FIFTEEN NEW SPECIES OF ERYTHRONEURA (ERYTHRIDULA) (HOMOPTERA, CICADELLIDAE), II

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ABSTRACT

Fifteen new species of Erythroneura (Erythridula) and 1 previously named species (E. minuta Johnson) are described. The new species are cliffordi, jonesi, dunni, parsonsi, garretsoni, chandleri, ivae, pecanae, tomentosae, kennethi, lucileae, clarysae, wandaee, edgari and styrae.

The subgenus Erythridula contains some of the most common species of Erythroneura found in eastern North America. All Erythroneura are restricted to woody plants for oviposition and many are host specific. Of the species described in this paper (including minuta Johnson), 1 each is found on species of Rubus, Vaccinium, Acer, Quercus and Styrae; 5 are on species of Carya, and the oviposition hosts of 5 species are not known.

Erythroneura adults leave hibernating quarters in mid spring and go to spring food plants before continuing to summer or oviposition hosts. Ilex decidua is a common spring food plant in central Mississippi and, on occasion, more than 100 different species of Erythroneura have been collected from 1 plant in a matter of 10 or 15 minutes. Also, after the last part of August many adults leave the summer host and feed on selected fall food plants before entering hibernating quarters. Records before May 1 and after September 1, then, may be for spring and fall food plants rather than for oviposition hosts.

All holotypes of species described in this paper will be deposited in the Illinois Natural History Survey collection.

Erythroneura (Erythridula) cliffordi Hepner, new species

(Fig. 1)

Length 2.8 mm; yellowish, typical marlins faintly indicated.

Aedeagal shaft in lateral view broad, almost parallel margined, basal processes closely appressed to shaft, extending almost to gonopore; in posteroventral view with basal processes slender, slightly curved. Dorsal process about one-fourth length of shaft. Foot of style with long slender anterior point, much shorter posterior point and slender heel. Pygofer hook medium.

Holotype male, State College, Miss., 8-VII-1969, L. W. Hepner, on Rubus sp.

Nearest E. rubens Beamer but with larger aedeagal shaft in lateral view and with basal processes slightly curved laterally in posteroventral view.

1Publication No. 6513, Mississippi Agricultural and Forestry Experiment Station. Mississippi State, Mississippi 39762.

Erythroneura (Erythridula) jonesi Hepner, new species
(Fig. 2)

Length 2.7 mm; pale yellow with typical markings indicated.
Aedeagal shaft in lateral view long, almost parallel margined with a process on dorsal margin near apex, basal processes arising from shaft near base, bowed ventrally, extending about to gonopore; in posteroventral view slender, a pair of small triangular lateral lobes at apex, basal pro-
cesses straight and narrow. Dorsal process about one-third length of shaft. Foot of style with short triangular posterior point and small anterior point. Pygofer hook slender.

Holotype male, Juniper Springs, Fla., 9-VI-1963, L. W. Hepner, on Vaccinium sp.

Nearest E. fumida (Gillette) but with apex of aedeagal shaft enlarged in lateral view and with basal processes straight in posteroventral view.

Erythroneura (Erythridula) dunnii Hepner, new species

(Fig. 3)

Length 3.1 mm; typical markings orange.

Aedeagal shaft in lateral view slender, membranous area on basal half of dorsal margin, basal processes on ventral margin of apical half, extending about to apex; in posteroventral view broadest near base, basal processes curved laterally on outer fourth. Dorsal process about half length of shaft. Foot of style with no anterior point and with posterior point curved, pointed and almost length of instep. Pygofer hook small.

Holotype male and 7 male paratypes, Urbana, Ill., 22-IV-1959, H. B. Cunningham.

Nearest E. minuta Johnson but with basal processes free of shaft only on apical half and with membranous area on basal half of shaft in lateral view.

Erythroneura (Erythridula) parsonsi Hepner, new species

(Fig. 4)

Length 3.1 mm; typical markings orange.

Aedeagal shaft in lateral view short with basal processes arcuate, arising at apical two-fifths of shaft on ventral margin and extending about to gonopore; in posteroventral view almost parallel margined to pointed apex, basal processes curved laterally. Dorsal process about half length of shaft. Foot of style with posterior point slightly curved, about length of instep, anterior point very short. Pygofer hook medium.


Nearest E. minuta Johnson but with basal processes arising at apical two-fifths of shaft.

Erythroneura (Erythridula) garretsoni Hepner, new species

(Fig. 5)

Length 3 mm; cream to hyaline with typical markings yellow and indistinct.
Aedeagal shaft in lateral view broad, roughened along ventral margin, basal processes arising from socket near base of shaft, reaching about to gonopore; in posteroventral view slender, basal processes curved laterally on outer half. Dorsal process about half length of shaft. Foot of style with posterior point curved, about length of instep, anterior point almost a right angle. Pygofer hook small.

Holotype male and 6 male paratypes reared in cage #1339 at State College, Miss., in 1969, on *Carya glabra*, L. W. Hepner. Additional male paratypes reared in cages #278, #276 and #364 in 1964 and #270 in 1969 at State College, Miss., L. W. Hepner; and from Illinois, 1 each, Cave-in-Rock, 1-IX-1962, L. W. Hepner, on *Carya cordiformis*, Enfield, 13-IV-1960, Ross and Cunningham, and Oblong, 10-IX-1954, Ross and DeLong.

Nearest *E. minuta* Johnson but with ventral margin of aedeagal shaft roughened and with larger posterior point on foot of style.

*Erythroneura (Erythridula) chandleri* Hepner, new species

(Fig. 6)

Length 3 mm; white with typical markings orange.

Aedeagal shaft in lateral view curved, basal processes arising from ventral part of shaft at basal fifth, extending about to gonopore; in posteroventral view slender, basal processes curved laterally on outer fourth. Dorsal process about half length of shaft. Foot of style with posterior point slightly shorter than instep, anterior point almost a right angle. Pygofer hook small.


Nearest *E. minuta* Johnson but with longer aedeagal shaft, basal processes extending from shaft itself on basal fifth and basal processes not enlarged near apex in lateral view.

*Erythroneura (Erythridula) minuta* Johnson

(Fig. 7)


Length 3 mm; white with typical markings distinct and orange.

Aedeagal shaft in lateral view short, broad, basal processes arising near base of shaft, bowed ventrally, broadest on outer half before pointed apex; in posteroventral view bluntly pointed, basal processes curved outward on outer fourth. Dorsal process more than half length of shaft. Foot of style with posterior point curved, about length of instep, anterior point about a right angle. Pygofer hook small.

This species was reared on *Carya* sp. in Mississippi.

Nearest *E. varta* McAtee but with much shorter aedeagal shaft.
Hepner: New Erythroneura

Erythroneura (Erythridula) ivae Hepner, new species

(Fig. 8)

Length 3.1 mm; white with typical markings lemon yellow.
Aedeagal shaft in lateral view broad, basal processes arising from ventral margin of shaft near base; in posteroventral view slender, basal processes almost straight, extending diagonally from shaft near base. Dorsal process about one-third length of shaft. Foot of style with posterior point about length of instep, anterior point almost a right angle. Pygofer hook medium.


Nearest E. minuta Johnson but with basal processes almost straight and extending diagonally from near base of shaft, and with longer posterior point on foot of style.

Erythroneura (Erythridula) pecuane Hepner, new species

(Fig. 9)

Length 2.7 mm; yellowish with typical markings indicated.
Aedeagal shaft in lateral view curved, basal processes bowed ventrally, almost reaching gonopore; in posteroventral view with basal processes curved on outer fourth. Dorsal process about half length of shaft. Foot of style with posterior point about length of instep, curved, anterior point almost a right angle. Pygofer hook small.


Nearest E. varia McAtee but with basal processes broadest at base in lateral view and contiguous along basal three-fifths in dorsoventral view.

Erythroneura (Erythridula) tomentosae Hepner, new species

(Fig. 10)

Length 3 mm; white with typical markings yellow.
Aedeagal shaft in lateral view apically enlarged, basal processes arising on socket at base of shaft, slightly curved, extending to gonopore; in posteroventral view short, basal processes slender, curved laterally. Dorsal process about three-fifths length of shaft. Foot of style with slender posterior point about length of instep, anterior point almost a right angle. Pygofer hook small and blunt.

Holotype male, allotype female and 3 male paratypes, reared at State College, Miss., on Carya tomentosa, in cage #118 in 1967, L. W. Hepner.

Nearest E. varia McAtee but with basal processes extending from socket near base of shaft and basal processes not enlarged apically in lateral view.

**Erythronoeura (Erythridula) kennethi** Hepner, new species
(Fig. 11)

Length 3 mm; pale yellow with darker markings barely evident.

Aedeagal shaft in lateral view curved, short, curved basal processes near middle on ventral margin; in posteroventral view short, curved, sharply pointed basal processes emerge from shaft near middle on lateral margins. Dorsal process about three-fifths length of shaft. Foot of style with slender, curved posterior point about one and one-half times length
of instep, anterior point small but distinct. Pygofer hook small and sharply pointed.

Holotype male, Enfield, Ill., 13-IV-1960, Ross and Cunningham.

Nearest *E. vari* McAtee but with much shorter basal processes and with posterior point of foot of style much longer.

*Erythroneura (Erythridula) lucileae* Hepner, new species
(Fig. 12)

Length 3 mm; typical markings orange and distinct.

Aedeagal shaft in lateral view curved, apically enlarged, basal processes rising at base of shaft, bowed ventrally; in posteroverentral view slender, basal processes curved abruptly at outer fourth. Dorsal process about half length of shaft. Foot of style with large heel, slender posterior point longer than instep, anterior point very small. Pygofer hook small and slender.

Holotype male and 4 male paratypes, Coffeyville, Kans., 25-VII-1962, on *Quercus marilandica*, L. W. Hepner.

Nearest *E. vari* McAtee but with foot of style with much larger heel and longer, more slender posterior point.

*Erythroneura (Erythridula) clarysae* Hepner, new species
(Fig. 13)

Length 3 mm; typical markings pale orange.

Aedeagal shaft in lateral view straight, broadest at base, basal processes not extending to gonopore; in posteroverentral view straight and slender with basal processes resembling narrow lateral flanges on middle half of shaft. Dorsal process about half length of shaft. Foot of style with posterior point curved, about length of instep, meeting instep at obtuse angle, anterior point short. Pygofer hook short.

Holotype male, Rushville, Ill., 29-IV-1960, on *Aesculus* sp., Ross and Cunningham, (probably the spring food plant and not the oviposition host).

Nearest *E. vari* McAtee but differs in having short basal processes closely appressed to shaft and the obtuse angle by which the posterior point joins the instep of foot of style.

*Erythroneura (Erythridula) wandae* Hepner, new species
(Fig. 14)

Length 3 mm; scutellum black with typical markings yellow and irregular.

Aedeagal shaft in lateral view long and slender, basal processes apically enlarged, arising from socket near base of shaft and extending to gonopore; in posteroverentral view basal processes slender and sinuate, crossed twice on ventral margin of shaft. Dorsal process about half length of shaft. Foot of style broad, posterior point straight, about length of instep, anterior point short but distinct. Pygofer hook slender.

Holotype male, State College, Miss., 22-IX-1961, on *Carya illinoiensis*, I. W Hepner. Male paratypes as follows: 1, State College, Miss., 1-VIII-
1959, L. W. Hepner, and I, Houston, Miss., 15-IX-1961, on Quercus falcata,
L. W. Hepner. These collections could well be on the fall food plant
and not on the oviposition host.

Nearest E. penenoeva Beamer but with the basal processes sinuately
twice crossed in posteroventral view.

\textit{Erythroneura (Erythridula) edgari} Hepner, new species
(Fig. 15)

Length 3 mm; pale yellow with typical markings barely indicated.
Aedeagal shaft in lateral view broadest basally, basal processes
curved, about reaching gonopore; in posteroventral view slender, basal
processes two-thirds length of shaft, laterad of shaft, curved on outer half.
Dorsal process about two-fifths length of shaft. Foot of style with broad
posterior point longer than instep, anterior point short. Pygofer hook
small.

Holotype male, Rocky Point, Clarkville, Ill., 21-IX-1960, Ross and
Stannard.

Nearest E. varia McAtee but with shorter, straighter basal processes
in lateral view and with posterior point of foot of style straighter, heavier
and meeting instep at an obtuse angle.

\textit{Erythroneura (Erythridula) styraxae} Hepner, new species
(Fig. 16)

Length 2.5 mm; pale yellow with typical markings barely evident.
Aedeagal shaft in lateral view almost parallel margined, slightly
curved, basal processes reaching gonopore; in posteroventral view slender,
pointed, basal processes closely appressed to sides of shaft. Dorsal pro-
cess about half length of shaft. Foot of style with anterior and posterior
points short, about equal in length. Pygofer hook bluntly pointed.

Holotype male, allotype female and 2 male and 1 female paratypes
reared in cage #254 in 1963, State College, Miss., L. W. Hepner, on Styrax
sp.

Nearest E. tridens Beamer but with basal processes closely appressed
to shaft in posteroventral view and with shorter posterior point on foot
of style.