

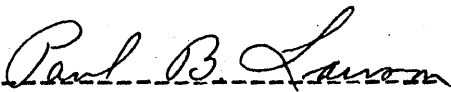
THE GENUS HYMETTA (Homoptera, Cicadellidae)

by

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Submitted to the Department of
Entomology and the Faculty of
the Graduate School of the
University of Kansas in partial
fulfillment of the requirements
for the degree of Master of Arts.

Approved by:



Instructor in charge.

Head or Chairman of Dept.

July 19, 1929

CORRECTION

Plate I should be plate II and plate II
should be plate I.

THE GENUS HYMETTA (Homoptera, Cicadellidae)*

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Vera M. Fairbairn, Lawrence, Kansas.

The genus **Hymetta** was erected by McAtee (1) in 1919 to accomodate the species **trifasciata** which Say, in 1825, described and placed in the genus **Tettigonia**. McAtee credited his new genus with a single species, **trifasciata**, having four varieties, var. **trifasciata** Say, var **balteata** McAtee, var. **albata** McAtee, and var. **anthisma** McAtee. The results of this study show that we now have five species and two varieties.

DESCRIPTION OF THE GENUS.

McAtee, in erecting the genus, gives the following generic description:

Tettigonia trifasciata Say differs from other species of the genus **Erythroneura** Fitch, and indeed from all members of the family, so far as I am aware, in having the scutellum thickened and distinctly elevated apically. Seen from the side the dorsal outline is conspicuously interrupted by the prominent scutellum in this species; in others it is smooth. This notable difference in structure is accompanied by less important variations in venation which in themselves make it undesirable to retain the species in **Erythroneura**. The second apical vein is curved, reaching margin at exterior angle of tegmen, and not infrequently it nearly or quite forms a stalk with first

*Contribution from the Department of Entomology, University of Kansas. 1. Proc. Biol. Soc. Wash., Vol. XXXII; pp. 121-124, 1919.

apical vein. In typical **Erythroneura**, the second apical vein clearly reaches the posterior margin of tegmen, and rarely, if ever, is united in a stalk with first apical vein. Both the fore and hind wings of this genus are broader than those possessed by most of its relatives; the hind wings being particularly ample. The most common color forms of the genus have these broad wings milky-white with the head and thorax shaded from ivory color to reddish-brown. The fore wings are delicately marked with smoky to black, and orange to scarlet markings.

The writer gives the following generic description:

FORM.—Head slightly narrower than pronotum. Vertex distinctly produced medially, almost twice as long at the middle as next the eyes, about as long as broad. Front broad basally, much narrowed apically. Pronotum not quite twice as wide as long, anterior margin always more curved than posterior margin; lateral and humeral margins distinct. Scutellum finely granular and with distinct impressed line; distinctly elevated caudad of impressed line. Tegmina moderately long, only slightly narrower basally and apically than in median area. Venation distinct. Four apical cells present.

EXTERNAL GENITALIA. Female: Last ventral segment extremely produced medially, over twice as long as preceding one; produced apex bearing no median notch. Pygofer stout, sparsely spined, exceeded by the ovipositor. Male:—Last ventral segment long, hiding the valve. Plates long and slender, longer than last ventral segment, their sides straight to the somewhat narrowed apices. Pygofers long, exceeding plate by about one-half the length of the latter, bearing spines on lateral margins.

COLOR.—Head varying from milky-white to yellowish-brown, reddish to orange markings sometimes present. Eyes dusky to black. Pronotum milky-white to brown, bright red markings or brownish areas usually present. Black spot always present at apex of elevated scutellum. Remainder of scutellum milky-white to light brown. Tegmina white to cream colored background; always a fairly distinct dusky to bright red transverse band just caudad of apex of scutellum (Crossband I); frequently a less distinct dusky to red interrupted transverse band just cephalad of cross-veins (Crossband 2); often a dusky oblique band across the apical

cells (Crossband 3). A black dot on corium near or touching claval suture at a point a little more than half way to apex of clavus. Orange to scarlet dots and flecks on corium and clavus cephalad of transverse veins. Costal plaque milky-white except in **kansasensis**.

KEY TO SPECIES.

1. Crossband 1 strongly narrowed on costal margin....2
 Crossband 1 at most but slightly narrowed at
 costal margin4
2. Costal plaque dark**kansasensis** sp. n.
 Costal plaque not dark.....3
3. Apex of scutellum with large black spot.....
**arizoniana** sp. n.
 Apex of scutellum with normal black spot....
**trifasciata** (Say)
4. With distinct transverse band on apex of wing; pos-
 terior margin of crossband 1 running practically
 straight across to dark spot near claval suture
**distincta** sp. n.
 With transverse band at apex of wing at most indis-
 tinct; oblique band at apex of wing frequently dis-
 tinct; posterior margin of crossband 1 projecting
 caudad close to dark spot near claval suture
**balteata** McAtee

McAtee recognized one species, **Hymetta trifasciata** (Say.) and described three varieties: var. **balteata**, var. **albata**, and var. **anthisma**. Thus up to the time that the writer undertook this study, one species and three varieties were recognized as comprising the membership of the genus. The present work embodies a study of the inner male genitalia as well as of color pattern. The characters presented by the genitalia were constant within the species and were found to correlate with the color patterns. As a result of this study, the writer feels justified in (1) raising McAtee's variety **balteata** to specific rank and in considering **anthisma** as its variety; (2) sinking the variety **albata** as a teneral form; (3) describing a new variety of **balteata**—the variety **mediana**; and (4), describing three new species, **kansasensis**, **distincta**, and **arizoniana**. This classification agrees with the results of an examination of McAtee's types by Dr. Paul B. Lawson.

Hymetta trifasciata (Say).

(Plate I, Figs. 5, 8; Plate II, Figs. 3, 3a.)

Tettigonia trifasciata Say. Journ. Acad. Nat. Sci., Phila., Vol. IV, pp. 344-345; 1825. Reprint, Complete Writings, Vol. II, pp. 259-260; 1859.

Hymetta trifasciata var **trifasciata** McAtee. Proc. Biol. Soc. Wash., Vol. XXXII, pp. 121-124; 1919.

The following is Say's original description:

Tettigonia trifasciata—Pale yellowish-white; elytra irrorate with reddish and somewhat trifasciate with dusky.

Inhabits Missouri.

Body pale yellowish-white: head with two or three obsolete dull sanguineous spots on the vertex in the form of curves or circles; eyes dusky, thorax, a sanguineous line abbreviated before, and an obsolete curve at the anterior angle; hemelytra whitish, irrorate with sanguineous; a dilated, brownish, interrupted, subbasal band; an obsolete interrupted band behind the middle, upon the posterior costal termination of which is an abbreviated sanguineous line, and an oblique blackish band near the tip; a large quadrate white immaculate spot on the middle of the costal margin; humeral base white, immaculate; tegmina dusky at base; feet white. Length to the tip of the hemelytra one-eighth of an inch. The spots of the head and thorax are sometimes hardly discernible, and the intermediate band is often so faint and interrupted as to be overlooked.

The following is the writer's description:

Length 3 to 3.5 mm. Average length 3.2 mm.

Head and pronotum as in other members of the genus. Tegmina milky-white with crossband 1 distinctly narrowed near costal margin; costal plaque chalky-white. Crossband 2 clearer than in other species. Flecks and dots over clavus and corium few in number and relatively pale in color. The members of this species are, on the average, smaller than the members of any of the other species of the genus.

Hymetta distincta sp. n.

(Plate I, fig. 6; Plate II, figs. 5, 5a.)

Length 3.3 to 3.5 mm. Average length 3.4 mm.

Head and pronotum as in other members of the

genus: Tegmina milky-white. Crossband 1 most outstanding in this species, not extending caudad of black spot on corium as a rule, the portion nearest costal margin much darker than remainder of crossband. Crossband 2 obsolete. A dusky transverse band across apex of wing; oblique band at apex of wing usually absent, or at most, very indistinct.

Holotype, male, Douglas Co., Kansas, taken by Paul B. Lawson.

Allotype, female, Douglas Co., Kansas, taken by R. H. Beamer.

Numerous paratypes from eastern Kansas. All types in Snow Entomological Collection.

KEY TO VARIETIES OF BALTEATA:

1. Oblique band at tip of wing not present, or at most, indistinct; first crossband dusky to black in color.....var. **balteata** McAtee
2. Oblique band at tip of wing distinct.....2
2. Crossband 1 brilliant scarlet....var **anthisma** McAtee
- Crossband 1 dull red in color....var. **mediana** var. n.

Hymetta balteata McAtee.

(Plate I, fig. 2; Plate II, figs. 1, la)

Hymetta trifasciata var. **balteata** McAtee.. Proc. Biol. Soc. Wash., Vol. XXXII, pp. 121-124; 1919.

The following is the original description:

Besides crossband 2 being obsolete, the red markings on head and thorax usually are lacking, these parts of body being ivory color, often shading into reddish-brown anteriorly. Otherwise the markings are those typical of the species.

The following is the writer's description:

Length 3.3 to 3.6 mm. Average length 3.4 mm.

Head and pronotum as in other members of the genus. Tegmina milky-white; crossband 1 dusky to black, darker near costal margin, posterior margin extending caudad of black spot on corium; crossband 2 obsolete; oblique band at tip of wing not present, or at most, indistinct. Relatively few red dots and flecks over clavus and corium. This form closely resembles *distincta* but can usually be readily distinguished from it by the fact that in this species crossband 1 extends caudad of

black spot on corium while in **distincta** it runs practically straight across and does not project caudad of this spot.

Hymetta balteata var. **anthisma** McAtee

Plate I, fig. 4)

Hymetta trifasciata var. **anthisma** McAtee. Proc. Biol. Soc. Wash., Vol. XXXII, pp. 121-124; 1919.

The following is the original description:

The most richly colored variety: the tegminal maculae scarlet; crossband 1 dull crimson darker edged; and crossband 2 varying from orange to scarlet. The markings on head and thorax which are red in the typical variety are pale yellow or wanting in this variety; one specimen has a median orange vitta abbreviated in front, on pronotum.

The writer gives the following description:

Length 3 mm.

Head and pronotum as in other members of the genus. Tegmina milky-white to cream colored. Crossband 1 brilliant scarlet, posterior margin extending distinctly caudad of black spot on corium; second transverse band orange in color and quite distinct; oblique band present but more smoky than black. In this species, the flecks and dots over the clavus and corium are much larger, brighter in color, and more numerous than in any other members of the genus.

Hymetta balteata var. **mediana** var. n.

(Plate I, fig. 3).

Length 3.3 to 3.5 mm. Average length 3.4 mm.

Head and pronotum as in other members of the genus. Tegmina milky-white to cream color. Crossband 1 dark red in color, projecting caudad of black spot on corium; crossband 2 quite distinct, orange to reddish in color; oblique band at tip of wing dusky to black. Dots and flecks on clavus and corium darker red than in **anthisma**.

Holotype, female, Douglas Co., Kansas. Taken by R. H. Beamer.

Allotype, male Douglas Co., Kansas. Taken by R. H. Beamer.

Numerous paratypes from eastern Kansas. All types in Snow Entomological Collection.

***Hymetta arizoniana* sp. n.**

(Pl. I, figs. 1, 9; Plate II, figs. 4, 4a)

Length 3.5 to 3.7 mm. Average length 3.6 mm.

Head and pronotum as in other members of the genus. This species differs from all other members of the genus in having a much larger black spot on elevated apex of scutellum than occurs in the other forms. Tegmina milky-white to creamy-yellow. Crossband I bright red, somewhat narrowed near costal margin; crossband 2 not present or at most indistinct; oblique band at tip of abdomen dusky in color, wider than in other members of the genus; a dusky triangular spot on corium near claval suture just cephalad of cross veins; dots and flecks on clavus and corium bright red in color. The members of this species are as a rule, larger than the members of the other species of this genus.

Holotype, male, Coconino County, Arizona. Taken by R. H. Beamer.

Allotype, female, Coconino County, Arizona. Taken by R. H. Beamer.

Numerous paratypes from Arizona. All types in Snow Entomological Collection.

***Hymetta kansasensis* sp. n.**

(Pl. I, fig. 7; Pl. II, figs. 2, 2a)

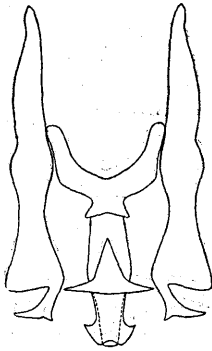
Length 3.2 to 3.4 mm. Average length 3.3 mm.

Head as in other members of the genus. Disc of pronotum usually darkened and finely granular. Scutellum with small black spot at apex. Tegmina milky-white marked as follows: a brownish to reddish transverse band extending across clavus just caudad of scutellum running obliquely to in front of costal plaque, a dark zigzag line running through plaque back to thin reddish band across transverse vein, a distinct dark oblique band across apical cells, a black dot on corium touching claval suture, small brownish spot on clavus caudad of these, and small scarlet flecks on corium, clavus and costal plaque cephalad of transverse veins.

Holotype, female, Douglas County, Kansas. Taken by P. B. Lawson.

Allotype, male, Bourbon County, Kansas. Taken by E. P. Breakey.

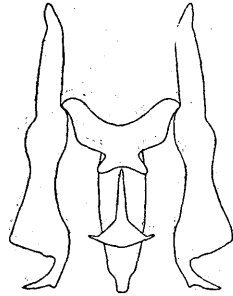
Paratypes, Doniphan and Atchison counties, Kansas. Taken by R. H. Beamer.



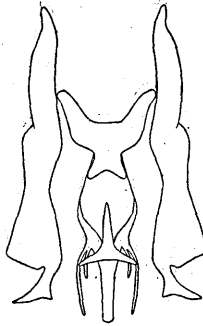
1. balteata



2a



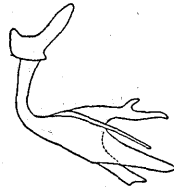
2. kansasensis



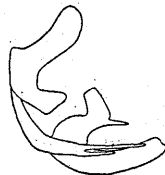
3. trifasciata



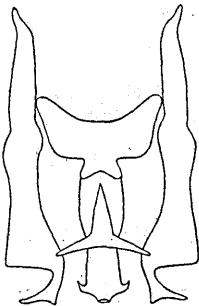
1a.



4a.



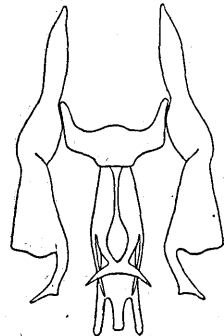
3a.



5. distincta



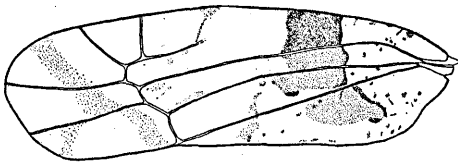
5a.



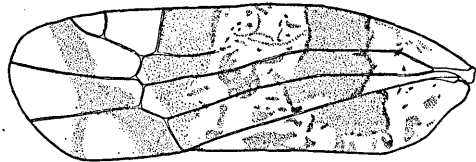
4. arizoniana



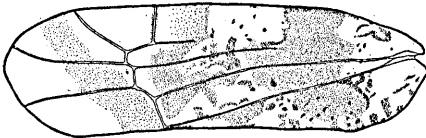
1. arizoniana



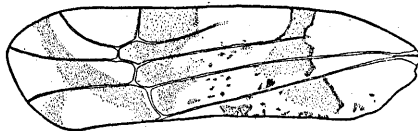
2. balteata



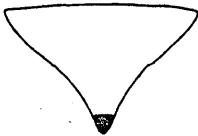
3. balteata var. mediana



4. balteata var. anthisma



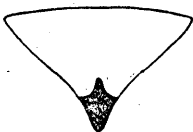
5. trifasciata



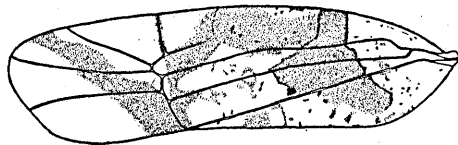
8. trifasciata



6. distincta



9. arizoniana



7. kansasensis

Plate II—Wings and scutella of Hymetta.