figs. 28d, 28e). Lateral margins of pronotum usually dark, concolorous with medial area
(Figs. 28a, 29a). ......................................................................................... 33

33(32). Scutellum pale. Forewing often with crossbands (Fig. 28a). ............... 28. E. bistrata McAtee

33'. Scutellum dark. Forewings without crossbands (Fig. 29a). ................. 29. E. prosata Johnson

34(26). Dorsum almost completely black (Fig. 30a). ........................................... 30. E. infuscata Gillette
35(34). Aedeagus ventral processes strongly divergent apically (Fig. 32e).  ............................................... 36
35'. Aedeagus ventral processes not or only slightly divergent apically (Fig. 36e).  ........................................... 38
36(35). Dorsal branch of pygofer dorsal appendage about half length of ventral branch (Fig. 31b).
   Aedeagus distal processes rounded in ventral view (Fig. 31e). Forewings with pale diamond-shaped transemmisural marking outlined with dark brown (Fig. 31a).  ........................................... 31. E. cancellata McAtee
36'. Branches of pygofer dorsal appendage subequal in length (Fig. 32b). Aedeagus distal processes pointed in ventral view (Fig. 32e). Forewings with broken oblique vitae (Figs. 32a, 33a).  ............................................... 37
37(36). Aedeagus ventral processes narrowing distally in lateral view (Fig. 32d). Mesonotum with black lateral triangles (Fig. 32a).  ........................................... 32. E. triapitsyni sp.n.
37'. Aedeagus ventral processes of even width in lateral view (Fig. 33d). Mesonotum without black triangles (Fig. 33a).  ............................................... 33. E. bakeri sp.n.
38(37). Aedeagus apex extended beyond bases of distal processes (Fig. 36e).  ............................................... 39
38'. Aedeagus apex not extended beyond bases of aedeagus distal processes (Fig. 40e).  ............................................... 40
39(38). Aedeagus compressed, with strong dorsal keel (Fig. 34d).  ............................................... 40
39'. Aedeagus rounded in crosssection, dorsal carina if present, feebly developed (Fig. 38d).  ............................................... 42
40(39). Aedeagus ventral processes strongly sinuate in lateral view (Fig. 34d).  ............................................... 34. E. anfracta Beamer
40'. Aedeagus ventral processes straight in lateral view (Fig. 36d).  ............................................... 41
41(40). Shaft of aedeagus in ventral view extended more than twice its width beyond bases of distal processes (Fig. 35e). Forewings with continuous zigzag pattern (Fig. 35a).  ............................................... 35. E. ziczac Walsh
41'. Shaft of aedeagus in ventral view not extended more than twice its width beyond bases of distal processes (Fig. 36e). Forewings with crossbands interrupted with red longitudinal veins (Fig. 36a).  ............................................... 36. E. elegans McAtee
42(39). Aedeagus with distal processes slender (Fig. 37d); apex of shaft beyond distal processes slightly broadened (Fig. 37e).  ............................................... 37. E. delicata McAtee
42'. Aedeagus with distal processes flattened (Fig. 38d); apex of shaft beyond distal processes not broadened (Fig. 38e).  ............................................... 43
43(42). Second point of style apex longer than third (Fig. 38c). Aedeagus ventral processes convergent distally (Fig. 38e).  ............................................... 38. E. vitifex Fitch
43'. Second point of style apex shorter than third (Fig. 39c). Aedeagus ventral processes divergent distally (Fig. 39e).  ............................................... 39. E. rubra Gillette
44(38). Second point of style apex longer than third (Fig. 40c). Forewings mostly dark with two pale narrow crossbands, sometimes interrupted with red longitudinal veins (Fig. 40a).  ............................................... 40. E. vitis Harris
44'. Second point of style apex as short or shorter than third (Fig. 42c). Forewings without crossbands (Figs. 41a, 42a).  ............................................... 45
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45'. Aedeagus distal processes diamond-shaped in ventral view (Fig. 42e). Mesonotum with red lateral triangles. Forewing with continuous zigzag pattern (Fig. 42a).  ............................................... 42. E. fraxa Robinson
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46'. Aedeagus without dorsal processes (Fig. 46d).  ............................................... 49
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50(49). Aedeagus ventral processes divergent (Fig. 47c). ................................. 47. E. tacita Beamer
50'. Aedeagus ventral processes parallel to each other (Fig. 48e). ................................. 51
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51'. Branches of pygofer dorsal appendages strongly divergent in lateral view (Fig. 49b).
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52(4). Aedeagus with pair of large distal processes and pair of smaller preapical processes (Figs. 50d, 50e). Pygofer dorsal appendages short (Fig. 50b). .......... 50. E. omaska Robinson
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55'. Ventral branch of pygofer dorsal process evenly curved upward (Fig. 54b). Smaller (2.5–2.8 mm). ................................................................. 54. E. ontari Robinson
1. **Erythroneura kanwakae** Robinson, 1924 (Fig. 1)

*Erythroneura kanwakae* Robinson, 1924c:292

**Description.** Length 2.9–3.1 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe angulate apically; dorsal appendages three-pointed (ventral branch bifurcated), extended beyond pygofer apex. Second point of style apex well developed, third point shorter than second. Aedeagus with preatrium longer than shaft; shaft curved dorsally, slender in lateral view, depressed in crosssection; apex broadened in ventral view, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes apical, flattened, directed dorsad. Dorsum yellow or white, with red or brownish color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum entirely pale; thoracic venter with dark mesosternum, remainder pale; forewing with oblique vittae forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spots at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Kansas, Douglas Co., IV 1924, (Robinson), (KSEM).

**Distribution:** Central and northeastern USA, southern Canada.

**Host plants:** *Ribes hirtellum*.

![Figure 1. E. kanwakae Robinson. b, d – from Beamer 1938; c – from Hepner, unpublished.](image)

2. **Erythroneura fiduciaria** Knall, 1951 (Fig. 2)

*Erythroneura fiduciaria* Knall, 1951a:170

**Description:** Length 3.3–3.7 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; dorsal appendages three-pointed (ventral branch bifurcated), extended beyond pygofer apex. Second point of style apex longer than third, third point very short. Aedeagus with preatrium longer than shaft; shaft curved dorsally, slender in lateral view, round in crosssection; with ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex, bifurcated, with lateral branch longer than medial one; distal processes apical, triangular. Dorsum yellow or white, with reddish-brown color pattern; vertex with orange parallel submedial lines with lateral branch, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum entirely pale; thoracic venter with dark mesosternum, remainder pale; forewing with oblique vittae forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♂, USA, Tennessee, Sevier Co., Great Smoky Mountain National Park, 21 VI 1942 (Knall), (OSU).
**Distribution:** Eastern USA.

**Host plants:** *Hamamelis virginiana, H. macrophylla.*

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3. *Erythroneura prima* Beamer, 1938 (Fig. 3)

*Erythroneura prima* Beamer, 1938:264


**Description:** Length 2.7–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded, dorsal appendages 3 pointed (ventral branch bifurcated), extended beyond pygofer apex. Second point of style apex longer than third; third point very short. Aedeagus with preatrium longer than shaft; shaft curved dorsally, slender in lateral view, round in crossection; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex, with small preapical tooth; distal processes apical, triangular. Dorsum yellow or white, with reddish or brownish color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus brown; pronotum almost entirely dark; mesonotum pale, with dark lateral triangles; thoracic venter entirely dark; forewings with oblique vittae forming continuous zigzag pattern; clavus largely or entirely bright red or brownish; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, New Hampshire, Coos Co., Bretton Woods, 31 VIII 1934 (Beamer), (KSEM).

**Distribution:** North-central and northeastern USA, southeastern Canada.

**Host plants:** Unknown.

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Figure 2. *E. fiduciaria* Knoll. a1 – holotype; a2 – color variation.

Figure 3. *E. prima* Beamer. a2 – var. *maritima*. b – from Beamer 1938.
4. *Erythroneura diva* McAtee, 1920 (Fig. 4)

*Erythroneura tricincta* var. *diva* McAtee, 1920:308

*Erythroneura tricincta* var. *rubravitta* Robinson, 1924b:156

*Erythroneura tricincta* var. *complementa* McAtee, 1926:135

syn. n.

*Erythroneura diva* Beamer, 1938:269

**Description:** Length 3–3.2 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendage not extended beyond pygofer apex, C-shaped, branches of subequal length. Second point of style apex longer than third; third point short; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina, and distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus, with small preapical tooth; distal processes subapical, triangular. Dorsum yellow or white; anteclypeus pale, concolorous with rest of face; pronotum almost entirely red; coloration of mesonotum vary from entirely pale to dark, scutellum pale; thoracic venter entirely pale; forewing without (rarely with) oblique vittae, with red narrow crossband near midlength and darkened apex; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 26 VII 1914 (McAtee), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

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5. *Erythroneura browni* Dmitriev & Dietrich sp. n. (Fig. 5)

**Description:** Length 2.7–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendage not extended beyond pygofer apex, C-shaped, branches subequal in size. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view, denticulate distally, round in crosssection, strongly extended beyond bases of distal processes, often with distal lobe strongly varying in length; apex truncate in posterior view, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex, often with small tooth near midlength; distal processes long, flattened, triangular. Coloration similar to that of *E. comes* Say. Dorsum yellow or white with orange color pattern; vertex with orange parallel submedial lines with lateral branch, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with
Y-shaped medial vitta; mesonotum entirely pale; thoracic venter entirely pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Diagnosis:** *E. browni* sp.n. is similar to *E. comes* Say, but shaft of aedeagus extends well beyond the bases of the distal processes and is denticulate. It is also similar to *E. ortha* sp.n., but the aedeagus lacks a dorsal keel and has the ventral processes divergent apically.

**Type locality:** Holotype ♂, USA, Illinois, Brown Co., Siloam Springs, 19 IV 1960 (Ross & Cunningham), (INHS).

**Studied material:** Paratypes: 1 ♂, Arkansas, Marion Co., Yellville, 23 VIII 1962 (Hepner), (MEM); 4 ♂, Florida, Alachua Co., Gainesville, 30 VI–2 X 1970–1972 (Mead); 1 ♂, Florida, Lafayette Co., on *Vitis sp.*, 1 VIII 1956 (Mead); 5 ♂, Illinois, Brown Co., Siloam Springs, (Ross & Cunningham); 8 ♂, Illinois, Brown Co., Siloam Springs, 29 IV 1960 (Ross & Cunningham); 1 ♂, Mississippi, Oktibbeha Co., State College, 4 III 1968 (Hepner), (MEM); 1 ♂ Texas, Marion Co., Jefferson, 3 VII 1962 (Hepner), (MEM); other studied material from Illinois, Arkansas, Mississippi excluded from type series.

**Distribution:** Central and southeastern USA.

**Host plants:** *Vitis* spp.

**Note:** This species is named in honor of Prof. Richard L. Brown, Director of the Mississippi Entomological Museum, who graciously loaned us the museum’s entire *Erythroneura* collection and provided access to Leon Hepner’s unpublished manuscripts, rearing records, notes, and illustrations.

![Figure 5. *E. browni* sp.n. d1, d2 – aedeagus variation.](image-url)
6. *Erythroneura comes* (Say, 1825) (Fig. 6)
   
   *Tettigonia comes* Say, 1825:343
   *Erythroneura comes* Smith, 1890:447
   *Typhlocyba comes comes* Gillette, 1898:764
   *Erythroneura comes* Beamer, 1938:292, neotype designation

**Eastern grape leafhopper**

**Description:** Length 2.7–3 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches of subequal length. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view; round in crossection; with dorsal carina, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft; divergent at apex, often with small tooth near midlength; distal processes apical, triangular. Dorsum yellow or white with orange color pattern; vertex with orange parallel submedial lines with lateral branch, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta; mesonotum entirely pale; thoracic venter entirely pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Neotype δ, USA, Kansas, Leavenworth Co., 11 IV 1930 (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Vitis* spp.

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**Figure 6.** *E. comes* Say. c, d1 –from Beamer 1938; b – from Dietrich & Dmitriev 2006; d2 – from Hepner, unpublished.
7. *Erythroneura octonotata* Walsh, 1862 (Fig. 7)

*Erythroneura octo-notata* Walsh, 1862:149
*Erythroneura comes* var. *compta* McAtee, 1920:318 **syn.n.**
*Erythroneura octolineata* Lawson, 1922:336 **missp.**
*Erythroneura cherokee* Robinson, 1924b:154 **syn.n.**
*Erythroneura compta* var. *rufomaculata* McAtee, 1924c:43 **syn.n.**
*Erythroneura nigroscuta* Johnson, 1934: 258 **syn.n.**
*Erythroneura rufomaculata* Oman, 1949:95 **missp.**

**Description:** Length 2.6–2.9 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches of subequal length. Second point of style very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third point of style less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, round in crosssection, with dorsal carina, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, bifurcated close to base; distal processes subapical, triangular. Dorsum yellow or white, with orange color pattern; coloration strongly varies; vertex unicolorous or with orange parallel submedial lines, midline pale; antennapodium pale, concolorous with rest of face; prontum with Y- or V-shaped medial vitta; mesonotum pale, usually with dark brown medial spot; thoracic venter entirely pale; forewing without oblique vittae or with broken oblique vittae; clavus with separate basal and distal vittae and dark brown spot near midlength, sometimes basal vitta bright red; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Neotype ♂, USA, Illinois, Champaign Co., St. Joseph, 3 IX 1916, (INHS) – here designated.

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

**Note:** The holotype, along with the rest of Walsh’s collection, was destroyed in the Chicago fire of 1871. A neotype is here designated to fix the identity of the species.
8. *Erythroneura amanda* McAtee, 1920 (Fig. 8)

*Erythroneura comes* var. *amanda* McAtee, 1920:319

*Erythroneura amanda* Robinson, 1926:137

**Description:** Length 2.4–2.6 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches of subequal length. Second point of style apex very short, tooth like; third point elongate, about as long or longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, compressed in crosssection, with dorsal carina; ventral processes placed basally, well separated from shaft, longer than shaft, bifurcate near midlength, divergent at apex; distal processes subapical, triangular. Dorsum yellow or white; color pattern red and orange; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum almost entirely dark; thoracic venter entirely pale; forewing with broken oblique vittae and wide red crossband at base; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, Missouri, VII, on *Vitis* spp., (USNM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Vitis* spp.

9. *Erythroneura nudata* McAtee, 1920 (Fig. 9)

*Erythroneura comes* var. *nudata* McAtee, 1920:316

*Erythroneura attenuata* Johnson, 1934:260

*Erythroneura nudata* Beamer 1938:284

**Description:** Length 2.8–3.1 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches of subequal length. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view, depressed in crosssection, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes apical or subapical, triangular. Coloration similar to that of *E. comes* Say.

**Type locality:** Holotype ♀, USA, Maryland, Anne Arundel Co., Odenton, 26 VII 1914 (McAtee), (USNM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Vitis* spp.
10. *Erythroneura ortha* Dmitriev & Dietrich sp.n. (Fig. 10)

**Description:** Length 2.8–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended to pygofer apex, C-shaped, branches of subequal size. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, compressed in crossection, with dorsal carina and distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, flattened, triangular. Coloration similar to that of *E. comes* Say; dorsum yellow or white with orange color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta; mesonotum entirely pale; thoracic venter entirely pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Diagnosis:** *E. ortha* sp.n. is similar to *E. comes* Say and *E. gilensis* Beamer, but the shaft of the aedeagus is produced well beyond the bases of the distal processes; and the ventral processes are parallel to each other on the ventral side of the aedeagus. It also differs from *E. comes* Say in having the shaft of aedeagus compressed with a strong dorsal keel.

**Type locality:** Holotype ♂, USA, Arkansas, Marion Co., Yellville, on *Cercis canadensis*, 23 VIII 1962 (Hepner), (INHS).

**Studied material:** Paratypes: 28 ♂, Arkansas, Marion Co., Yellville, on *Cornus* sp., *Cercis canadensis*, *Acer* sp., *Vitis* sp., 23 VIII 1962 (Hepner) (MEM). Other studied material from Florida, Illinois, Mississippi, New York, and Tennessee excluded from type series.

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

**Note:** The species name “*ortha*,” meaning “straight,” refers to the straight and parallel ventral processes of the aedeagus.
11. *Erythroneura festiva* Beamer, 1938 (Fig. 11)

*Erythroneura festiva* Beamer, 1938:290

**Description:** Length 2.6–2.7 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches of subequal size. Second point of style apex well developed; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white with orange color pattern; vertex with orange parallel submedial lines with lateral branch, midline pale; anteclypeus brown; pronotum with Y- or V-shaped medial vitta; mesonotum pale, with red lateral triangles; thoracic venter entirely dark; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♂, USA, Illinois, White Co., 31 III 1929 (Beamer), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

![Figure 11. E. festiva Beamer. b–e – from Beamer 1938.](image)

12. *Erythroneura gilensis* Beamer, 1929 (Fig. 12)

*Erythroneura gilensis* Beamer, 1929:123

**Description:** Length 3.2–3.4 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; pygofer dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes subapical, triangular. Coloration similar to that of *E. comes* Say.

**Type locality:** Holotype ♂, USA, Arizona, Gila Co., 5 VIII 1927 (Beamer), (KSEM).

**Distribution:** Southwestern USA, northern Mexico.

**Host plants:** *Vitis arizonica.*
13. *Erythroneura pontifex* McAtee, 1926 (Fig. 13)

*Erythroneura comes* var. *pontifex* McAtee, 1926:136  
*Erythroneura breakeyi* Johnson, 1934:261  
*Erythroneura pontifex* Beamer, 1938:279

**Description:** Length 2.8–3.1 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; pygofer dorsal appendages not extended beyond pygofer apex, C-shaped, with branches subequal in length. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, round in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes subapical, triangular. Dorsum yellow or white, with reddish or brownish color pattern; vertex with large black area, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta; mesonotum pale, with red lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with oblique vittae forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Illinois, Washington Co., Du Bois, 24 V 1917 (McAtee), (INHS).

**Distribution:** Central and northeastern USA.

**Host plants:** *Vitis* spp.

Figure 12. *E. gilensis* Beamer. b–e – from Beamer 1938.

Figure 13. *E. pontifex* McAtee. b, d, e –from Beamer 1938; c – from Hepner, unpublished.
14. *Erythroneura palimpsesta* McAtee, 1924 (Fig. 14, Plate 1a)

*Erythroneura comes* var. *palimpsesta* McAtee, 1924c:43

*Erythroneura palimpsesta* Johnson, 1935:107

**Description:** Length 2.8–3 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, with branches subequal in length. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina not reaching aedeagus apex; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes apical, triangular. Dorsum yellow or white with reddish brown color pattern; vertex with parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with dark lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with oblique vittae forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, Illinois, Mason Co., Forest City, 3 IV 1917 (McAtee), (INHS).

**Distribution:** Central and eastern USA.

**Host plants:** *Parthenocissus quinquefolia*.

![Figure 14. *E. palimpsesta* McAtee. b–e – from Beamer 1938.](image)

15. *Erythroneura beameri* Robinson, 1924 (Fig. 15)

*Erythroneura beameri* Robinson, 1924a:61

**Description:** Length 2.8–3.2 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, with branches subequal in length. Second point of style apex very short, tooth like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes apical, triangular. Dorsum yellow or white with orange or reddish color pattern; vertex with oblique vittae, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with reddish lateral triangles; thoracic venter entirely pale; forewing with oblique vittae forming zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, Kansas, Douglas Co., XI 1923, (Beamer), (KSEM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Vitis* spp.
16. *Erythroneura reflecta* McAtee, 1924 (Fig. 16)

*Erythroneura comes* var. *reflecta* McAtee, 1924c:43  
*Erythroneura portea* Robinson, 1924b:154  
*Erythroneura reflecta* Beamer, 1938:283

**Description:** Length 3–3.3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; pygofer dorsal appendages not extended beyond pygofer apex, C-shaped, with branches subequal in length. Second point of style apex very short, tooth like; third point of style apex elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crossection, with dorsal carina, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, compressed in basal half, divergent at apex; distal processes apical, triangular. Dorsum yellow or white with reddish or brownish color pattern; vertex with orange parallel submedial lines with lateral branch, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with V-shaped medial vitta; mesonotum pale, with dark lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with oblique vittae forming continuous zigzag pattern; clavus largely or entirely red or brown; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 14 XII 1913 (McAtee), (USNM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Vitis* spp.

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Figure 15. *E. beameri* Robinson. b, c, e – from Beamer 1938; d – Hepner, unpublished.

Figure 16. *E. reflecta* McAtee. a1 – holotype; a2 – color variation. b, d – from Beamer 1938; c – from Young 1952.
17. *Erythroneura integra* McAtee, 1920 (Fig. 17)

*Erythroneura tricincta var. integra* McAtee, 1920:309

*Erythroneura integra* Beamer, 1938:271

**Description:** Length 2.8–3.2 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, ventral branch much longer than dorsal. Second point of style apex longer than third; third point short; angle between basal and third points more than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, round in crosssection, denticulate distally; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white, with reddish or brown color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum almost entirely dark; mesonotum pale, with reddish lateral triangles; thoracic venter entirely pale; forewings with oblique vitae, narrow crossband, and darkened apices; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 28 III 1915 (McAtee), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

Figure 17. *E. integra* McAtee. b–e – from Beamer 1938.

18. *Erythroneura carinata* Dmitriev & Dietrich sp.n. (Fig. 18)

**Description:** Length 3–3.2 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points about 90°. Dorsal apodeme broadly expanded in lateral view, triangular in ventral view, without distinct connection to anal tube or pygofer appendages. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, compressed in crosssection, with strong dorsal keel, extended far beyond bases of distal processes, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes long, subapical, flattened, triangular. Dorsum yellow or white, with reddish and brown color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum almost entirely dark; mesonotum entirely dark, scutellum pale, contrasting with rest of mesonotum; thoracic venter entirely pale; forewing with oblique vitae, narrow brown crossband, and darkened apices; dark spot at costal margin; apical cell II with distal spot; inner apical cell without brown spot.
**Diagnosis:** *E. carinata* n.sp. is similar to *E. diva* McAtee and *E. cymbium* McAtee, but the aedeagus has a strong dorsal keel and its apex extends far beyond the bases of the distal processes.

**Type locality:** Holotype ♂, USA, Illinois, White Co., Gossett, 13 IV 1960 (Ross & Cunningham), (INHS).

**Studied material:** Paratypes 23 ♂, 3 ♀, USA, Illinois, White Co., Gossett, 13 IV 1960 (Ross & Cunningham), (INHS); other studied material from Georgia, Illinois, and Mississippi excluded from type series.

**Distribution:** Central and southeastern USA.

**Host plants:** *Vitis* sp.

**Note:** The species name “*carinata*,” meaning “keeled,” refers to the dorsally keeled aedeagal shaft.

**Erythroneura tricincta** Fitch, 1851 (Fig. 19)

*Erythroneura tricincta* Fitch, 1851:63

*Erythroneura tricincta* var. *a* Fitch, 1851:63

Threebanded leafhopper

**Description:** Length 2.9–3.3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style longer than third; third point shorter than second; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, round in crossection; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white, with reddish and brown color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum mostly dark. Mesonotum dark basally, scutellum pale; thoracic venter entirely pale; forewing with or without oblique vittae, narrow crossband and darkened apices; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Neotype ♂, USA, Kansas, Cherokee Co., 10 IV 1936 (Beamer), (KSEM), here designated

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Vitis* spp.

**Note:** Because Fitch's holotype is lost, we designate a neotype to stabilize the concept of this species, the type of the genus. This concept equals that of the previous revisions (Beamer 1938, Young 1952).

**Figure 18.** *E. carinata* sp.n.

**Figure 19.** *E. tricincta* Fitch. b2, e – from Beamer 1938; b1, c, d – from Young 1952.
20. *Erythroneura cymbium* McAtee, 1920 (Fig. 20)

*Erythroneura tricincta* var. *cymbium* McAtee, 1920:310

*Erythroneura tricincta* var. *disjuncta* McAtee, 1920:310, **syn.n.**

*Erythroneura cymbium* Beamer, 1938:271

**Description:** Length 2.6–3 mm. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, round in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white, with reddish and brown color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with dark posterior half, or at least posterior corners; mesonotum entirely pale; thoracic venter entirely pale; forewings with or without oblique vittae, with narrow crossband, and darkened apices; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Michigan, Berrien Co., Benton Harbor, on *Vitis* sp., 28 V 1912 (Seigler), (USNM).

**Distribution:** Central and eastern USA, southeastern Canada.

**Host plants:** *Vitis* spp.

![Figure 20. E. cymbium McAtee. a2 – var. disjuncta. b–d – from Beamer 1938.](image)

21. *Erythroneura calycula* McAtee, 1920 (Fig. 21, Plate1b)

*Erythroneura tricincta* var. *calycula* McAtee, 1920:308

*Erythroneura tricincta* var. *erasa* McAtee, 1920:309, **syn.n.**

*Erythroneura calycola* Osborn, 1932:515, missp.

*Erythroneura tricincta* var. *noncincta* Johnson, 1934:261, **syn.n.**

*Erythroneura calycula* Beamer, 1938:270

**Description:** Length 2.6–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, slender in lateral view; depressed in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, triangular. Dorsum yellow or white, with reddish and brown color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with dark posterior corners; mesonotum with dark lateral triangles, or base entirely dark, scutellum pale; thoracic venter entirely pale; forewings with or without oblique vittae, with narrow crossband, and darkened apices; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.
Type locality: Holotype ♂, USA, Maryland, Montgomery Co., Plummers Island, 14 XII 1913 (McAtee), (USNM).
Distribution: Central and eastern USA.
Host plants: Vitis spp.

22. Erythroneura vagabunda Knnull, 1945 (Fig. 22)
Erythroneura vagabunda Knnull, 1945:109
Description: Length 2.9–3.1 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, slender in lateral view, denticulate distally, round in crossection; ventral processes placed basally, well separated from shaft, longer than shaft, evenly divergent; distal processes long, subapical, slender. Dorsum yellow or white with orange color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with orange lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae and dark brown spot near midlength; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.
Type locality: Holotype ♂, USA, Ohio, Lawrence Co., 29 IV 1934 (Caldwell), (OSU).
Distribution: Central and eastern USA.
Host plants: Unknown.

Figure 21. E. calycula McAtee. a2 – var. erasa; a3 – var. noncincta. b, d – from Beamer 1938; c – from Hepner, unpublished.

Figure 22. E. vagabunda Knnull. d – from Knnull 1945.
23. *Erythroneura aza* Robinson, 1924 (Fig. 23)

*Erythroneura aza* Robinson, 1924c:291

**Description:** Length 2.9–3.1 mm. Abdomen. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight and slender in lateral view, round in crosssection; apex slightly broadened in ventral view; ventral processes placed basally, well separated from shaft, parallel to each other on ventral side of aedeagus; distal processes long, subapical, slender. Dorsum yellow or white, with orange or reddish color pattern; vertex with parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with orange lateral triangles; thoracic venter entirely pale or with dark mesosternum; forewing with oblique vittae forming zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., Lawrence, 15 XII 1923 (Robinson), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

![Figure 23. *E. aza* Robinson. b–e – from Beamer 1938.](image)

24. *Erythroneura glabra* Dmitriev & Dietrich sp.n. (Fig. 24)

**Description:** Length 2.8–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft symmetrical, curved dorsally, broad in lateral view, round in crosssection; apex truncate in posterior view; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes long, subapical, slender. Coloration similar to that of *E. comes* Say: dorsum yellow or white with orange color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta; mesonotum pale, with orange lateral triangles; thoracic venter entirely pale; forewings with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Diagnosis:** The coloration of new species similar to that of *E. comes* Say, and the male genitalia resemble those of *E. vagabunda* Knall, but the aedeagus shaft lacks distal denticuli and the ventral processes are parallel to each other.
**Type locality:** Holotype ♂, USA, Mississippi, Oktibbeha Co., State College, 4 I 1962 (Hepner), (INHS).
**Studied material:** Paratypes, 1 ♂, USA, Arkansas, Marion Co., Yellville, on *Cornus sp.*, 23 VIII 1962 (Hepner), (MEM); 1 ♂, Illinois, Clark Co., Rocky Branch, 25 VII 1954 (Cunningham), (INHS).
**Distribution:** Central and southeastern USA.
**Host plants:** Unknown.
**Note:** The species name “glabra,” meaning “bare,” refers to the lack of denticuli on the apex of the aedeagal shaft.

25. *Erythroneura elegantula* Osborn, 1928 (Fig. 25)

*Erythroneura elegantula* Osborn, 1928a:289

**Western grape leafhopper**

**Description:** Length 2.8–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, compressed in crosssection, with dorsal carina; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes, triangular. Dorsum yellow or white, with orange color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with black lateral triangles; thoracic venter entirely pale or with dark mesosternum; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, Panama, Canal Zone (CMNH). Type was not studied.
**Distribution:** Western USA, southwestern Canada, Panama (apparently introduced).
**Host plants:** *Vitis* spp.

![Figure 24. *E. glabra* sp.n.](image_url)

![Figure 25. *E. elegantula* Osborn. b–e – from Beamer 1938.](image_url)
26. *Erythroneura acuticephala* Robinson, 1924 (Fig. 26, Plate 1c)  
*Erythroneura acuticephala* Robinson, 1924a:61  
**Description:** Length 2.6–2.9 mm. Abomen. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view; compressed in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, triangular. Dorsum yellow or white, with reddish or orange color pattern; vertex with parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with orange lateral triangles; thoracic venter entirely pale; forewing with oblique vittae forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spots at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.  
**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., XII 1923, (Robinson), (KSEM).  
**Distribution:** Central and eastern USA.  
**Host plants:** *Vitis* spp.  

![Figure 26. *E. acuticephala* Robinson. b, d, e – from Beamer 1938; c – from Hepner, unpublished.](image)

27. *Erythroneura aclys* McAtee, 1920 (Fig. 27)  
*Erythroneura aclys* McAtee, 1920:290  
**Description:** Length 2.7–3.1 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, round in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes subapical, triangular. Dorsum yellow or white, with brown color pattern; vertex with large basalar dark area, often extended onto thorax, midline dark; anteclypeus pale, concolorous with rest of face; pronotum dark with pale lateral margins; mesonotum entirely dark; thoracic venter entirely pale; forewings with oblique vittae forming continuous zigzag pattern; clavus largely brown; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.  
**Type locality:** Holotype ♂, USA, Maryland, Montgomery Co., Plummers Island, 21 XII 1913 (McAtee), (USNM). Type was not studied.  
**Distribution:** Central and eastern USA.  
**Host plants:** *Cercis canadensis.*
28. *Erythroneura bistrata* McAtee, 1920 (Fig. 28)

*Erythroneura vitis* var. *bistrata* McAtee, 1920:305

*Erythroneura vitis* var. *stricta* McAtee, 1920:306

*Erythroneura rubranotum* Robinson, 1924a:60

*Erythroneura bistrata* Johnson, 1934:262

*Erythroneura vitis* var. *fusco-clava* Beamer, 1927:31

**Description:** Body. Size 2.9–3.2 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, slender in lateral view, round in crossection, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes subapical, triangular. Dorsum yellow or white with reddish brownish color pattern, which strongly vary; vertex unicolorous pale or darkened posteriorly, midline pale; anteclypeus pale, concolorous with rest of face; pronotum almost entirely dark; mesonotum dark, with pale scutellum; thoracic venter entirely pale; forewing mostly dark with small pale spots or with two narrow pale crossbands; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♂, Maryland, Montgomery Co., Plummers Island, 28 III 1915 (McAtee), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Cercis canadensis*.

Figure 27. *E. aclys* McAtee. b–e – from Beamer 1938; a – original.

Figure 28. *E. bistrata* McAtee. a1 – holotype, a2 – var. *stricta*, a3 – var. *rubranota*, a4 – color variation. b, d, e – from Beamer 1938.
29. *Erythroneura prosata* Johnson, 1935 (Fig. 29)  

*Erythroneura infuscata* var. *prosata* Johnson, 1935:108  

*Erythroneura prosata* DeLong & Caldwell, 1937:81  

**Description:** Length 2.8–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, slender in lateral view, round in crosssection, with dorsal carina, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes subapical, triangular. Dorsum yellow or white, with reddish brown color pattern; vertex mostly dark, midline dark; anteclypeus pale, concolorous with rest of face; pronotum almost entirely dark; mesonotum with dark lateral triangles and dark apex of scutellum; thoracic venter with dark mesosternum, remainder pale; fore-wings mostly dark with small pale spots; dark spot at costal margin; apical cell II with distal spot; inner apical cell without brown spot.  

**Type locality:** Holotype ♂, USA, Ohio, Pickaway Co., 31 III 1934 (Caldwell), (OSU).  

**Distribution:** Central USA.  

**Host plants:** *Rubus* spp. (?)  

30. *Erythroneura infuscata* (Gillette, 1898) (Fig. 30, Plate 1d)  

*Typhlocyba comes* var. *infuscata* Gillette, 1898:764  

*Erythroneura comes* var. *infuscata* Van Duzee, 1916:77  

*Erythroneura infuscata* McAtee, 1920:302  

**Description:** Length 2.8–3 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, compressed in crosssection, with strong dorsal keel; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes subapical, triangular. Dorsum mostly black, with small pale spots at middle of mesonotum and at costal margin of wings; anteclypeus pale, concolorous with rest of face; thoracic venter entirely dark.  

**Type locality:** Holotype ♀, USA, Mississippi, Oktibbeha Co., Agriculture College (MSU), (USNM).  

**Distribution:** Central and eastern USA.  

**Host plants:** Unknown.
31. **Erythoneura cancellata** McAtee, 1920 (Fig. 31)

Erythoneura comes var. cancellata McAtee, 1920:320  
Erythoneura cancellata Robinson, 1926:141

**Description:** Length 3.2–3.4 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, ventral branch about twice as long as dorsal branch. Second point of style apex well developed; third point subequal in size with second; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, slender in lateral view, round in cross-section, with dorsal carina; ventral processes placed basally, well separated from shaft, longer than shaft, divergent only at apex; distal processes subapical, triangular. Dorsum yellow or white, with orange and brown color pattern; vertex with large basal dark area, often extended onto thorax, midline dark; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta or almost entirely dark; mesonotum pale, with brown lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewings with pale diamond-shaped transcommisural marking outlined with dark brown, with oblique vittae forming zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 30 XI 1913 (McAtee), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Cercis canadensis*.

![Figure 30. E. infuscata Gillette. b–e – from Beamer 1938.](image)

![Figure 31. E. cancellata McAtee. b–e – from Beamer 1938.](image)
32. *Erythroneura triapitsyni* Dmitriev & Dietrich sp.n. (Fig. 32)

**Description:** Length 2.7–2.9 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point elongate, not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft symmetrical, curved dorsally, broad in lateral view, smooth, round in crosssection, with dorsal carina; apex truncate in posterior view; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes long, subapical, flattened, triangular. Coloration similar to that of *E. elegantula* Osborn: dorsum yellow or white, with orange color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum with V-shaped medial vitta; mesonotum pale, with black lateral triangles; thoracic venter entirely pale; forewing with broken oblique vitta; clavus with separate basal and distal vitta; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Diagnosis:** The coloration of *E. triapitsyni* sp.n. is similar to that of *E. elegantula* Osborn. The male genitalia are similar to those of *E. bakeri* sp.n. but the aedeagus is round in crosssection.

**Type locality:** Holotype ♂, USA, New Mexico, Bernalillo Co., Albuquerque, Los Ranchos de Albuquerque, 4920 Rio Grande Blvd. NW, Anderson Valley, 35.084°N 106.651°W, on *Vitis* sp. (cultivated), 26 IX 2005 (Triapitsyn), (INHS).

**Studied material:** Paratypes: 7 ♂, 11 ♀, same locality as holotype, 26–28 IX 2005 (Triapitsyn), (INHS).

**Distribution:** New Mexico.

**Host plants:** *Vitis* spp.

**Note:** The species is named for Dr. Serguei Triapitsyn (University of California, Riverside), who collected the type series.

![Figure 32. *E. triapitsyni* sp.n.](image)

33. *Erythroneura bakeri* Dmitriev & Dietrich sp.n. (Fig. 33)

**Description:** Length 2.7–2.8 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft symmetrical, curved dorsally, broad in lateral view, smooth, compressed in crosssection, with dorsal carina; apex truncate in posterior view; ventral processes
placed basally, well separated from shaft, longer than shaft, divergent at apex; distal processes long, subapical, flattened, triangular. Dorsum yellow or white, with red or orange color pattern; vertex with parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum entirely pale; thoracic venter with dark mesosternum, remainder pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Diagnosis:** *E. bakeri* sp.n. is similar to *E. triapitsyni* sp.n., but the aedeagus has a stronger dorsal carina, and the mesonotum lacks black lateral triangles.

**Type locality:** Holotype ♂, USA, Illinois, Fulton Co., Anderson Lake State Conservation Area, 8 IX 1954 (Ross), (INHS).

**Studied material:** Paratypes, 2 ♂, Illinois, Clark Co., Darwin, on Quercus lyrata, 15 IX 1953 (Ross), (INHS); 6 ♂, Illinois, Fulton Co., Anderson Lake State Conservation Area, 8 IX 1954 (Ross), (INHS), 2 ♂, Illinois, Jo Daviess Co., Blanding, on Prunus virginiana, 28 IV 1954 (Ross), (INHS); other studied material from Wisconsin, Kansas, Arkansas, Illinois, New York, and Florida excluded from type series.

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

**Note:** This species is named in memory of C.F. Baker (1872–1927), a pioneer in the study of Auchenorrhyynchida.

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34. *Erythroneura anfracta* Beamer, 1929 (Fig. 34)

**Erythroneura anfracta** Beamer, 1929:123

**Description:** Length 3.1–3.3 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe angulate; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view; compressed in crosssection, with strong dorsal keel; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side; distal processes subapical, triangular. Dorsum yellow or white, with orange, reddish, or brownish color pattern; vertex with parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with dark lateral triangles; scutellum pale; thoracic venter with dark mesosternum, remainder pale; forewings with oblique vittae forming continuous zigzag pattern or interrupted with pale crossband; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.
Type locality: Holotype ♂, USA, Arizona, Pinal Co., 6 VIII 1927 (Beamer), (KSEM).
Distribution: Arizona, Utah.
Host plants: Vitis arizonica.

35. Erythroneura ziczac Walsh, 1862 (Fig. 35)

Erythroneura ziczac Walsh, 1862:149
Typhlocyba zigzag Wirtner, 1904:227, missp.
Erythroneura ziczac Beamer, 1938:276, neotype designation
Erythroneura ziczac var. walshi Beamer, 1938:276, *syn.n.*
Erythroneura zizac Kaloostian, 1952:20, missp.

Virginiacreeper leafhopper

Description: Length 2.8–3.1 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe angulate; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, compressed in crossection, with strong dorsal keel, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white with reddish brown color pattern; vertex with parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta or almost entirely dark; mesonotum pale, with dark lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewings with oblique vittae forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

Type locality: Neotype ♂, USA, Illinois, Wabash Co., 31 III 1929 (Beamer), (KSEM).
Distribution: USA, southern Canada.
Host plants: Vitis spp.

Figure 34. E. anfracta Beamer. a2 – color variation. b–e – from Beamer 1938.

Figure 35. E. ziczac Walsh. a2 – var. walshi. b, d, e – from Beamer 1938; c – from Hepner, unpublished.
36. *Erythroneura elegans* McAtee, 1920 (Fig. 36)

*Erythroneura comes* var. *elegans* McAtee, 1920:315

*Erythroneura elegans* Robinson, 1926:137

**Description:** Length 2.7–2.9 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points less than 90°. Aedeagus with preatrum about as long as shaft; shaft curved dorsally, broad in lateral view, compressed in crosssection, with strong dorsal keel, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white, with reddish brown color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with dark lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewings with oblique vittae forming zigzag pattern, pale narrow crossband at middle interrupted with red longitudinal veins; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype δ, USA, Maryland, Montgomery Co., Plummer's Island, 11 I 1914 (McAtee), (USNM).

**Distribution:** USA, southern Canada.

**Host plants:** *Vitis* spp.

37. *Erythroneura delicata* McAtee, 1920 (Fig. 37)

*Erythroneura comes* var. *delicata* McAtee, 1920:317


*Erythroneura lacta* Robinson, 1924a:62

*Erythroneura scripta* Robinson, 1924c:290, syn.n.

*Erythroneura tudella* Robinson, 1924c:291, syn.n.

*Erythroneura delicata* Johnson, 1935:110

*Erythroneura delicata* Young, 1952:80, missp.

**Description:** Length 2.9–3.2 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point subequal in size with second; angle between basal and third points about 90°. Aedeagus with preatrum longer than shaft; shaft curved dorsally, slender in lateral view, round in crosssection; apex usually broadened in ventral view; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, slender. Dorsum yellow or white, with orange color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with orange lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae, in some cases with
dark brown spot at middle; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 26 VII 1914 (McAtee), (USNM).

**Distribution:** Central and northeastern USA, southeastern Canada.

**Host plants:** *Vitis* spp.

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Figure 38. *E. vitifex* Fitch, 1856 (Fig. 38)

*Erythroneura vitifex* Fitch, 1856:392

*Erythroneura vitifex* Beamer, 1938:281, neotype designation

*Erythroneura vitifex* Padley, 1941:395, missp.

**Description:** Length 2.7–3 mm. Abdomen. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe angulate; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white, with red or orange color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with reddish lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with oblique vittae forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Neotype ♂, Canada, Ontario, Vineland, VIII 1922, (Robinson), (KSEM).

**Distribution:** USA, southern Canada.

**Host plants:** *Vitis* spp.

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Figure 37. *E. delicata* McAtee. a2 – var. accepta. b, d, e – from Beamer 1938; c – from Hepner, unpublished.

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Figure 38. *E. vitifex* Fitch. b–e – from Beamer 1938.
39. *Erythroneura rubra* (Gillette, 1898) (Fig. 39)

*Typhlocyba comes* var. *rubra* Gillette, 1898:764

*Erythroneura comes* var. *rubra* Van Duze, 1916:77

*Erythroneura irrorata* Robinson, 1924b:154

*Erythroneura rubra* Robinson, 1926:135

**Description:** Length 2.9–3.1 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe angulate; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point subequal in size with second; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes subapical, triangular. Dorsum yellow or white, with strongly developed reddish color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta; mesonotum entirely red; thoracic venter entirely dark; forewings with oblique vittae forming zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Iowa, (Baker), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

40. *Erythroneura vitis* (Harris, 1831) (Fig. 40)

*Tettigonia vitis* Harris, 1831:43

*Erythroneura vitis* Fitch, 1851:63


*Erythroneura comes* var. *venusta* McAtee, 1920:319

*Erythroneura vitis* var. *flava* Robinson, 1924a:62

Grapevine leafhopper

**Description:** Length 2.8–3.1 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Second point of style apex longer than third; third point shorter than second; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, triangular. Coloration strongly varies; dorsum yellow or white, with reddish brown color pattern; vertex unicolorous pale or with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta or almost entirely dark; mesonotum entirely dark; thoracic venter with dark mesosternum, remainder pale; forewing with two pale crossbands of various width; dark
spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype [sex unknown], USA, New York, (Harris), (BSNH). Type was not studied.

**Distribution:** Eastern and southwestern USA, southeastern Canada.

**Host plant:** *Vitis* spp.

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**41. Erythroneura coloradensis** (Gillette, 1892) (Fig. 41)

*Typhlocyba vitifex* var. *coloradoensis* Gillette, 1892:16


*Erythroneura comes* var. *coloradensis* Van Duzee, 1914:57

*Typhlocyba coloradensis* Merrill, 1915:21, missp.

*Typhlocyba colorado* Gillette & List, 1921:20, missp.

*Erythroneura coloradensis* Robinson, 1926:134

*Erythroneura coloradensis* Beamer, 1938:278, lectotype designation

**Description:** Length 2.8–3.2 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point of style apex not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved dorsally, broad in lateral view, round in crosssection, with dorsal carina, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, triangular. Dorsum yellow or white, with reddish or orange color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta; mesonotum pale, with black lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Lectotype ♂, USA, Colorado, (Gillette), (USNM).

**Distribution:** Central and southwestern USA, southeastern Canada.

**Host plants:** *Vitis* spp.

**42. Erythroneura fraxa** Robinson, 1924 (Fig. 42)

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Figure 40. *E. vitis* Harris. a2 – var. *corona*; a3 – var. *flava*; b, c – from Beamer 1938; d – from Hepner, unpublished.

Figure 41. *E. coloradensis* Gillette. b– from Beamer 1938; d – from Hepner, unpublished.
**Erythoneura fraxa** Robinson, 1924c:292

**Description:** Length 2.9–3.2 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft straight in lateral view, slender in lateral view, round in crossection, with distinct apical spicules; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, triangular. Dorsum yellow or white, with orange or red color pattern; vertex with orange parallel submedian lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with reddish lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with oblique vittae usually forming continuous zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, Kansas, Douglas Co., XII 1923, (Robinson), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** *Cercis canadensis*.

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**Erythoneura vaga** Johnson, 1934 (Fig. 43)

**Erythoneura vaga** Johnson, 1934:260

**Description:** Length 2.9–3.1 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsally, slender in lateral view, round in crossection, with unpaired process on dorsal apodeme; ventral processes placed basally, close to shaft, shorter than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, slender. Coloration similar to *E. comes* Say.

**Type locality:** Holotype ♀, USA, Ohio, Adams Co., Mineral Springs, 31 VIII 1931 (Osborn), (OSU).

**Distribution:** Central and eastern USA.

**Host plants:** *Cercis canadensis*.

**Note:** *E. vaga* sensu Beamer, 1938a equals *E. kerzhneri* sp.n.

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Figure 42. *E. fraxa* Robinson. b–d – from Beamer 1938.

Figure 43. *E. vaga* Johnson. b – from Beamer 1938.
44. *Erythroneura kerzhneri* Dmitriev & Dietrich sp.n. (Fig. 44)


**Description:** Length 2.8–3.1 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex well developed; third point elongate, about as long as distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than shaft; shaft symmetrical, curved ventrally, slender in lateral view, smooth or denticulate distally, round in crossection; with pair of long dorsal processes between shaft and dorsal apodeme; apex of aedeagus broadened in ventral view; ventral processes placed basally, well separated from shaft, shorter than shaft, parallel to each other on ventral side of aedeagus, simple or bifurcated at apex; distal processes short, apical. Coloration similar to that of *E. kennedyi* Knull; dorsum yellow or white, with reddish or orange color pattern; vertex with orange parallel submedial lines (often with lateral branch), midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with reddish lateral triangles; thoracic venter entirely pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Diagnosis:** *E. kerzhneri* sp.n. is similar to *E. kennedyi* Knull, but has the dorsal and distal processes of the aedeagus much shorter, the basal processes longer, and the third point of the style longer, about as long as distance between other points.

**Type locality:** Holotype ♂, USA, Arkansas, Washington Co., 30 VI 1940 (Sanderson), (KSEM).

**Studied material:** Paratypes: USA, 2 ♂, Arkansas, Miller Co., Fouke, 21 XII 1931 (Beamer), (KSEM); 2 ♂, Arkansas, Polk Co., 21 VIII 1928 (Beamer), (KSEM); 2 ♂, Illinois, Clay Co., 31 III 1929 (Oman), (KSEM); 1 ♂, Illinois, Clay Co., 31 III 1929 (Beamer), (KSEM); 8 ♂, Illinois, Clay Co., Flora, 31 III 1929 (Beamer), (KSEM). Other studied material from Illinois, Kansas, Louisiana, and Mississippi excluded from paratypes.

**Distribution:** Central and southeastern USA.

**Host plants:** *Ilex decidua, Ulmus alata.*

**Note:** The species named in honor of Prof. Izyaslav Kerzhner (Zoological Institute, Russian Academy of Sciences, St. Petersburg), Russian specialist on Heteroptera.

45. *Erythroneura kennedyi* Knull, 1945 (Fig. 45)

*Erythroneura kennedyi* Knull, 1945:109

**Description:** Length 2.9–3.1 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point not longer than half distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium shorter than
 shaft of aedeagus; shaft straight and slender in lateral view, round in crosssection; with long dorsal processes between shaft and dorsal apodeme; ventral processes placed basally, close to shaft, shorter than shaft, parallel to each other on ventral side; aedeagus distal processes apical, slender. Dorsum yellow or white, with reddish or orange color pattern; vertex with parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with reddish lateral triangles; thoracic venter entirely pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype $\delta$, USA, Ohio, Pickaway Co., 20 II 1934 (Caldwell), (OSU).

**Distribution:** Known only from type locality in Ohio.

**Host plants:** Unknown.

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46. *Erythroneura ancora* Beamer, 1929 (Fig. 46)

_Erythroneura ancora_ Beamer, 1929:122

**Description:** Length 3.1–3.2 mm. Male genitalia. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsally, slender in lateral view, with small dorsal distal lobe; ventral processes placed basally, close to shaft, shorter than shaft; distal processes absent. Dorsum yellow, with orange color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum pale, with dark lateral triangles; thoracic venter entirely pale; forewings with oblique vittae usually forming zigzag pattern; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype, $\delta$, USA, Texas, Culberson Co., 10 VII 1927 (Beamer), (KSEM).

**Distribution:** Known only from type locality in Texas.

**Host plants:** Unknown.

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Figure 45. *E. kennedyi* Knull. b – from Knull 1945.

Fig. 46. *E. ancora* Beamer. b, c – from Beamer 1938.
47. *Erythroneura tacita* Beamer, 1938 (Fig. 47)

_Erythroneura tacita_ Beamer, 1938:293

**Description:** Length 3.1–3.5 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex. C-shaped, dorsal branch strongly reduced, ventral branch much longer. Second point of style apex longer than third; third point very short; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved dorsally, slender in lateral view, round in crosssection; ventral processes placed basally, well separated from shaft, shorter than shaft, evenly divergent; distal processes long, slender. Dorsum yellow or white, with reddish or orange color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y-shaped medial vitta; mesonotum entirely pale; thoracic venter entirely pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♂, USA, Washington, Ferry Co., Republic, 6 VIII 1931 (Beamer), (KSEM).

**Distribution:** Western USA, southwestern Canada.

**Host plants:** Unknown.

![Figure 47. *E. tacita* Beamer.](image)

48. *Erythroneura caetra* McAtee, 1924 (Fig. 48)

_Erythroneura ligata* var. *caetra* McAtee, 1924b:130

_Erythroneura caetra_ Beamer, 1938:281

**Description:** Length 2.9–3.3 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe angulate; dorsal appendages extended beyond pygofer apex. C-shaped, ventral branch much longer than dorsal. Second point of style apex longer than third; third point of style apex very short or absent. Aedeagus with preatrium shorter than shaft; shaft curved dorsally, broad in lateral view, compressed in crosssection, with subapical dorsal lobe, with distinct apical spicules; ventral processes placed basally, well separated from shaft, shorter than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, small, toothlike. Dorsum yellow or white with reddish brown color; vertex with parallel submedial lines, midline pale; anteclypeus dark; pronotum dark with pale lateral margins; mesonotum pale, with black lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewings with oblique vittae forming continuous zigzag pattern; clavus with continuous vitta parallel to suture; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♀, USA, California, Monterey Co., Salinas, 26 IV 1908 (Ball), (USNM).

**Distribution:** Western USA, southwestern Canada.

**Host plants:** *Salix exigua*.
49. *Erythroneura rosa* Robinson, 1924 (Fig. 49)

*Erythroneura rosa* Robinson, 1924a:58

*Erythroneura mallochi* McAtee, 1924c:41

*Erythroneura repetita* McAtee, 1926:131, syn.n.

**Description:** Length 2.8–3.2 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe angulate; dorsal appendages extended beyond pygofer apex, C-shaped, ventral branch much longer than dorsal, branches strongly divergent. Second point of style apex longer than third; third point very short or absent. Aedeagus with preatrium shorter than shaft; shaft curved dorsally, broad in lateral view, compressed in crossection, with subapical dorsal lobe, with distinct apical spicules; ventral processes placed basally, well separated from shaft, shorter than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, small toothlike. Dorsum yellow or white, with reddish or brownish color pattern; vertex with orange parallel submedial lines, midline pale; anteclypeus dark; pronotum dark with pale lateral margins or pale with two longitudinal strips; mesonotum pale, with dark lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewings with oblique vitae forming zigzag pattern or dark with two narrow crossbands; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♂, USA, Missouri, Jackson Co., Atherton, 19 V 1922 (Adams), (KSEM).

**Distribution:** Central and eastern USA, southern Canada.

**Host plants:** *Salix myricoides*, *S. babylonica*, *S. cordata*, *S. bebbiana*, *S. petiolaris*, *S. caprea*, *S. humilis*, *S. interior*.

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Figure 48. *E. caetra* McAtee. b, c – from Beamer 1938.

Figure 49. *E. rosa* Robinson. a2 – var. *mallochi*; a3 – var. *repetita*; b, c – from Beamer 1938.
50. *Erythroneura omaska* Robinson, 1924 (Fig. 50)

*Erythroneura omaska* Robinson, 1924a:62

**Description:** Length 3 to 3.2 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, C-shaped, branches subequal in length. Second point of style apex longer than third; third point short; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsally, slender in lateral view, denticulate distally, depressed in crosssection. Aedeagus with two dorsal processes arising near midlength of shaft; ventral processes absent; distal processes apical, slender. Dorsum yellow or white, with reddish or orange color pattern; vertex with parallel submedial lines, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with Y- or V-shaped medial vitta; mesonotum pale, with orange lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II with distal spot; inner apical cell with brown spot basally.

**Type locality:** Holotype ♂, USA, Kansas, Douglas Co., X 1923, (Robinson), (KSEM).

**Distribution:** Central and eastern USA.

**Host plants:** Unknown. Recorded from *Rubus* sp., *Vitis* sp., *Ilex decidua*.

51. *Erythroneura rubrella* McAtee, 1920 (Fig. 51)

*Erythroneura comes* var. *rubrella* McAtee, 1920:316

*Erythroneura rubrella* Johnson, 1935:109

**Description:** Length 2.7 to 3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; dorsal appendages extended beyond pygofer apex, C-shaped, ventral branch much longer than dorsal. Second point of style apex very short, tooth like; third point of style apex subequal in size with second; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft straight and broad in lateral view, compressed in crosssection, with dorsal keel; apex of aedeagus acuminate in ventral view, with distinct apical spicules; ventral processes absent; distal processes absent. Dorsum yellow or white, with reddish color pattern; vertex with orange parallel submedial lines, midline red; anteclypeus dark; pronotum dark with pale lateral margins or pale with two longitudinal strips; mesonotum pale, with reddish lateral triangles; thoracic venter entirely dark; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♂, USA, Maryland, Montgomery Co., Plumpers Island, 30 XI 1913 (McAtee), (USNM).

**Distribution:** Northwestern, central, and eastern USA, southern Canada.

**Host plants:** *Cornus pumila*, *C. stolonifera*. 
52. Erythroneura corni Robinson, 1924 (Fig. 52)
Erythroneura corni Robinson, 1924a:60
Erythroneura ornata Osborn, 1928b:364

Description: Length 2.6–3 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages extended beyond pygofer apex, C-shaped, branches very long of subequal length. Second point of style apex very short, tooth like; third point not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft curved dorsally, slender in lateral view, compressed in crosssection, with long dorsal distal lobe; apex acuminate in ventral view, with distinct apical spicules. Aedeagus without processes. Dorsum yellow or white, with orange or red color pattern; vertex with parallel submedial lines, midline red; anteclypeus dark; pronotum dark with pale lateral margins or pale with two longitudinal strips; mesonotum pale, with reddish lateral triangles; thoracic venter entirely dark; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

Type locality: Holotype ♂, USA, Kansas, Douglas Co., X 1923, (Robinson), (KSEM).

Distribution: USA, southern Canada.

Host plants: Cornus spp.

53. Erythroneura bidens McAtee, 1924 (Fig. 53)
Erythroneura comes var. bidens McAtee, 1924a:39
Erythroneura comes var. suffusa McAtee, 1924a:39
Erythroneura bidens Beamer, 1938:287

Description: Length 2.8–3.2 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages extended beyond pygofer apex, C-shaped;
ventral branch about twice as long as dorsal, twisted and extended at apex. Second point of style apex very short, tooth like; third point subequal in size with second; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, compressed in crosssection, with long dorsal distal lobe; apex acuminate in ventral view, with distinct apical spicules. Aedeagus without processes. Dorsum yellow or white, with reddish or orange color pattern; vertex with parallel sub medial lines, midline red; anteclypeus dark; pronotum dark with pale lateral margins or pale with two longitudinal strips; mesonotum pale, with reddish lateral triangles; thoracic venter entirely dark; forewing with broken oblique vittae; clavus with separate basal and distal vittae; dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Virginia, Fairfax Co., Scotts Run Nature Preserve, Stubblefield Falls, on *Pinus virginiana*, 23 X 1921 (Malloch), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Cornus* spp.

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54. *Erythroneura ontari* Robinson, 1924 (Fig. 54)

_Erythroneura ontari_ Robinson, 1924a:60

**Description:** Length 2.5–2.8 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages extended beyond pygofer apex, C-shaped; ventral branch about twice as long as dorsal. Second point of style apex very short, tooth like; third point subequal in size with second; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft straight and slender in lateral view, compressed in crosssection, with long dorsal distal lobe; apex acuminate in ventral view, with distinct apical spicules. Aedeagus without processes. Coloration similar to *E. corni* Robinson.

**Type locality:** Holotype ♂, Canada, Ontario, Vineland, I 1923, (Robinson), (KSEM).

**Distribution:** Northwestern, central, and eastern USA, southern Canada.

**Host plants:** *Cornus* spp.

**Note:** *E. ontari* Robinson may be a variant of *E. corni* Robinson rather than a distinct species. They are often collected together and differ primarily in the length of the dorsal branch of the pygofer process. However, intermediate forms were not found.

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Figure 53. *E. bidens* McAtee. a1 – holotype; a2 – var. *suffusa*. b, c – from Beamer 1938; e – from Hepner, unpublished.

Figure 54. *E. ontari* Robinson. b, c – from Beamer 1938; e – Hepner, unpublished.
Genus *Erasmoneura* Young, 1952

*Erythroneura (Erasmoneura)* Young, 1952:80 (Type: *Erythroneura vulnerata* Fitch, 1851)

*Erasmoneura* Dietrich & Dmitriev, 2006:139

**Description:** Length 2.2–3.4 mm, relatively slender. Head narrower than pronotum; crown fore margin strongly produced and angulate medially; ocelli absent or vestigial. Face depressed in profile, less than 45° from horizontal; anteclypeus narrow in both sexes. Forewings outer apical cell short, less than 2X longer than width or about 2X as long as wide; second apical cell quadrilateral (ir crossvein present); third apical cell parallel sided, straight; CuP shorter than segment of CuA between Cu and MP; basal segment of MP shorter than basal segment of CuA; inner apical cell with distinctly angulate base; Pcu not visible. Hindwing with truncate apex; submarginal vein not extended to wing apex; RA present; MP and CuA fused for short distance or separated by m-cu crossvein, convergent distally. Front femur AV row with one basal seta distinctly larger than others; PV row without fine basal setae. 2S abdominal apodemes small, narrow, extended dorso-mesad. Pygofer apex not extended to apex of subgenital plate; dorsal emargination extended to base of segment; basolateral setae in distinct group, small; distal setae undifferentiated; long fine setae present or absent; apex with rigid setae on internal surface. Pygofer dorsal appendage movable articulated, or at least with distinct basal suture separating it from lobe; simple or bifurcate; ventral appendage absent. Subgenital plates free; lateral margin with angulate subbasal projection; section basad of medial constriction shorter than distal section; with 4 basal macrosetae, uniseriate along margin; marginal short rigid setae forming continuous row. Style preapical lobe prominent; apex with 3 points. Aedeagus articulated to connective; dorsal apodeme broadly expanded in lateral view, with distinct V-shaped ligaments connected to pygofer appendages; shaft symmetrical, with processes. Connective median anterior lobe absent; arms long; stem well developed, depressed. Anal tube without processes. Coloration variable.

**Distribution:** North America; *E. vulnerata* Fitch recently established in northern Italy (Duso et al., 2005).

**Host plants:** *Vitis* spp. and herbs.

**Key to Species of the Genus Erasmoneura**

1. Aedeagus shaft very short, with ventral processes; processes as long as or longer than shaft; without distal processes (Fig. 55e). Pygofer with dorsal appendage bifurcate
   (Figs. 55b, 56b). ................................................................. 2

1’. Aedeagus shaft long, without ventral processes, with distal processes (Fig. 58e). Pygofer with dorsal appendage not bifurcate (Fig. 58b). ................................................................. 4

2(1). Pygofer dorsal appendage bifurcate far from base, branches very short; dorsal branch slightly curved upward (Fig. 55b). ....................................................... 55. *E. vulnerata* Fitch

2’. Pygofer dorsal appendage bifurcate closer to base, branches longer than basal part of appendage; dorsal branch straight or curved downward (Figs. 56b, 57b). ....................... 3

3(2). Branches of pygofer appendage subequal in length (Fig. 56b). .......... 56. *E. fulmina* McAtee

3’. Dorsal branch of pygofer appendage about twice as long as ventral (Fig. 57b). ................................. 57. *E. variabilis* Beamer

4(1). Third point of style apex shorter than half distance between other two points (Fig. 58c). ...... 58. *E. nigra* Gillette

4’. Third point of style apex longer than half distance between other two points (Fig. 60c). .... 5

5(4). Third point of style apex more than 2X longer than distance between other two points (Fig. 59c). ................................................................. 59. *E. nigerrima* McAtee

5’. Third point of style apex as long or only slightly longer than distance between other two points (Fig. 60c). ................................................................. 6

6(5). Ground color of dorsum dark brown or black (Figs. 60a, 61a). ............................................... 7

6’. Ground color of dorsum yellow, reddish, or light brown (Figs. 62a, 63a). ...................................... 8

7(6). Aedeagus distal processes longer than dorsal distal lobe (Figs. 60d, 60e). Dorsum with pale spots (Fig. 60a). ................................................................. 60. *E. atra* Johnson

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1 *E. bipentagona* Beamer, known only from the female holotype, is not included.
7'. Aedeagus distal processes not longer than dorsal distal lobe (Figs. 61d, 61e). Dorsum without pale spots (Fig. 61a). ................................................................. 61. **E. caerula** Beamer

8(6). Aedeagus depressed in crosssection, broad in ventral view (Figs. 62d, 62e). ........................................... 9

8'. Aedeagus round in crosssection, slender in ventral view (Figs. 64d, 64e). ................................. 10

9(8). Aedeagus distal processes directed basad in ventral view (Fig. 62e). Vertex pale; forewing yellow or pink (Fig. 62a). .................................................. 62. **E. rubricata** Van Duzee

9'. Aedeagus distal processes directed latarad in ventral view (Fig. 63e). Vertex and forewing reddish brown (Fig. 63a). .............................................................. 63. **E. margaritae** sp.n.

10(8). Shaft of aedeagus curved dorsally in lateral view; dorsal distal lobe longer than distal processes (Fig. 64d). ............................................................... 64. **E. emeljanovi** sp.n.

10'. Shaft of aedeagus curved ventrally in lateral view; dorsal distal lobe not longer than distal processes (Fig. 65d). .............................................................. 65. **E. mixta** Beamer

55. **Erasmoneura vulnerata** (Fitch, 1851) (Fig. 55, Plate 1e)

*Erythroneura vulnerata* Fitch, 1851:62

*Typhlocyba vulneata* Lugger, 1896:61, missp.

*Erythroneura gradata* Robinson, 1924a:58, syn.n.

*Erasmoneura vulnerata* Dietrich & Dmitriev, 2006:140

**Description:** Length 2.7–3.2 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages bifurcate far from base, not extended beyond pygofer apex, curved upward. Second point of style apex very short, toothlike; third point elongate, not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft very short membranous, straight and broad in lateral view, round in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at base, then parallel; distal processes absent. Dorsum white or yellow, with reddish or brownish color pattern; vertex mostly dark, with small pale spots, midline pale; anteclypeus brown; pronotum and mesonotum almost entirely dark; thoracic venter with dark mesosternum, remainder pale; forewing reddish and brownish patches; clavus largely or entirely dark; dark spot at costal margin; apical cell II with distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♂, USA, New York, (NYSM).

**Distribution:** Central and eastern USA, southeastern Canada, northern Mexico, Italy (introduced, Duso et al., 2005).

**Host plants:** *Vitis* spp.
56. *Erasmoneura fulmina* (McAtee, 1920) (Fig. 56)

*Erythroneura vulnerata* var. *fulmina* McAtee, 1920:274

*Erythroneura pulchella* Robinson, 1924b:155

*Erythroneura bicolorata* Beamer, 1937:11, *syn.n.*

*Erythroneura fulmina* Beamer, 1946:17

*Erasmoneura fulmina* Dietrich & Dmitriev, 2006:140

**Description:** Length 2.7–2.9 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages bifurcate near base, appendages parallel, not extended beyond pygofer apex, straight in lateral view. Second point of style apex very short, tooth like; third point elongate, longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft very short, membranous, straight and broad in lateral view, round in cross section; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at base, than parallel; distal processes absent. Dorsum yellow or white, with reddish or brownish color pattern; vertex mostly dark, with small pale spots, midline pale; anteclypeus dark; pronotum almost entirely dark; mesonotum pale, with dark lateral triangles or entirely dark; thoracic venter entirely dark. Forewing with reddish brown and pale patches, in some cases basal half much darker than distal half; dark spot at costal margin; apical cell II with distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 1 VI 1907 (Fisher), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.
57. *Erasmoneura variabilis* (Beamer, 1929) (Fig. 57)

*Erythroneura variabilis* Beamer, 1929:126

*Erasmoneura variabilis* Dietrich & Dmitriev, 2006:140

Variegated leafhopper

**Description:** Length 2.9–3.1 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages bifurcate near base, branches parallel to each other, not extended beyond pygofer apex. Second point of style apex very short, tooth like; third point elongate, not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatium longer than shaft; shaft very short, membranous, straight and broad in lateral view, round in crosssection; ventral processes placed basally, well separated from shaft, longer than shaft, divergent at base, then parallel; distal processes absent. Coloration similar to *E. vulnerata* Fitch.

**Type locality:** Holotype ♂, USA, Arizona, Yavapai Co., 9 VIII 1927 (Beamer), (KSEM).

**Distribution:** Arizona, California, northern Mexico.

**Host plants:** *Vitis* spp.

58. *Erasmoneura nigra* (Gillette, 1898) (Fig. 58, Plate 1f)

*Typhlocyba vulnerata* var. *niger* Gillette, 1898:765

*Typhlocyba nigridorsum* DeLong, 1916:110

*Erythroneura nigra* Van Duze, 1916:77


*Erythroneura nigra* Lawson, 1920:51

*Erasmoneura nigra* Dietrich & Dmitriev, 2006:140

**Description:** Length 2.7–3.1 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; pygofer dorsal appendages simple, not extended beyond pygofer apex,
slightly curved upward in lateral view. Second point of style apex very short, toothlike; third point elongate, not longer than half distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrally, broad in lateral view, round in crosssection, with long dorsal distal lobe; ventral processes absent; distal processes long, subapical. Dorsum mostly black, with pale specks. Vertex mostly dark, midline pale; anteclypeus pale, concolorous with rest of face; pronotum with three pale specks at anterior margin; mesonotum almost entirely dark; thoracic venter with dark mesosternum, remainder pale. Forewing dark, with some pale specks and pale transverse veins.

**Type locality:** Holotype ♀, USA, Kansas, Pottawatomie Co., Onaga, (Crevecoeur), (USNM).

**Distribution:** USA, southern Canada.

**Host plants:** Polygonum spp.

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59. *Erasmoneura nigerrima* (McAtee, 1920) (Fig. 59)

_Erythroneura vulnerata_ var. _nigerrima_ McAtee, 1920:275
_Erythroneura niger_ var. _nigerrima_ Robinson, 1926:116
_Erythroneura atrata_ Johnson, 1935:97, _syn.n._
_Erasmoniera nigerrima_ Dietrich & Dmitriev, 2006:140

**Description:** Length 2.2–2.5 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; pygofer dorsal appendages simple, movably articulated, extended beyond pygofer apex, curved downward in lateral view. Second point of style apex very short, tooth like; third point of style apex more than twice longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium longer than shaft; shaft curved ventrally, broad in lateral view; round in crosssection, with subapical dorsal lobe; ventral processes absent; distal processes long, subapical. Dorsum black, with pale fore margin of vertex, pale specks on pronotum and mesonotum, and costal margins of wings, crossveins pale; usually with red spot at costal margin of forewing at level of crossveins; anteclypeus pale, concolorous with rest of face; thoracic venter with dark mesosternum, remainder pale.

**Type locality:** Holotype ♀, USA, Virginia, Alexandria Co., Maywood, 20 II 1916 (McAtee), (USNM).

**Distribution:** Central and northeastern USA.

**Host plants:** Unknown.

**Note:** _E. nigerrima_ McAtee was misidentified by Beamer (1946); see _E. atra_ Johnson.

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Figure 58. *E. nigra* Gillette. a2 – var. _decora_. b, c – from Ross 1965.

Figure 59. *E. nigerrima* McAtee. c – from Johnson 1935.
60. *Erasmoneura atra* (Johnson, 1935), sp. revalid., new comb. (Fig. 60)

*Erythroneura atra* Johnson, 1935:96

*Erythroneura nigerrima* Beamer, 1946:18 not McAtee 1920, misid.

**Description:** Length 2.6–2.9 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; pygofer dorsal appendages simple, not extended beyond pygofer apex, slightly curved upward in lateral view. Second point of style apex very short, toothlike; third point of style apex elongate, about as long or longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrally, slender in lateral view, round in crossection, with long dorsal distal lobe; ventral processes absent; distal processes long, subapical. Coloration similar to *E. nigra* Gillette.

**Type locality:** Holotype ♀, USA, Ohio, Hocking Co., Conkles Hollow, Hocking State Forest, 15 IV 1934 (Caldwell), (OSU).

**Distribution:** Central and eastern USA.

**Host plants:** Unknown.

**Note:** *E. atra* Johnson was mistakenly synonymised with *E. nigerrima* McAtee by Beamer (1946).

![Figure 60. *E. atra* Johnson. a1, a2 – color variations; b – from Hepner, unpublished.](image)

61. *Erasmoneura caerula* (Beamer, 1937) (Fig. 61)

*Erythroneura caerula* Beamer, 1937:10

*Erasmoneura caerula* Dietrich & Dmitriev, 2006:140

**Description:** Length 3.1–3.4 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; pygofer dorsal appendages simple, not extended beyond pygofer apex, straight in lateral view. Second point of style apex very short, toothlike; third point of style apex elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft straight and slender in lateral view; round in crossection, with long dorsal distal lobe; ventral processes absent; distal processes long, subapical. Dorsum black; anteclypeus pale, concolorous with rest of face; thoracic venter with dark mesosternum, remainder pale.

**Type locality:** Holotype ♀, USA, Arkansas, Franklin Co., Barnes, 8 VI 1931 (Beamer), (KSEM).

**Distribution:** Central USA.

**Host plants:** Unknown.

![Figure 61. *E. caerula* Beamer.](image)
62. *Erasmoneura rubricata* (Van Duzee, 1909) (Fig. 62)
  
  *Typhlocyba rubricata* Van Duzee, 1909:229
  *Erythroneura rubricata* Van Duzee, 1916:77
  *Erasmoneura rubricata* Dietrich & Dmitriev, 2006:140

**Description:** Length 2.6–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; pygofer dorsal appendages simple, not extended beyond pygofer apex, slightly curved upward in lateral view. Second point of style apex very short, tooth like; third point of style apex elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium longer than shaft; shaft straight and broad in lateral view; depressed in crossection, with small dorsal distal lobe, with lateral lobes at base; distal processes long, apical. Uniformly yellow pronotum and forewings, except apices, pink; venter entirely pale.

**Type locality:** Lectotype ♀, USA, Florida, Putnam Co., Crescent City, Spring 1908, (Van Duzee), (CAS) – here designated.

**Distribution:** Central and southeastern USA.

**Host plants:** *Ascyrum hypericoides*, *Hypericum densiflorum*, *H. aspalathoides*, *H. prolificum*.

63. *Erasmoneura margaritae* Dmitriev & Dietrich sp.n. (Fig. 63)

**Description:** Length 2.7–2.9 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; dorsal appendages with distinct basal suture, but not movably articulated, simple, not extended beyond pygofer apex, straight or very slightly curved in dorsal view, slightly curved downward in lateral view. Second point of style apex very short, tooth like; third point elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium shorter than shaft; shaft curved ventrally, slender in lateral view, smooth, depressed in crossection, with long dorsal distal lobe, with lateral lobes at base; distal processes long, apical, slender. Dorsum reddish brown; vertex mostly dark, with small pale spots, midline pale or dark; anteclypeus pale, concolorous with rest of face; pronotum almost entirely dark, with three pale specks at anterior margin. Mesonotum almost entirely dark; thoracic venter with dark mesosternum, remainder pale; forewing almost entirely dark, with pale spot at costal margin, and smoked apices.

**Diagnosis:** *E. margaritae* sp.n. is similar to *E. rubricata* Van Duzee, but the aedeagus shaft is longer and curved dorsally, its dorsal distal lobe is longer, its distal processes are shorter and directed laterad, and the overall coloration is darker.

**Type locality:** Holotype ♂, USA, Illinois, Iroquois Co., on *Hypericum sp.*, 25 IX 1962 (Ross & Ross), (INHS).
Studied material: Paratypes: 10 ♂, 4 ♀, the same label data (INHS, 1 ♂ MEM). Other studied material from Illinois excluded from paratypes.

Distribution: Illinois.

Host plants: Hypericum sp.

Note: The species is named after the first author’s wife Margarita Dmitrieva.

64. Erasmoneura emeljanovi Dmitriev & Dietrich sp.n. (Fig. 64)
Description: Length 2.6–3 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe angulate; dorsal appendages with distinct basal suture, but not movably articulated, simple, not extended beyond pygofer apex, straight, slightly curved upward in lateral view; ventral appendages absent. Second point of style apex very short, tooth-like; third point elongate, longer than distance between other two points; angle between basal and third points less than 90°. Aedeagus with preatrium about as long as shaft; shaft symmetrical, curved dorsally, slender in lateral view, smooth, round in crosssection, with long dorsal distal lobe; ventral processes absent; distal processes short, apical, toothlike. Coloration uniformly pale yellow, without pattern.

Diagnosis: E. emeljanovi sp.n. is similar to E. mixta Beamer, but the aedeagus shaft is curved dorsally, with the distal lobe much longer.

Type locality: Holotype ♂, USA, South Carolina, Marion Co., Mullins, on Hypericum sp., 5 V 1932 (Oman), (KSEM).

Studied material: Paratypes: 9 ♂, 9 ♀, the same label data.

Distribution: Known only from type locality in South Carolina.

Host plants: Hypericum sp.

Note: The species is named in honor of Prof. Alexandr F. Emeljanov (Zoological Institute, Russian Academy of Sciences, St. Petersburg), Ph.D. advisor of the first author.
65. *Erasmoneura mixta* (Beamer, 1932) (Fig. 65)

*Erythroneura mixta* Beamer, 1932:183

*Erasmoneura mixta* Dietrich & Dmitriev, 2006:140

**Description:** Length 2.4–2.7 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages simple, not extended beyond pygofer apex, slightly curved upward in lateral view. Second point of style apex very short, tooth like; third point of style apex elongate, about as long as distance between other two points; angle between basal and third points about 90°. Aedeagus with preatrium about as long as shaft; shaft curved ventrally, slender in lateral view, round in crossection, with long dorsal distal lobe, with lateral lobes at base; distal processes long, apical. Dorsum yellow or pink; anteclypeus pale, concolorous with rest of face or darker; thoracic venter entirely pale or entirely dark.

**Type locality:** Holotype ♀, USA, Florida, Hillsborough Co., Plant City, on *Hypericum fasciculatum*, 15 VIII 1930 (Beamer), (KSEM).

**Distribution:** Southeastern USA.

**Host plants:** *Hypericum fasciculatum, H. aspalathoides*.

66. *Erasmoneura bipentagona* (Beamer, 1927) (Fig. 66)

*Erythroneura bipentagona* Beamer, 1927:31

*Erasmoneura bipentagona* Dietrich & Dmitriev, 2006:140

**Description:** Length 2.7 mm. Dorsum yellow with reddish brown color pattern; vertex unicolorous, pale; anteclypeus pale, concolorous with rest of face; pronotum almost entirely dark; mesonotum pale, with dark lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewings with oblique vittae forming zigzag pattern; clavus largely dark; dark spot at costal margin; apical cell II with distal spot; inner apical cell without brown spot.

**Type locality:** Holotype ♀, USA, Kansas, Douglas Co., (Beamer), (KSEM).

**Distribution:** Known only from the type locality in eastern Kansas.

**Host plants:** Unknown.

**Notes:** The species is known only from the female holotype. Based on the shape of female sternite VII and color pattern, it may be related to *E. margaritae*.

Figure 65. *E. mixta* Beamer. a1, a2 – color variations.

Figure 66. *E. bipentagona* Beamer.
Genus *Rossmoneura* Dietrich & Dmitriev, 2006

**Rossmoneura** Dietrich & Dmitriev, 2006:148 (Type: *Erythroneura tecta* McAtee, 1920)

**Description:** Length 2.5–3.6 mm, moderately broad. Head narrower than pronotum; crown foremargin weakly produced, broadly rounded apically; ocelli absent; face depressed in profile, less than 45° from horizontal. Forewing outer apical cell about 2X as long as wide; second apical cell quadrate (ir crossvein present); third apical cell parallel sided, straight; CuP shorter than segment of CuA between Cu and MP; basal segment of MP shorter than basal segment of CuA; inner apical cell with distinctly angulate base; vannal vein on forewings not visible. Hindwing submarginal vein not extended to wing apex; RA vein present; MP and CuA touching at one point or separated by m-cu crossvein, convergent distally. Front femur AV row with one basal seta distinctly larger than others; PV row without fine basal setae. 2S abdominal apodemes narrow, or broad, extended to posterior margin of sternite III. Pygofer with apex not extended to apex of subgenital plate; lobe rounded; dorsal emargination extended to base of segment; basolateral setae in distinct group, small; with rigid setae on internal surface. Pygofer dorsal appendages not articulated; simple; ventral appendages absent. Sternite IX with median longitudinal internal ridge. Subgenital plates free; lateral margin with angulate subbasal projection; section basad of medial constriction shorter than distal section; with four basal macrosetae unisierate along margin; with distinct marginal rigid setae forming continuous row. Style preapical lobe prominent; apex with three points; second point long, often longer than third; third point subequal in size or shorter than second; angle between basal and third points about 90°. Aedeagus articulated to connective; dorsal apodeme broadly expanded in lateral view, with distinct V-shaped ligaments connected to pygofer appendages; shaft without dorsal process; with small dorsal distal lobe; with unpaired short ventral process placed basally or near midlength of shaft, close to shaft. Connective median anterior lobe absent; arms long; stem well developed, depressed. Anal tube without processes. Dorsum yellow or white, with reddish brown color pattern; vertex usually with pair of dark preapical spots.

**Distribution:** Central and eastern USA, southern Canada.

**Host plants:** Herbs.

### Key to Species of the Genus *Rossmoneura*

1. Pygofer dorsal appendage straight in lateral view (Fig. 67b). ............ 67. *R. carbonata* McAtee

1’. Pygofer dorsal appendage curved upward in lateral view (Figs. 68b, 69b). .............................. 2

2(1). Pygofer dorsal appendage only slightly curved in lateral view (Fig. 68b). .............................. 

............... 68. *R. tecta* McAtee

2’. Pygofer dorsal appendages hook-shaped in lateral view (Fig. 69b). ............ 69. *R. calva* Beamer

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67. *Rossmoneura carbonata* (McAtee, 1920) (Fig. 67, Plate 1g)

*Erythroneura tecta* var. *carbonata* McAtee, 1920:289

*Erythroneura carbonata* Beamer, 1946:22

*Rossmoneura carbonata* Dietrich & Dmitriev, 2006:149

**Description:** Length 2.5–3 mm. 2S abdominal apodemes large, broad, reach 3S posterior margin. Pygofer lobe rounded; dorsal appendages extended beyond pygofer apex, straight in lateral view. Second point of style apex longer than third; third point very short. Aedeagus with preatrium about as long as shaft; shaft straight and broad in lateral view; round in crossection, with small dorsal distal lobe; with unpaired short ventral process arising near midlength of shaft; distal processes absent. Dorsum yellow or white, with brownish or reddish brown color pattern; vertex with pair of black preapical spots; anteclypeus brown or black. Pronotum mostly dark; mesonotum pale, with black lateral triangles; thoracic venter with dark mesosternum, remainder pale. Forewing mostly dark, with several pale specks, large spots at base and apex of clavus, and at costal margin.

**Type locality:** Holotype δ, USA, Maryland, Montgomery Co., Plummers Island, 14 XII 1913
(McAtee), (KSEM).

**Distribution:** Central and eastern USA, southern Canada.

**Host plants:** *Steironema ciliatum, Glaux maritima, Lysimachia lanceolata.*

Figure 67. *R. carbonata* McAtee.

68. *Rossmoneura tecta* (McAtee, 1920) (Fig. 68)

*Erythroneura tecta* McAtee, 1920:288

*Erythroneura sexpunctata* Malloch, 1921:25

*Rossmoneura tecta* Dietrich & Dmitriev, 2006:149

**Description:** Length 3.1–3.6 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages extended beyond pygofer apex, slightly curved upward in lateral view. Second point of style apex longer than third; third point very short. Aedeagus with preatrium about as long as shaft; shaft curved ventrally, broad in lateral view; round in crossection, with small dorsal distal lobe, ventral process unpaired, placed basally, close to shaft, shorter than shaft; distal processes short, apical. Dorsum yellow or white, with reddish or brownish color pattern; vertex with pair of black preapical spots; anteclypeus dark. Pronotum dark with pale lateral margins or pale with two longitudinal strips; mesonotum pale, with black lateral triangles; thoracic venter with dark mesosternum, remainder pale; forewing usually with oblique vittae forming zigzag pattern; clavus with separate basal and distal vittae.

**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, among mullen leaves, 25 I 1914 (McAtee), (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** ? *Verbascum* sp.

Figure 68. *R. tecta* McAtee. b1 – from Dietrich & Dmitriev 2006.
69. *Rossmoneura calva* (Beamer, 1946) (Fig. 69)

*Erythroneura calva* Beamer, 1946:22

*Rossmoneura calva* Dietrich & Dmitriev, 2006:149

**Description:** Length 3–3.6 mm. 2S abdominal apodemes small, narrow, extended dorsomesad. Pygofer lobe rounded; dorsal appendages not extended beyond pygofer apex, strongly curved upward in lateral view. Second point of style apex well developed; third point subequal in size to second. Aedeagus with preatrium about as long as shaft; shaft curved ventrally, broad in lateral view; round in crosssection, with small dorsal distal lobe; ventral process unpaired, arising near midlength of shaft; distal processes short, apical. Coloration similar to *R. carbonata* McAtee but paler and without dark spots on crown.

**Type locality:** Holotype ♂, Canada, Manitoba, Keld, 8 VIII 1937 (Beamer), (KSEM).

**Distribution:** North-central USA, southern Canada.

**Host plants:** Unknown.

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Genus *Hymetta* McAtee, 1919

*Hymetta* McAtee, 1919:121 (Type: *Tettigonia trifasciata* Say, 1825)

**Description:** Length 3–3.7 mm, moderately broad. Head narrower than pronotum; crown foremargin strongly produced and angulate medially; ocelli absent; face depressed in profile, less than 45° from horizontal. Forewing outer apical cell about 2X as long as wide; second apical cell quadrate (ir crossvein present); third apical cell widened distally, straight; CuP longer than segment of CuA between Cu and MP; basal segment of MP shorter than basal segment of CuA; inner apical cell with distinctly angulate base; Pcu not visible. Hindwing submarginal vein not extended to wing apex; RA present; MP and CuA touching at one point or separated by m-cu crossvein, convergent distally. Front femur AV row with one basal seta distinctly larger than others; PV row without fine basal setae. 2S abdominal apodemes large, broad, extended to posterior margin of sternite III. Pygofer apex not extended to apex of subgenital plate; lobe rounded; dorsal emargination extended to base of segment; basolateral setae in distinct group, small; apex with rigid setae on internal surface. Pygofer dorsal appendage with distinct basal suture, but not movably articulated, simple, not extended beyond pygofer apex, straight or very slightly curved in dorsal view, straight in lateral view; ventral appendage absent. Sternite IX without median longitudinal internal ridge. Subgenital plates free; lateral margin with angulate subbasal projection; section basad of medial constriction shorter than distal section; with four basal macrosetae, uniseriate, along margin; with distinct marginal rigid setae forming continuous row. Style preapical lobe prominent; apex truncate and expanded; third point absent. Aedeagus articulated to connective; dorsal apodeme broadly expanded in lateral view, triangular, without distinct connection to anal tube or pygofer appendages; preatrium about as long as shaft; shaft symmetrical, curved dorsally, broad in lateral view, without dorsal process, with basal processes, with or without distal processes. Connective median anterior lobe absent; arms long; stem well developed, depressed. Anal tube without processes. Dorsum yellow or white, with reddish or brown color pattern; vertex, pronotum, and mesonotum pale, apex of scutellum black; forewing with characteristic numerous irregular red or
brownish dots, with or without brown crossband; without dark spot at costal margin; apical cell II without distal spot; inner apical cell without brown spot.

**Distribution:** USA.

**Host plants:** Three species recorded from *Vitis* spp., host plants for other two species unknown.

### Key to Species of the Genus *Hymetta*

1. Aedeagus with one pair of ventral processes; processes well separated from shaft
   
   (Fig. 71d). ................................................................................................................................. 2

1’. Aedeagus with two pairs of ventral processes; processes placed close to shaft
   
   (Figs. 73d, 74d). .......................................................................................................................... 4

2(1). Aedeagus with distal processes (Figs. 71d, 71e). ................................................................. 3

2’. Aedeagus without distal processes (Figs. 70d, 70e). .......................................................... 70. *H. kansasensis* Fairbairn

3(2). Aedeagus ventral processes evenly curved in lateral view; distal processes broad
   
   in lateral view (Fig. 71d). ........................................................................................................... 71. *H. balteata* McAtee

3’. Aedeagus ventral processes S-curved in lateral view; distal processes narrow in
   
   lateral view (Fig. 72d). .............................................................................................................. 72. *H. anthisma* McAtee

4(1). Aedeagus ventral processes narrow, shorter than shaft; shaft curved dorsad in
   
   lateral view (Fig. 73d). ............................................................................................................... 73. *H. trifasciata* Say

4’. Aedeagus ventral processes as long or longer than shaft; one pair much broader
   
   than another; shaft straight in lateral view (Fig. 74d). ......................................................... 74. *H. arizoniana* Fairbairn

70. *Hymetta kansasensis* Fairbairn, 1928 (Fig. 70)

*Hymetta kansasensis* Fairbairn, 1928b:90

**Description:** Length 3.2–3.5 mm. Aedeagus depressed in crossection; apex truncate in ventral view; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes absent. Coloration as described for genus.

**Type locality:** Holotype ♀, USA, Kansas, Douglas Co., 1925 (Lawson), (KSEM).

**Distribution:** Central and southeastern USA.

**Host plants:** *Vitis* spp.

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Figure 70. *H. kansasensis* Fairbairn. e – from Fairbairn 1928b; b, c – from Ross 1965.
71. *Hymetta balteata* McAtee, 1919 (Fig. 71, Plate 1h)  
*Hymetta trifasciata* var. *balteata* McAtee, 1919:123  
*Hymetta balteata* Fairbairn, 1928b:88  
**Description:** Length 3.1–3.4 mm. Aedeagus compressed in crosssection; apex truncate in ventral view; ventral processes placed basally, well separated from shaft, shorter than shaft, parallel to each other on ventral side of aedeagus; distal processes apical, flattened, triangular. Coloration variable, either as described for genus or paler overall.  
**Type locality:** Holotype ♀, USA, Maryland, Montgomery Co., Plummers Island, 14 XII 1913 (McAtee), (USNM).  
**Distribution:** Central and eastern USA.  
**Host plants:** *Vitis* spp.  
**Note:** In the original description (McAtee 1919) recorded the collection date of the holotype incorrectly as 4 XII 1913.

72. *Hymetta anthisma* McAtee, 1919 (Fig. 72)  
*Hymetta trifasciata* var. *anthisma* McAtee, 1919:123  
*Hymetta balteata* var. *anthisma* Fairbairn, 1928b:89  
*Hymetta anthisma* Osborn, 1928b:352  
**Description:** Length 3.3–3.6 mm. Aedeagus round in crosssection; apex truncate in ventral view; ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus, sinuate in lateral view; distal processes subapical, slightly flattened. Coloration
typical for genus, wings usually densely covered with red dots.

**Type locality:** Holotype ♀, USA, Texas, Dallas, on *Vitis sp.*, 12 IX 1907, (USNM).

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

**Note:** Fairbairn (1928b) mistakenly listed *H. anthisma* McAtee as a variety of *H. balteata* McAtee. Young (1952) listed the former as a separate species.

73. *Hymetta trifasciata* (Say, 1825) (Fig. 73)

*Tettigonia trifasciata* Say, 1825:343
*Typhlocyba trifasciata* Woodworth, 1889:213
*Typhlocyba trifascaita* Osborn, 1900:12, missp.
*Erythroneura trifasciata* Van Duzee, 1916:77
*Hymetta trifasciata* McAtee, 1919:121

**Description:** Length 3–3.4 mm. Aedeagus compressed in crossection; apex acuminate in ventral view; two pairs of ventral processes placed basally, close to shaft, short; distal processes absent. Coloration as described for genus.

**Type locality:** Neotype ♂, USA, Illinois, Urbana, on *Cercis canadensis*, 19 IX 1934, (INHS) – here designated.

**Distribution:** Central and eastern USA.

**Host plants:** *Vitis* spp.

**Note:** Because Say’s holotype is lost, we designate a neotype to stabilize the concept of this species, the type of the genus. This concept equals that of previous revisers (Fairbairn 1928b, Young 1952).
74. *Hymetta arizoniana* Fairbairn, 1928 (Fig. 74)

*Hymetta arizoniana* Fairbairn, 1928b:90

**Description:** Length 3.3–3.7 mm. Aedeagus round in cross-section; apex truncate in ventral view; two pairs of aedeagus ventral processes placed basally, close to shaft, placed basally; one pair of processes longer than shaft flattened, another pair not flattened, little shorter than shaft; distal processes absent. Coloration typical for genus.

**Type locality:** Holotype ♂, USA, Arizona, Coconino Co., 13 VIII 1927 (Beamer), (KSEM).

**Distribution:** Arizona.

**Host plants:** Unknown.

Figure 74. *H. arizoniana* Fairbairn. a1, a2 – color variations. d, e – from Fairbairn 1928b.
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