

STATE OF ILLINOIS
DEPARTMENT OF REGISTRATION AND EDUCATION

DIVISION OF THE
NATURAL HISTORY SURVEY

STEPHEN A. FORBES, *Chief*

Vol. XVI.

BULLETIN

Article III.

Notes on Homoptera from Illinois, with
Descriptions of New Forms,
chiefly Eupteryginae

BY

W. L. McATEE



PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS

URBANA, ILLINOIS

July, 1926

ERRATA

- Page 2, line 6, for *loan* read *loam*.
- Page 4, line 18 from bottom, *beech* (after *water beech*) should be followed by a semicolon.
- Page 138, line 10 and line 14 from bottom, for *Dane* read *Dann*.
- Page 139, line 5, for *Dane* read *Dann*.
- Page 180, line 5 from bottom, delete *D*.
- Page 198, line 19 from bottom, for *March* read *March 16, 1918*.
- Page 221, line 22, for *data* read *date*.
- Page 278, lines 17 and 18 from bottom in right-hand column, for *150* read *158*.
- Page 285, line 24 in left-hand column, for *Franeh* read *French*.
- Page 321, table III, center column, for *1.02* read *1.00+*; for *1.04* read *1.02*; for *1.06* read *1.04*.
- Page 411, line 4, for *pupation* read *breaking dormancy* .

STATE OF ILLINOIS
DEPARTMENT OF REGISTRATION AND EDUCATION
A. M. SHELTON, *Director*

BOARD OF
NATURAL RESOURCES AND CONSERVATION

A. M. SHELTON, *Chairman*

WILLIAM TRELEASE, *Biology*

HENRY C. COWLES, *Forestry*

EDSON S. BASTIN, *Geology*

WILLIAM A. NOYES, *Chemistry*

JOHN W. ALVORD, *Engineering*

CHARLES M. THOMPSON, *Representing
the President of the University of
Illinois*

THE NATURAL HISTORY SURVEY DIVISION

STEPHEN A. FORBES, *Chief*



SCHNEPP & BARNES, PRINTERS
SPRINGFIELD, ILL.
1926

52063—800

ARTICLE III.—Notes on Homoptera from Illinois, with Descriptions of New Forms, chiefly Eupteryginae. BY W. L. McATEE.

The records given herein supplement those in a previous paper (Bul. Ill. State Nat. Hist. Survey, Vol. XV, Art. II, April, 1924, pp. 39-44) along similar lines, and constitute a report on various lots of Homoptera, chiefly Eupteryginae submitted to the writer for determination. The species of the genus *Typhlocyba* are treated in a previous paper (Proc. U. S. Nat. Mus., Vol. 68, Art. 18, pp. 1-47), and those of the genus *Empoasca* are held pending revisional study.

FAMILY PSYLLIDAE

Genus CALOPHYA Loew

Calophya pallidula new species

With well-developed genal cones, contiguous at base, rather acute and outcurved at apex, this species is more closely related to *C. flavida* Schwarz than to any other species. It is of about the same size (body 1.5 mm., fore wing, 1.9 mm.), but is pale greenish yellow instead of "honey yellow" or fulvous, the wings hyaline, not fumose, and the perostigma shorter, about $\frac{3}{4}$ the length of the cell it bounds costally, instead of $\frac{1}{2}$ as in *C. flavida*.

Holotype and paratype (1) females, Meredosia, Illinois, May 29, 1917.

Holotype and paratype deposited in the collection of the Illinois State Natural History Survey.

FAMILY FULGORIDAE

Genus CEDUSA Fowler

C. fedusa McAtee.—Cedar Lake, Aug. 4, 1906; also Nos. 580 and 15196.

C. kedusa McAtee.—Antioch, Aug. 1, 1924, T. H. Frison.

Genus OTIOCERUS Kirby

O. wolffi Kirby.—Metropolis, Ill., Sept. 3, 1924, T. H. Frison. This species, according to its describer, has only one appendage to the antenna in the males. The male at hand has two appendages but otherwise agrees with the original description and with the identification of the species by Fitch (Trans. N. Y. State Agr. Soc. 16, 1856, p. 394) in contrasting it with his *O. amyotii*. Because of the usual imperfection of specimens the taxonomic value of these appendages is not well understood, and it seems best at present to base determination on other characters.

Otiocerus wolffi var. *nubilus* new variety

A female specimen with the mesonotum and adjacent parts of the clavi infusate is made the holotype of this new variety. The brown vitta of tegmen is almost obsolete, and the dark marking at apex of clavus more conspicuous than usual.

Holotype, female, Metropolis, Ill., Sept. 3, 1924, T. H. Frison.

Holotype deposited in the collection of the Illinois State Natural History Survey.

FAMILY JASSIDAE

Genus ALEBRA Fieber

A. albostriella var. *pallidula* Walsh.—Urbana, June 17, 1916, July 9, 1920; Ashley, Aug. 7, 1917; Elizabeth, July 8, 1917; also Nos. 4520 and 25021. Grand Junction, Mich., July 15, 1914.

A. albostriella var. *agresta* McAtee.—Mt. Carmel, July 3, 1906; Urbana, July 16, 1916, Aug. 27, 1915; White Heath, July 5, 1916; Dubois, Aug. 8, 1917; Ashley, Aug. 7, 1917.

A. albostriella var. *bicineta* DeLong.—Dubois, Aug. 9, 1917.

A. albostriella var. *fumida* Gillette.—Urbana, July 9, 14, 1920; St. Joseph, June 27, 1915; White Heath, July 5, 1916, on *Crataegus*.

Genus DIKRANEURA Hardy

D. angustata Ball and DeLong.—Metropolis, Aug. 20, 1916; Paxton, July 30, 1916; Urbana, Sept. 8, 1916, on locust; Brownfield, Aug. 17, 1916; Dongola, May 10, 1916.

D. abnormis Walsh.—Urbana, Sept. 24, 1916.

D. fieberi Löw.—Urbana, June 2, July 29, Sept. 3, 5, 20 on hackberry, 24, 1916; Brownfield, Aug. 17, 1916; Dongola, May 10, Aug. 23, 1916; Paxton, July 30, 1916; Ingleside, July 21, 1916; White Heath, July 5, 1916; St. Joseph, Sept. 3, 1916; Clayton, Sept. 30, 1916; Plainview, May 11, 1916, on plantain; Savanna, June 12, 1917; Alto Pass, May 8, 1917; Meredosia, May 29, 1917; Dubois, May 24, 1917.

D. cruentata var. *cruentata* Gillette, red form.—Forest City, April 3, 1917; Muncie, July 4, 1919; also No. 25018.

D. cruentata var. *cruentata* Gillette, yellow form.—Dongola, May 9, 12, 1916.

D. cruentata var. *rubricata* McAtee.—Muncie, July 4, 1919; Augerville, Nov. 17, 1919.

D. maculata Gillette.—Dongola, May 10, 1917; Urbana, Sept. 2, 20, 1916, on hackberry.

Genus EUPTERYX Curtis

E. flavoscuta var. *flavoscuta* Gillette.—Savanna, June 13, 1917.

E. flavoscuta var. *clavalis* McAtee.—Oregon, June 19, 1917.

E. flavoscuta var. *nigra* Osborn.—Dubois, May 22, 1917; also No. 565, and Mineral Spring, Ind., June 24, 1916.

Genus HYMETTA McAtee

H. trifasciata var. *trifasciata* Say.—Meredosia, May 30, 1917; Savanna, June 14, 1917; Metropolis, Aug. 20, 1916; Oregon, June 21, 1917; Urbana, March 24, 1916, among leaves, Nov. 3, 1916; White Heath, April 17, 1909; Dubois, Aug. 8, 1917; Clayton, Sept. 28, 30, 1916; Hopedale, Oct. 2, 1917; Danville, March 12, 1910.

H. trifasciata var. *balteata* McAtee.—Muncie, July 4, 1919.

H. trifasciata var. *albata* McAtee.—Dongola, Aug. 23, 1916.

Genus ERYTHRONEURA Fitch

E. vulnerata var. *vulnerata* Fitch, red form.—Algonquin, April 18, 1896, May 4, 1895; White Heath, April 30, 1916; Forest City, April 3, 1917; Dongola, Aug. 22, 23, 1916; Metropolis, Aug. 20, 1916; Clayton, Sept. 30, 1916; Brownfield, Aug. 17, 1916; also Nos. 10819, 14873, 17397, 17399, 25018, 25019, and 25799

E. vulnerata var. *vulnerata* Fitch, fulvous form.—Algonquin, April 18, 1896; Dongola, May 9, 12, Aug. 22, 23, 1916; Dubois, May 22, 1917; Brownfield, Aug. 17, 1917; Metropolis, Aug. 20, 1916; Savanna, June 13, 1917; Clayton, Sept. 30, 1916.

E. vulnerata var. *decora* McAtee.—Urbana, March 24, 1916, among leaves, Sept. 6, 20, 24, 1916; Dongola, Aug. 23, 1916; Metropolis, Aug. 18, 20, 1916; St. Joseph, Sept. 3, 1916; Dubois, July 2, 1909; White Heath, April 30, 1916; Algonquin, Sept. 25, Oct. 16, 1895; also Nos. 14889, 23671, 25018, and 25019.

E. obliqua var. *obliqua* Say, red form.—White Heath, April 30, 1916; Forest City, April 3, 1917; Urbana, March 24, 1916, April 15, 1909, April 29, May 5, 1916, April 24, 1924, Sept. 2, 1916; Savoy, May 4, 1916; Muncie, July 4, 1919; Dongola, May 10, 1916; Olney, Sept. 21, 1916, on apple; also Nos. 15482 and 25048.

E. obliqua var. *obliqua* Say, yellow form.—White Heath, June 24, 1916, on oak; Dubois, May 14, 15, 1916; May 22, 1917; Dongola, May 11, 13, Aug. 22, 23, 1916; Urbana, July 7, 1915, Sept. 9, 1916; Meredosia, May 28, 1917; Olney, Sept. 21, 1916, on apple; also No. 25781.

E. obliqua var. *clavata* DeLong.—Dubois, May 22, 24, 1917.

E. obliqua var. *dorsalis* Gillette, red form.—Urbana, March 24, 1916, among leaves, April 29, 1916, April 24, 1924; Muncie, July 4, 1919; Olney, Sept. 21, 1916, on apple; Clayton, Sept. 30, 1916; Forest City, April 3, 1917; Barry, March 28, 1924; also Nos. 156, 3707, 14034, 14271, 15747, 19036, 25760, and 25837.

E. obliqua var. *dorsalis* Gillette, dusky form.—Urbana, Nov. 3, 1916, Nov. 10, 1915; Dongola, May 9, 12, Aug. 23, 1916; Meredosia, May 28, 1917; White Heath, April 30, 1916; also Nos. 10867, 15540, and 25742.

E. obliqua var. *stolata* McAtee.—No. 10591.

E. obliqua var. *parma* McAtee.—White Heath, April 30, 1916.

E. obliqua var. *noevus* Gillette, red form.—Muncie, July 4, 1919; Urbana, March 24, 1916, among leaves, April 24, 1924, April 29, 1920;

White Heath, April 30, 1916; St. Joseph, Nov. 10, 1906; also Nos. 156, 238, 266, 25048, and 25756.

E. obliqua var. *noevus* Gillette, yellow form.—Dubois, May 15, 1916; White Heath, April 30, 1916, May 7, 1909; Muncie, June 3, 1917; Dongola, May 10, 1917; Urbana, March 24, 1916, among leaves; also No. 50235.

E. obliqua var. *fumida* Gillette, red form.—Muncie, Feb. 7, 1925, June 3, 1917, July 4, 1919; White Heath, April 30, 1916; Metropolis, Aug. 20, 1916; Algonquin, Oct. 11, 1895; Urbana, April 24, 1924, April 29, 1916, Sept. 8, 1916, on locust, Nov. 13, 1915; Dongola, May 9, 13, 1916; Meredosia, May 29, 1917; Forest City, April 3, 1917; Dubois, May 14, 1916.

E. obliqua var. *fumida* Gillette, yellow form.—Urbana, June 17, Sept. 5, 9, 1916; April 24, 1924; Clayton, Sept. 30, 1916; Dongola, May 12, Aug. 23, 1916; Dubois, May 22, 25, 1917; Metropolis, Aug. 20, 1916; White Heath, April 30, 1916, Aug. 12, 1920; Savanna, June 11, 1917.

Erythroneura obliqua var. *bitincta* new variety

Like *E. obliqua* var. *obliqua* yellow form, with the anterior markings, that is of head and thorax, including those on base of scutellum, and of tegmina especially along costa, obliterated by a brownish black wash, and the tegmina from just anterior to apices of clavi apically, blackish. Upper part of face dusky yellowish, remainder of lower surface of head, and of thorax, brownish black, legs mostly stramineous, venter yellowish. Length, 3 mm.

Holotype, male, Toronto, Canada, Aug. 8, 1924, E. D. Ball.

Holotype deposited in the collection of E. D. Ball.

E. obliqua var. *cluta* McAtee.—Urbana, Aug. 3, 1916; Dongola, Aug. 22, 1916.

E. rubroscuta Gillette, red form.—Urbana, April 18, 1918, April 23, 1919, April 23, 29, July 20, 1920; Augerville, Oct. 18, 1919; Muncie, Aug. 15, 1917.

E. rubroscuta Gillette, yellow form.—Urbana, April 23, 1919, April 29, 1920.

E. abolla var. *accensa* McAtee, red form.—White Heath, April 30, 1916.

E. abolla var. *accensa* McAtee, yellow form.—Urbana, April 18 1919, July 12, 1920; Dongola, May 12, 1916; Dubois, May 24, 1917.

E. abolla var. *abolla* McAtee, red form.—Muncie, July 4, 1919; Alt Pass, May 8, 1917; White Heath, April 30, 1916; Meredosia, May 30, 1917; Urbana, March 24, 1916, among leaves.

E. abolla var. *varia* McAtee, red form.—White Heath, April 30, 1916; Urbana, March 24, 1916, among leaves; Dubois, May 22, 1917; also No. 3171.

E. abolla var. *varia* McAtee, yellow form.—Metropolis, Aug. 20, 1916.

Erythroneura abolla var. *lemnisca* new variety

Like *E. abolla* var. *accensa* yellow form, except that the scutellum, and disk of pronotum and vertex are occupied by a broad dusky vitta. In the paratype, the coloration of tegmina anterior to crossveins has hardly any reddish in it (in this respect resembling var. *iconica*) but this may be due to incompleteness of the coloring process. Length, 3 mm.

Holotype, female, Urbana, Ill., July 12, 1920, C. P. Alexander; paratype, Urbana, Ill., Brownfield Woods, April 29, 1920.

Holotype and paratype deposited in the collection of the Illinois State Natural History Survey.

Erythroneura mallochi McAtee

Erythroneura mallochi McAtee, W. L., Bul. Ill. State Nat. Hist. Survey, 15, Art. II, April, 1924, p. 41 [Meredosia, Ill.].

Meredosia, May 29, 1917; Dongola, May 10, 1917, May 12, 1916; Metropolis, Aug. 18, 1916; Forest City, April 3, 1917. This additional material reveals that this species has a red-marked form, the principal vittae of tegmina, the markings on head and pronotum, and even the scutellar triangles in some cases being red, usually of a bluish cast with purer red edgings.

Erythroneura repetita new species

Belongs in Group 4 of my 1920 paper (Trans. Am. Ent. Soc., 46, pp. 269-271, Aug. 26, 1920), and is nearest to *E. mallochi* McAtee in form, venation, and coloration. Ground color of vertex pale yellow, with an irregular vitta each side the median line deeper yellow; pronotum pale yellow overlaid by olive-brown except for anterior margin, a spot on each lateral margin, and three ovoid spots across disk; scutellum yellow with the basal triangles blackish, and two discal spots brownish; tegmen whitish hyaline with the base faintly dusky, a broad band from costal plaque, across corium and clavus, widening slightly toward the commissure, and apical cells except their extreme bases, a spot on costa in middle of cell 2, and apices of cells 3 and 4, dusky. Front bordered laterally by dusky stripes, and clypeus dusky basally as in *E. mallochi*. Under side of thorax, a band across base of dorsum, and apex of ovipositor, black; apex of dorsum brownish; abdomen otherwise, and legs and under side of head pale yellow. Length, 3 mm.

The holotype female was loose in one of the boxes in which the collection was received, so can be labeled only Illinois.

Holotype deposited in the collection of the Illinois State Natural History Survey.

E. aclys McAtee.—Urbana, May 1, 1920, April 24, 1924; White Heath, April 28, 30, 1916; Homer, June 17, 1917.

E. illinoiensis var. *illinoiensis* Gillette, red form.—Danville, March 12, 1910; St. Joseph, Sept. 3, 1916; White Heath, May 7, 1909; Brownfield, Aug. 18, 1916.

E. illinoiensis var. *illinoiensis* Gillette, yellow form.—Brownfield, Aug. 18, 1916.

E. illinoiensis var. *spectra* McAtee.—Dongola, May 13, 1916; Du-bois, May 15, 1916.

E. morgani DeLong.—Dongola, May 13, Aug. 22, 23, 1916; Brown-field, Aug. 17, 1916; White Heath, April 30, 1916; Metropolis, Aug. 20, 1916; Meredosia, May 30, 1917.

E. hartii Gillette.—Olney, Sept. 21, 1916, on apple; White Heath, May 28, 1916, on apple; Savoy, May 4, 1916.

Erythroneura pyra McAtee

Erythroneura pyra McAtee, W. L., Proc. Biol. Soc. Wash., 37, p. 133, Dec. 29, 1924 [Berwick, Iowa].

Closely allied to *E. hartii* Gillette, and copying it in markings, except that the red markings surrounding the pale saddle-spot are confined to clavus anteriorly and extend no farther posteriorly than costal plaque, whereas in *E. hartii* they cover the corium also, and extend to the cross-veins or beyond.

Inner clasper angulate inwardly, then outwardly, the angles more or less acute, the inwardly angling apical process slender and acute; process of 9th segment long, slender, bowed outwardly subapically, where it is armed below by a large aciculate process, apex also aciculate; aedeagus stout, shaft shorter than the basal cavity. Length, 3 mm.

Muncie, Ill., July 4, 1919; Urbana, Ill., July 20, 1920, C. P. Alexander. Yellow-marked forms, Urbana, Ill., April 23, 1919, April 29, May 1, 1920; in copula the latter date.

The following comparative statement about the genitalia of *E. hartii* may be made: Inner clasper rather the shape of a human lower leg, with the knee, heel, and toe more or less acute; process of 9th segment simply decurved, falcate, thinner apically as viewed from above; aedeagus slender, recurved apically, shaft much longer than the basal opening.

Erythroneura mitella new species

In venational characters this species belongs in the same group (IV of my paper on the genus, Trans. Am. Ent. Soc. 46, 1920, pp. 269-271) as *E. pyra*, but the coloration is much like that of some varieties of *E. comes* Say, as a heavily marked specimen of var. *vitifex* Fitch. Ground color of head and thorax pale yellow, of tegmina hyaline whitish. Vertex with yellowish to reddish curved lines near eyes, and forming a more or less ovate marking in middle; pronotum with an irregular Y on disk, and a heavy triangle on each anterior angle orange-red; basal triangles of scutellum yellow, outlined by red, apex red; tegmen with a broad band from costal plaque to commissure, narrowing on clavus over about the middle of which it forms an oblique marking, and a narrow band on clavus only at a point one-fourth from apex, pinkish red; a longitudinal vitta along outer margin of clavus basally is yellowish red; a triangle on costa near base of corium, orange-red and a band from posterior end of costal plaque to crossveins scarlet, a more or less inclosed oval area, and the costal border whitish. A dark spot in hind end of costal plaque, and in base of fourth apical cell.

Inner clasper somewhat enlarged and angulate subapically, the angle with a downwardly projecting short tooth, apex bifid into aciculate processes, the axial one longer; process of 9th segment, long, slender, aciculate apically, distinctly outcurved subapically, forming with its fellow a caliper-like figure; aedeagus moderately stout, swollen medially, shaft longer than the basal opening. Length, 3 mm.

Two of the females have the anterior markings yellow.

Holotype, male, White Heath, April 30, 1916; allotype, Urbana, Nov. 3, 1916; paratypes, White Heath, April 30, 1916; Dongola, May 10, 23, 1916; Dubois, Aug. 8, 1917; Alto Pass, May 7, 1917.

Holotype, allotype, and five paratypes deposited in the collection of the Illinois State Natural History Survey. Two paratypes deposited in the collection of W. L. McAtee.

E. scutelleris Gillette, red form.—Urbana, April 15, 1909, March 24, 1916, among leaves; White Heath, April 17, May 17, 1909, April 28, 30, 1916; Forest City, April 3, 1917; Dongola, Aug. 23, 1916; Muncie, July 4, 1919.

E. scutelleris Gillette, yellow form.—Dongola, Aug. 23, 1916; White Heath, May 7, 1909, April 30, 1916; Dubois, May 22, 1917; Meredosia, May 28, 1917; Urbana, Sept. 6, 19, 1916.

Erythroncra scutelleris var. *insolita* new variety

With the pronotum and scutellum chiefly dark, and with a dark dot in apex of costal plaque, and base of fourth apical cell, as customary in the species, but practically without other markings. Length, 3 mm.

Holotype, female, Muncie, July 5, 1914; allotype, Dongola, Aug. 23, 1916.

Holotype and allotype deposited in the collection of the Illinois State Natural History Survey.

E. basilaris var. *basilaris* Say, red form.—White Heath, April 15, 30, 1916; Muncie, July 4, 1919; Urbana, March 24, April 29, 1916, April 24, 1924; Sept. 8, Oct. 22, 1916; Forest City, April 3, 1917.

E. basilaris var. *basilaris* Say, yellow form.—White Heath, Oct. 10, 1915, June 11, 1916; Urbana, Sept. 3, 8, Nov. 3, 1916, April 24, 1924, July 4, 1915; Meredosia, May 28, Aug. 19, 22, 1917; Dongola, May 14, Aug. 23, 1916; May 10, 1917; Dubois, May 15, 1916, May 23, 1917.

E. maculata var. *maculata* Gillette, red form.—Dongola, May 13, Aug. 22, 23, 1916; Savoy, May 23, 26, 1916; Urbana, Sept. 21, 1916, on apple, April 15, 1908, April 23, 1919, May 1, 1920; Forest City, April 3, 1917; White Heath, May 7, 1909; St. Joseph, Nov. 10, 1906; Homer, April 1, 1909; Algonquin, Oct. 15, 22, 1895; Meredosia, Aug. 22, 1917; Muncie, July 4, 1914; also Nos. 17867, 25069, 25756, 40309, and 43384.

E. maculata var. *maculata* Gillette, yellow form.—Dongola, May 10, 12, 13, Aug. 22, 1916, May 9, 1917; Metropolis, Aug. 20, 1916; Meredosia, May 20, 28, 1917; Dubois, Sept. 21, 1916, on apple, May 22, 1917; Alto Pass, May 8, 1917; Danville, July 30, 1917, on sycamore; Algonquin,

June 8, 1907; Clayton, Sept. 30, 1916; Urbana, May 1, July 9, 1920; Homer, June 4, 1916; Oregon, June 19, 1917.

E. maculata var. *era* McAtee, red form.—Forest City, April 3, 1917, on hickory; Dubois, May 22, 1917.

E. maculata var. *bella* McAtee, red form.—Metropolis, Aug. 20, 1916, on sycamore; Dongola, May 11, 1916; Muncie, June 3, 1917, on hickory.

E. maculata var. *osborni* DeLong.—Dubois, May 22, 25, Aug. 8, 1917; Urbana, June 17, 1916.

E. maculata var. *apicalis* DeLong.—Dongola, May 10, 13, 1916, Aug. 22, 23, 1916; Urbana, May 21, 1916; Danville, July 20, 1917, on sycamore; Muncie, June 2, 1917; Dubois, 22, 23, 1917.

E. maculata var. *bigemina* McAtee.—Dongola, May 10, 13, Aug. 23, Aug. 24, on grape, 1916; Metropolis, Aug. 20, 1916; Lake Villa, June 21, 1916; Dubois, Aug. 8, 1917; Urbana, July 9, 1920; Savanna, June 12, 1917; Ashley, Aug. 7, 1916.

E. maculata var. *gemina* McAtee.—Urbana, Sept. 24, 1916; Dongola, May 12, 1916.

E. ligata var. *pupillata* McAtee.—Urbana, July 13, 14, 1920.

E. infuscata Gillette.—White Heath, April 22, 1917; Dongola, May 13, 1916.

E. vitis var. *vitis* Harris.—White Heath, April 22, 1917, April 30, 1916; Algonquin, Aug. 21, 1911; Muncie, July 4, 1919; Metropolis, Aug. 20, 1916; Meredosia, May 28, 1917; Urbana, April 24, 1924, Oct. 26, Nov. 3, 1916; Clayton, Sept. 28, 1916, on grape; St. Joseph, Sept. 3, 1916; Dubois, Aug. 8, 1917; Forest City, April 3, 1917.

E. vitis var. *corona* McAtee.—Muncie, July 4, 1919; Meredosia, May 28, 29, 1917; Metropolis, Aug. 20, 1916; White Heath, June 3, 1916; Urbana, March 24, 1916, among leaves, Aug. 27, 1916, Nov. 22, 1906; St. Joseph, Nov. 10, 1906; Brownfield, Aug. 17, 1916; White Heath, April 30, 1916; also No. 13408.

E. vitis var. *bistrata* McAtee.—Dongola, Aug. 22, 1916; White Heath, May 18, 1917.

E. vitis var. *stricta* McAtee.—Clayton, Sept. 28, on grape, Sept. 30, 1916; Forest City, April 3, 1917; Dubois, May 22, 24, 1917; White Heath, April 30, 1916; Meredosia, May 28, 29, 1917; Urbana, Aug. 4, 1916; Metropolis, Aug. 18, 1916; also Nos. 10819, 13620.

E. tricincta var. *tricincta* Fitch, red form.—Urbana, March 24, 1916, among leaves; Forest City, April 3, 1917; Muncie, Dec. 13, 1913.

E. tricincta var. *tricincta* Fitch, yellow form.—Algonquin, June 8, 11, 1907; Meredosia, May 29, 1917; Dubois, May 25, 1917; Dongola, May 10, 1916.

E. tricincta var. *calycula* McAtee, red form.—Muncie, July 4, 1919; Urbana, Nov. 22, 1906.

E. tricincta var. *calycula* McAtee, yellow form.—Dubois, May 15, 1916; Savanna, June 14, 1917; White Heath, May 7, 1909; also No. 10819.

E. tricincta var. *diva* McAtee.—Meredosia, May 28, 29, 1917; White Heath, April 30, 1916, May 18, 1917.

E. tricincta var. *integra* McAtee, red form.—Muncie, July 4, 1919; Urbana, March 24, 1916, among leaves.

E. tricincta var. *integra* McAtee, yellow form.—Dongola, May 10, 1917; Alto Pass, May 7, 1917; also No. 10819.

E. tricincta var. *cymbium* McAtee.—Dongola, May 10, 1917; Urbana, Oct. 11, 1914, April 29, 1916; White Heath, May 7, 1909; also Nos. 10819 and 14034.

E. tricincta var. *disjuncta* McAtee.—Meredosia, May 28, 1917; White Heath, May 7, 1909.

Erythroneura tricincta var. *complementa* new variety

Crossbands one and two bright red, three dusky, differing from var. *diva* McAtee in crossband one being confined to pronotum; subsidiary markings yellow. Length, 2.75 mm.

Holotype, female, Ocean Springs, Miss., Aug. 4, 1921, C. J. Drake. Holotype deposited in the collection of W. L. McAtee.

E. comes var. *comes* Say, red form.—White Heath, April 30, 1916; also No. 25019.

E. comes var. *comes* Say, red form.—White Heath, April 30, 1916; Dongola, Aug. 24, 1916, on grape; Metropolis, Aug. 20, 1916.

E. comes var. *vitifex* Fitch, red form.—White Heath, April 30, 1916, May 7, 1909; Brownfield, Aug. 17, 18, 1916; Clayton, Sept. 30, 1916; Metropolis, Aug. 20, 1916; St. Joseph, Sept. 3, 1916, on grape; Algonquin, May 18, 1897; Clay City, Sept. 2, 1909; Forest City, April 3, 1917; Muncie, July 4, 1919; Urbana, April 24, 1924; also Nos. 25017 and 25019.

E. comes var. *vitifex* Fitch, yellow form.—St. Joseph, Sept. 3, 1916, on grape; Metropolis, Aug. 20, 1916; Clayton, Sept. 30, 1916; Meredosia, May 28, 1917; Dubois, May 22, 1917; Clay City, Aug. 17, 1911; White Heath, April 30, 1916; Brownfield, Aug. 17, 1916; Alto Pass, May 7, 1917; Dongola, Aug. 22, 23, 1916.

E. comes var. *palimpsesta* McAtee.—Several topotypes, Forest City, April 3, 1917.

E. comes var. *elegans* McAtee.—Urbana, Ill., May 5, July 3, 4, Sept. 4, 6, 1916; Aug. 25, 1924; Elizabeth, July 7, 1917; Algonquin, May 31, 1913; Muncie, July 4, 1914; Meredosia, Aug. 30, 1917; White Heath, April 30, 1916.

E. comes var. *rubra* Gillette.—Metropolis, Aug. 20, 1916; Brownfield, Aug. 18, 1916; Dongola, Aug. 23, 1916; Havana, May 1, 1912.

E. comes var. *rubrella* McAtee.—Dongola, Aug. 22, 23, 1916; Forest City, April 3, 1917; White Heath, May 7, 1906; Oregon, June 20, 1917; Meredosia, Aug. 19, 1917.

E. comes var. *reflecta* McAtee.—Forest City, April 3, 1917; Urbana, March 24, 1916, among leaves, Aug. 28, 1915; Metropolis, Aug. 18, 20, 1916; White Heath, May 7, 1909, April 27, 1917; Havana, May 1, 1912;

Dongola, May 13, 1916; Meredosia, May 28, 1917; Savanna, June 14, 1917.

Erythroneura comes var. *pontifex* new variety

Like *E. comes* var. *reflecta* McAtee (Bul. Ill. State Nat. Hist. Survey, 15, Art. II, April 1924, p. 43 [Md., Va., Ill., Ia., Kans.]), but with two black finger-shaped vittae on vertex overlying an inverted heart-shaped brownish marking; a marking somewhat similar to latter can be seen through the disk of pronotum. Length, 3 mm.

Holotype, female, Dubois, Ill., May 24, 1917.

Holotype deposited in the collection of the Illinois State Natural History Survey.

E. comes var. *delicata* McAtee, yellow form.—St. Joseph, Sept. 3, 1916, on grape.

Erythroneura comes var. *octonotata* Walsh

Having examined copious material of the genus from Illinois, which in all probability must contain some representatives of *octonotata* described by Walsh from that state, I have decided to use the name for some whitish hyaline specimens with slight orange-yellow color-markings, and a dark dot in middle of clavus, in addition to the usual ones in apex of costal plaque, apex of second apical, and base of fourth apical cell. In effect it is the variety *delicata* McAtee with a dark dot in clavus. White Heath, April 30, 1916; Brownfield, Aug. 17, 1916. Two specimens of var. *delicata* from the District of Columbia region show a faint dark spot in the clavus.

E. comes var. *accepta* McAtee, red form.—Urbana, Aug. 4, 7, 1916, on grape; St. Joseph, Sept. 3, 1916.

E. comes var. *accepta* McAtee, yellow form.—Urbana, Aug. 4, 1916, on grape; Dongola, Aug. 23, 1916.

E. comes var. *compta* McAtee, red form.—Muncie, July 4, 1914; White Heath, May 7, 1909; Brownfield, Aug. 17, 1916; Urbana, Sept. 9, 1916; Forest City, April 3, 1917.

E. comes var. *compta* McAtee, yellow form.—Urbana, Aug. 29, 1914, Aug. 4, 1916, on grape; Dongola, Aug. 23, 1916; Brownfield, Aug. 17, 1916; Clay City, Aug. 17, 1911; St. Joseph, Sept. 3, 1916, on grape.

E. comes var. *rufomaculata* McAtee.—Dongola, Aug. 23, 1916; Urbana, Sept. 6, 1916; Brownfield, Aug. 17, 1916.

E. comes var. *ziczac* Walsh, red form.—Algonquin, July 17, 1895, Aug. 20, 24, 1894, Sept. 5, 9, 1894, Oct. 18, 1895; White Heath, April 30, 1916; St. Joseph, Sept. 3, 1916, on grape.

E. comes var. *ziczac* Walsh, yellow form.—Algonquin, April 15, 1896, July 8, 1895, Aug. 28, 1894; Metropolis, Aug. 20, 1916; also No. 25799.