

Alaska. Compared with *R. duplicis*, it is larger; eyes contiguous above, but the facets practically equal in size; antennæ black,

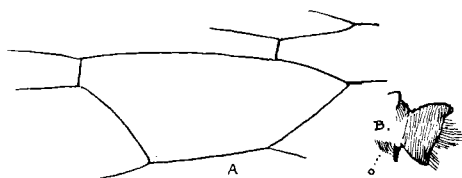


Fig. 2—A. *Rhamphomyia sepulta*: discal cell.
B. *Rhamphomyia calvimontis*: lateral view
of end of male abdomen.

third joint sublanceolate, the style about half its length; proboscis over 2 mm. long; thorax without dorsal pollinose vittæ; scutellum with numerous (many more than six) long black hairs; front and

hind basitarsi large and hairy, middle ones small; knob of halteres dark brown. The second anal vein, differently from the fossil, is abruptly deflected downward at the basal corner of the anal lobe. In Bezzi's key of South American *Rhamphomyia* (1909) this falls nearest to *R. limbipennis* Bezzi. Above timber-line, in the Arctic-Alpine zone, Baldy Mtn., Boulder County, Colorado, July 24, 1915. (Cockerell.)

I take occasion to correct two misprints in former papers on Diptera. In Can. Ent., 1915, p. 316, read *Chironomus guatemaltecus*; and p. 351, in fourth line of description, read greyish instead of greenish.

NEW SPECIES OF EUTETTIX AND PHLEPSIUS (HOMOPTERA).

BY E. D. BALL, LOGAN, UTAH.

The genus *Eutettix* is one of the most interesting of the groups of leaf-hoppers in the diversity of food plants of the different species, and at the same time in the constancy with which a given species is confined to its host.

At the time the writer published the review of this genus little was known of the life-histories or food plants of a number of western species of the *strobi* group. From circumstantial evidence it was thought that *saucia* would probably be found to occur on *Eriogonum*. Since that time this species has been found in some numbers on a species of this plant in California. The type specimens of *columbiana* described below were taken from

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another species of this same genus of plants. The type of *nevada* from still another, while the type of *rubida* came from a location in which a species of *Eriogonum* grew and the colour of the plant would harmonize better with the striking shade of red of the insect than any other plant there. In addition to these records, *pannosa* has been found to be strictly confined to a shrubby species of *Eriogonum* on the hills of California. Another record which again shows diversity in food plants is that of *osborni*, which has been found by Van Duzee to be strictly confined to a species of *Tamarix* in California.

***Eutettix columbiana*, n. sp.**

Resembling *perelegantis* and *mildredæ*, but lighter in colour and lacking the definite shades of orange and olive. Form of *saucia* nearly. Length: ♂ 5 mm.

Vertex roundly right angled, the apex blunt, disc slightly sloping, depressed before the margin. Pronotum as in *saucia*, lacking the definite gibbous appearance of *perelegantis*. Venation as in *saucia*.

Colour ivory white, with a pale tawny and olive brown saddle with black points. Vertex creamy, with traces of four brown points on the margin, a pair of rather large irregular spots on the posterior submargin a little more than their own width from the eyes. Face and below creamy. Pronotum ivory, mottled with olive and brown, omitting the lateral and most of the anterior margin; two definite black spots behind the inner angle of either eye and two irregular ones nearer the median line. Scutellum creamy, the lateral angles olive brown. Elytra ivory sub-hyaline, with an olive brown saddle as in *saucia*, but lighter or wanting along the sutures, and with three definite dark points extending almost to the claval suture, apical cloud reduced to spots on third and fourth nervures.

Genitalia of male as in *saucia*.

Described from two males from Wenatchee, Washington, collected by the writer. From *saucia* this species can be separated by the definite black spots on the pronotum, from *perelegantis* by the structure of head and pronotum.

Eutettix nevada, n. sp.

Form of *saucia* nearly, with a similar saddle. Colour of *texana* or a pale *pannosa*. Length: ♀ 4.6 mm.

Vertex similar to *saucia*, slightly less sloping, pronotum very flat, much less arched than in *saucia*. Front very full, roundly angled with vertex. Venation as in *pannosa*.

Colour creamy white, mottled and washed with pale olive brown. Vertex creamy, traces of four brown spots on anterior submargin, three large, slightly irregular mottled areas along the posterior margin, the median one nearly rectangular, the lateral ones nearly circular. Pronotum mottled with pale brown, omitting the lateral margins and three narrow stripes on the disc. Scutellum mottled with pale brown, with two stripes. Elytra milky with the saddle of a pale mottled brown, omitting an irregular sutural stripe. The ivory margin along the claval suture is narrow and regular as in *pannosa*, without the posterior enlargement, as in *scitula*, and without the usual distinct dark margins. The saddle extends to costa, but the apical cloud is reduced to a few reticulations. A number of strong reticulations on basal area of the corium below the saddle.

Genitalia: Female segment rather long, slightly rounding posteriorly, with a slight, rather broad strap-shaped projection, which is dark-lined back on to the segment.

Described from a single female collected at Wells, Nevada, by the writer. The short head will separate this species from *pannosa*, while the strongly margined saddle renders it quite distinct from *saucia*. Its mottled appearance suggests *texana*, but that species does not have a saddle.

Eutettix rubida, n. sp.

Form of *pannosa* nearly. Shorter and broader with short apical cells. Colour and pattern of *saucia* nearly. Length: ♀ 4 mm.

Vertex and pronotum nearly flat as in *pannosa*. Vertex broader than in that species and equally long, the apex slightly obtusely angled. Whole margin inclined to be thin and slightly upturned before the depression. Elytra very broad and short.

Venation similar to *saucia*, except that the apical cells are only one-half as long. The central apical cell equally broad and long.

Colour red-brown and ivory. Vertex testaceous, the margins ivory, with four large nearly quadrangular spots before the depression. Pronotum densely mottled with rusty brown, omitting the lateral margins. Scutellum rusty brown. Elytra ivory, with a dark rusty brown saddle of the *saucia* pattern, the line next the claval suture nearly straight and not dark margined, the apical cells densely clouded.

Genitalia: Female segment moderately long, nearly truncate, with a broad, short, bilobed projection.

Described from a single female taken by the writer in Logan Canyon, Utah, altitude 6,000 feet. This is a strikingly distinct species, in the broad short form, short apical cells and long flat vertex.

***Eutettix insana* var. *coronata*, n. var.**

Slightly smaller and paler than *insana*, with a variable number of black spots. Length 3 mm.

Vertex and pronotum shorter and broader than in *insana*. Elytra shorter and inclined to be more flaring.

Colour white as in *Phlepsius denudatus*, rather than green, as in typical *insana*, with a much smaller number of the "peppered" dots and a variable number of black spots. These black spots including all or part of the following: A pair of slightly oblique lines behind the middle of the vertex, six dots in an arcuated line on the anterior submargin of pronotum, the outer ones usually largest and located just behind the inner angle of the eye, four large black spots in a slightly curved line on the anterior part of the scutellum, two minute points on the lateral margins of the scutellum, four pair of equidistant spots along sutural margins of elytra, the third and largest pair at the claval apices, four spots on each elytron in an approximately straight line between the posterior angle of the pronotum and the second costal nervure, the first two in this row slightly in advance of the corresponding sutural spots, the second two opposite. These spots are all variable in size, and some are often wanting.

Described from two females and two males from Mojave, California, collected by the writer. This is a much smaller and

paler form than typical *insana*, and with the definite spotting would not be easily recognized as belonging to that species.

Eutettix (Mesamia) coloradensis var. **visalia**, n. var.

Form of *coloradensis*. Pale fulvous, with light flecks on elytra.

Colour and general appearance of *johnsoni*, except for the black points on vertex. Vertex and face pale fulvous, with the line wanting or only slightly indicated in tawny. Pronotum and scutellum pale fulvous without definite markings. Elytra with the claval areas pale fulvous more or less flecked with oblong milky spots. Corium fulvous sub-hyaline, the nervures tawny and usually a tawny spot between the two cross nervures and faint dusky spots in the centres of the apical cells.

Described from two females and two males from Visalia, California, collected by the writer on *Artemisia dracunculoides*. If this had not been the food plant to which *coloradensis* is strictly confined this variety would scarcely have been referred to this species, as the colour is so strikingly different. The finding of this colour variety indicates a closer relationship between the *nigrodorsum* and *vitellina* groups than was even suspected when they were placed in the same subgenus.

Phlepsius loculatus, n. sp.

Resembling a diminutive *costomaculatus* in appearance, but much smaller. White, with two stripes and coarse elytral reticulations dark. Length 3-3.5 mm.

Head with the eyes much wider than pronotum; vertex narrow, slightly longer than its basal width, as long as pronotum, slightly obtusely angled with the apex bluntly rounding, disc nearly flat, anterior margin forming an acute angle with the front; front long, narrow, wedge-shaped. Elytra long, narrow, venation as in *costomaculatus*, the apical cells extremely long.

Colour dark brown or black and white, giving an ashy gray appearance. Vertex milky white or sometimes suffused with yellow, two pair of brown dots on the extreme margin against the apex, a pair of slightly oblique, elongate, egg-shaped dark spots extending from just behind the anterior pair of spots to posterior margin, each dark spot containing two light spots in the shape of an oblique crescent above a dash. Sometimes the dark spots

coalesce with the outer dots when the whole appears as a pair of stripes, in which case the crescent and dash fuse to form a question mark. Pronotum milky, with four broad, mottled, dark brown stripes, the outer pair definite and touching the inner angle of the eye, the inner pair irregular and often fading out posteriorly. Elytra milky with the most of the nervures and a few coarse reticulations as in *costomaculatus* almost black.

Genitalia: Female segment short, posterior margin slightly indented in the middle, pygofers extremely long and almost parallel margined. Male valve triangular, plates together equilaterally triangular.

Described from four females and four males from St. George, Utah, and Mojave, California, collected by the writer. This species is quite puzzling in character; in elytral characters it is close to *costomaculatus*, but differs radically in the extremely wide head. In size it is unique in the genus, but in *Deltocephalus* where the occasional second cross nervure would, if considered, place it, it would seem at home. It is, however, unquestionably related to the other forms mentioned. The white markings in the black spots are a striking and very distinctive character.

***Phlepsius stellaris*, n. sp.**

Larger and stouter than *loculatus*, which it resembles in form and structure, resembling *denudatus* in the light colour and lack of reticulations. Creamy white, with two star-like spots on vertex. Length: ♀ 4 mm.

Head broad as in *loculatus*, vertex shorter and broader, obtusely rounding, scarcely longer on middle than against the eye, two-thirds the length of the pronotum. Front shorter than in *loculatus*, forming a wider angle with vertex. Elytra long, narrow, venation as in *costomaculatus*, but obscure.

Colour creamy white, the ocelli and four equidistant spots on vertex margin between these dark, a pair of irregular star-shaped spots on the anterior disc of the vertex, one ray of each star, including the outer marginal spot, on either side and another touching the eye; a spot on either side of scutellum at base, extending forward under the semitransparent pronotum, and often a dot or two behind the eyes. Elytra creamy, the nervures showing

a trace of fulvous, rather obscure. Face and below creamy, a pair of brown arcs on either side of the front between the antennal sockets, attached to a brown cloud in the centre, forming a spider-like marking on face.

Genitalia: Female segment broad and short, almost parallel margined with a slight median notch.

Described from four females from St. George, Utah, and vicinity collected by the writer. This species, although still small for the genus, is nearly twice as large as *loculatus*, to which it seems to be allied. The white ground colour, with the black stars, render it strikingly distinct.

A NEW *PHYSOTHRIPS* (THYSANOPTERA) FROM
UGANDA, WITH A NOTE ON *PHYSOTHRIPS*
ANTENNATUS BAGNALL.

BY J. DOUGLAS HOOD, U. S. BIOLOGICAL SURVEY, WASHINGTON, D. C.

The new species here described from a unique female was received from Dr. Henry J. Franklin, of the Massachusetts Agricultural Experiment Station, and had been included with a number of specimens of *Physothrips antennatus*, collected by Mr. C. C. Gowdey at Kisube, Uganda.

***Physothrips antennatus*, Bagnall.**

1914.—*Physothrips antennatus* Bagnall, Ann. Mag. Nat. Hist., ser. 8, Vol. XIII, p. 23.

1914.—*Physothrips antennatus* Karny, Zeitschr. f. wiss. Ins.-biol., Bd. X, p. 365.

The brief original description of this species may be amplified as follows:

The median dorsal length of the head is about 0.7 the width across eyes, and about three-fourths the length of the prothorax; the cheeks are gently rounded, converging to base. The pronotum is finely and deeply striate, with a pair of nearly smooth, foveate areas behind middle; hind margin with three pairs of bristles between the two long pairs, the mediad pair larger; disk with about 25 small bristles on each side. Mesonotum slightly more closely transversely striate than the pronotum; metanotum sub-