



## New and little known species of *Erasmoneura* Young (Hemiptera: Cicadellidae: Typhlocybinae)

D. A. DMITRIEV

Section for Biodiversity, Illinois Natural History Survey, 1816 S. Oak St., Champaign, IL, 61820, USA.  
E-mail: dmitriev@inhs.uiuc.edu

The North American leafhopper genus *Erasmoneura* Young was described as a subgenus of *Erythroneura* Fitch by Young (1952) to comprise the informal *Erythroneura vulnerata* Fitch species group previously recognized by Beamer (1938, 1946). *Erasmoneura* was recently elevated to generic status (Dietrich & Dmitriev, 2006) and revised (Dmitriev & Dietrich, 2007). In this paper, the male of *Erasmoneura bipentagona* (Beamer), previously known only from the female holotype and placed in the genus based on external similarity and features of wing venation (Young, 1952; Dietrich & Dmitriev, 2006; Dmitriev & Dietrich, 2007, see also the note for the species below), and a new species are described. A key for identification of all 13 species of the genus is provided. The key is based mainly on male genitalia characters. Although individual species have a characteristic color pattern, details and intensity may be highly variable both inter- and intraspecifically.

Morphological terminology follows Dietrich & Dmitriev (2006). Specimens examined are housed in the following collections: Canadian National Collection, Ottawa (CNC); University of Kansas, Lawrence (KSEM); Illinois Natural History Survey, Champaign (INHS).

### Typhlocybinae Kirschbaum Erythroneurini Young, 1952 *Erasmoneura* Young, 1952

*Erythroneura* (*Erasmoneura*) Young, 1952: 80  
(Type: *Erythroneura vulnerata* Fitch, 1851)  
*Erasmoneura* Dietrich & Dmitriev, 2006: 139

### *Erasmoneura bipentagona* (Beamer, 1927) (Figs. 1, 3)

*Erythroneura bipentagona* Beamer, 1927: 31  
*Erythroneura* (*Erasmoneura*) *bipentagona* Young, 1952: 81  
*Erasmoneura bipentagona* Dietrich & Dmitriev, 2006: 140

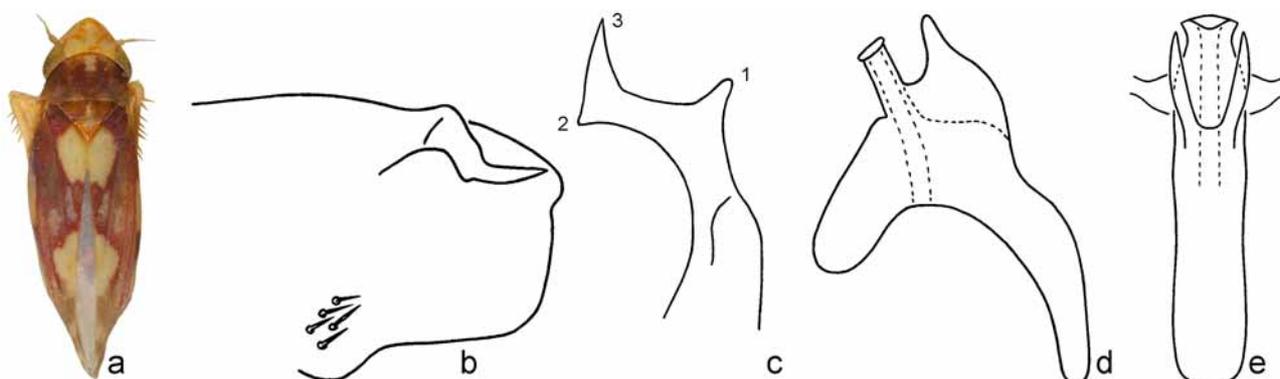
**Description:** Body size (male, female): 2.4–2.8 mm.

Coloration (male, female): Dorsum yellow or white, with reddish and brownish color pattern. Vertex unicolorous or with orange parallel submedial lines with lateral branch, midline 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 mainly dark with pale lateral specks and two big diamond or pentagonal spots at middle; dark spot on costal margin; apical cell II with distal spot; inner apical cell without brown spot.

Abdomen (male): 2S abdominal apodemes large, broad, reaching 3S posterior margin.

Genitalia (male): Pygofer lobe rounded; dorsal appendage with distinct basal suture, but not movably articulated, simple, not extended beyond pygofer apex, curved upward in lateral view. Style apex three pointed (Fig. 1c); second point 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 straight and broad in lateral view, depressed

in crosssection, with ventral processes placed basally, well separated from shaft, longer than shaft, parallel to each other on ventral side of aedeagus; distal processes short toothlike, apical.



**FIGURE 1.** *Erasmoneura bipentagona* (Beamer): a, habitus; b, pygofer lobe, lateral view; c, style apex; d, aedeagus, lateral view; e, aedeagus, ventral view.

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

**Studied material:** CANADA, 1 ♀, Manitoba, Dauphin Lake, 3 IV 1919 (Hippisley). 1 ♀, Saskatchewan, Elbow, 10 VI 1980 (Brooks). USA, 2 ♂, 1 ♀, 1 nymph, North Dakota, Golden Valley Co., Sentinel Butte, 4 VIII 1985 (Hamilton). 6 ♂, 11 ♀, North Dakota, Morton Co., 11 km E Judson, 4 VIII 1985 (Hamilton), (CNC); 1 ♂, 1 ♀, same data, (INHS).

**Host plant:** Unknown.

**Note:** *E. bipentagona* (Beamer) was described based on a single female specimen from Kansas (USA). Beamer (1927) originally placed the species in the *E. scutelleris* Gillette species group, a group of superficially similar but unrelated species, recognized by Robinson (1926) but not subsequent workers (Beamer, 1938, 1946). The species was omitted from Beamer's revision of the species of the genus *Erythroneura* (Beamer, 1930, 1931a, 1931b, 1931c, 1931d, 1932a, 1932b, 1932c, 1932d, 1932e, 1932f, 1938, 1946) and later was placed in the subgenus *Erythroneura* (*Erasmoneura*) by Young (1952). Additional specimens (males and females) from Canada, were found in CNC. Based on the shape of the female sternite VII, male genitalia and coloration, this species is similar to *Erasmoneura margaritae* Dmitriev & Dietrich, 2007, from which it differs in the shape of the aedeagus having both ventral and distal processes (only distal in *E. margaritae* Dmitriev & Dietrich) and two characteristic diamond or pentagonal pale spots along the midline of the back, from which the species' name is derived.

### *Erasmoneura latiloba* sp. n.

(Figs. 2, 3)

**Description:** Body size (male, female): 2.4–2.5 mm.

**Coloration** (male, female): Dorsum entirely reddish brownish, without color pattern. Anteclypeus dark brown. Thoracic venter entirely dark brown.

**Head** (male, female): Crown fore margin strongly produced and angulate medially.

**Abdomen** (male): 2S abdominal apodemes large, broad, reaching 3S posterior margin.

**Genitalia** (male): Pygofer lobe rounded; dorsal appendage with distinct basal suture, but not movably articulated, simple, not extended beyond pygofer apex, straight in dorsal view, curved downward in lateral view. Style apex three-pointed, second point 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 curved ventrally, broad in lateral view; depressed in crosssection, with large lateral lobes, with small dorsal distal lobe; ventral processes absent; distal processes long, apical, slender.

**Type locality:** Holotype ♂, USA, South Carolina, Aiken Co., Aiken, 12 V 1957 (J.R.U.), (CNC).

**Studied material:** Paratypes: 3 ♂, 7 ♀, same data as holotype, (CNC); 1 ♂, 1 ♀, same data, (INHS).

**Host plant:** Unknown.

**Note:** The species name refers to the broad lobes on the sides of the aedeagal shaft. Like *E. rubricata* Van Duzee and *E. margaritae* Dmitriev & Dietrich, this species has a broad and depressed aedeagal shaft. It differs in longer distal processes of the aedeagus and smaller size.

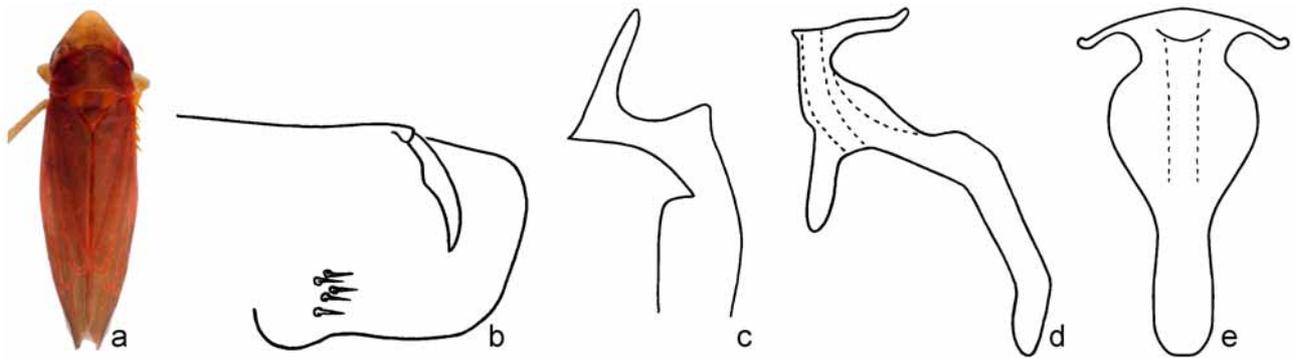


FIGURE 2. *Erasmoneura latiloba* sp. n.: a, habitus; b, pygofer lobe, lateral view; c, style apex; d, aedeagus, lateral view; e, aedeagus, ventral view.

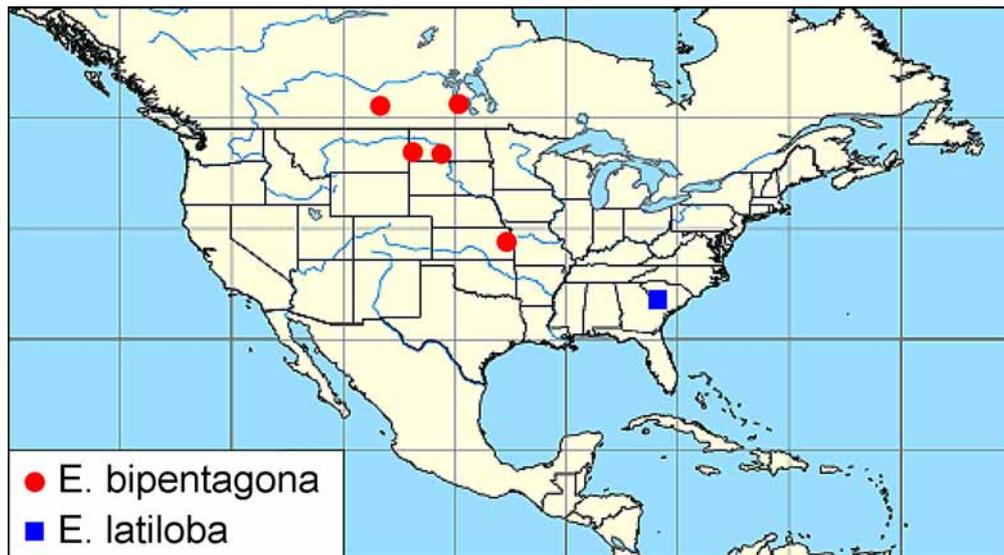


FIGURE 3. Map of North America. Distribution of *Erasmoneura bipentagona* (Beamer) and *E. latiloba* sp. n.

### Key to the males of the genus *Erasmoneura* Young

1. Pygofer with dorsal appendage bifurcate. Aedeagus without distal processes. .... 2
- 1'. Pygofer with dorsal appendage not bifurcate. Aedeagus with distal processes. .... 4
- 2(1). Pygofer dorsal appendage bifurcate far from base, branches very short; dorsal branch slightly curved upward. .  
..... *E. vulnerata* Fitch
- 2'. Pygofer dorsal appendage bifurcate closer to base, branches longer than basal part of appendage; dorsal branch straight or curved downward. .... 3
- 3(2). Branches of pygofer appendage subequal in length. .... *E. fulmina* McAtee
- 3'. Dorsal branch of pygofer appendage about twice as long as ventral. .... *E. variabilis* Beamer
- 4(1). Aedeagus with ventral processes. .... *E. bipentagona* Beamer
- 4'. Aedeagus without ventral processes. .... 5
- 5(4). Third point of style apex shorter than half distance between other two points. .... *E. nigra* Gillette
- 5'. Third point of style apex longer than half distance between other two points. .... 6
- 6(5). Third point of style apex more than 2X longer than distance between other two points..... *E. nigerrima* McAtee
- 6'. Third point of style apex as long as or only slightly longer than distance between other two points. .... 7
- 7(6). Ground color of dorsum dark brown or black. .... 8
- 7'. Ground color of dorsum yellow, reddish, or light brown. .... 9
- 8(7). Distal processes of aedeagus longer than dorsal distal lobe. Dorsum with pale spots. .... *E. atra* Johnson
- 8'. Distal processes of aedeagus not longer than dorsal distal lobe. Dorsum without pale spots. ....  
..... *E. caerulea* Beamer
- 9(7). Aedeagal shaft depressed in cross-section, broad in ventral view. .... 10

- 9'. Aedeagal shaft round in cross-section, slender in ventral view. .... 12
- 10(9). Distal processes of aedeagus extended to or laterad of widest part of shaft in ventral view; dorsal distal lobe very short; preatrium longer than aedeagal shaft. .... 11
- 10'. Distal processes of aedeagus not extended laterad of widest part of shaft in ventral view; dorsal distal lobe longer; preatrium not longer than aedeagal shaft. .... *E. margaritae* Dmitriev & Dietrich
- 11(10). Aedeagal shaft straight in lateral view, distal processes shorter, not more than 3X as long as wide in lateral view. Vertex pale; forewing yellow or pink. .... *E. rubricata* Van Duzee
- 11'. Aedeagal shaft curved ventrally in lateral view, distal processes longer, more than 3X as long as wide in lateral view. Vertex and forewing reddish brown. .... *E. latiloba* **sp. n.**
- 12(9). Aedeagal shaft curved dorsally in lateral view; dorsal distal lobe longer than distal processes. ....  
..... *E. emeljanovi* Dmitriev & Dietrich
- 12'. Aedeagal shaft curved ventrally in lateral view; dorsal distal lobe not longer than distal processes.....  
..... *E. mixta* Beamer

## Acknowledgments

For lending specimens, I am grateful to K.G.A. Hamilton (CNC); Z. Falin (KSEM). Chris Dietrich and two anonymous reviewers provided insightful comments, which helped improve the quality of the text. This work was funded in part by NSF grants DEB-0315373 and DEB-0529679.

## References

- Beamer, R.H. (1927) New species of *Erythroneura* (Homoptera: Cicadellidae). *Canadian Entomologist*, 59, 30–31.
- Beamer, R.H. (1930) Some *Erythroneura* of the *obliqua* group (Homoptera, Cicadellidae). *Annals of the Entomological Society of America*, 23, 417–456.
- Beamer, R.H. (1931a) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 63, 127–135.
- Beamer, R.H. (1931b) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 63, 240–244.
- Beamer, R.H. (1931c) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 63, 268–270.
- Beamer, R.H. (1931d) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 63, 285–289.
- Beamer, R.H. (1932a) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 64, 12–17.
- Beamer, R.H. (1932b) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 64, 45–48.
- Beamer, R.H. (1932c) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 64, 69–72.
- Beamer, R.H. (1932d) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 64, 82–88.
- Beamer, R.H. (1932e) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 64, 134–144.
- Beamer, R.H. (1932f) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 64, 158–162.
- Beamer, R.H. (1932g) Some *Erythroneura* (grape leaf hoppers) of the *maculata* group (Homoptera, Cicadellidae). *Canadian Entomologist*, 64, 174–181.
- Beamer, R.H. (1938) Species of *Erythroneura* of the *comes* group (Homoptera – Cicadellidae). *University of Kansas Science Bulletin*, 1936, 24(14), 261–307.
- Beamer, R.H. (1946) The *Erythroneura* of the *vulnerata* group (Homoptera - Cicadellidae). *Journal of Kansas Entomological Society*, 19(1), 15–22.
- Dietrich, C.H. & Dmitriev, D.A. (2006) Review of the New World genera of the leafhopper tribe Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae). *Bulletin of Illinois Natural History Survey*, 37(5), I–IV, 119–190.
- Dmitriev, D.A. & Dietrich, C.H. (2007) Review of the New World Erythroneurini (Hemiptera: Cicadellidae: Typhlocybinae). I. Genus *Erythroneura*, *Erasmoneura*, *Rossmoneura*, and *Hymetta*. *Bulletin of Illinois Natural History Survey*, 38(2), I–V, 59–128.
- Robinson, W. (1926) The genus *Erythroneura* north of Mexico (Homoptera, Cicadellidae). *University of Kansas Science Bulletin*, 16(3), 101–155.
- Young, D.A. (1952) A reclassification of Western Hemisphere Typhlocybinae (Homoptera, Cicadellidae). *University of Kansas Science Bulletin*, 35(1:1), 3–217.