

SOME NEW WESTERN THAMNOTETTIX (HOMOPTERA).

BY E. D. BALL, EXP. STATION, LOGAN, UTAH.

Thamnotettix venditaria, n. sp.

Form and colour of *decipens* nearly. Slightly longer; green, with three large black spots in a triangle on the vertex. Length, ♀, 5.5 mm.; ♂, 4.75 mm.

Vertex bluntly angulate, with the apex slightly conically produced, twice wider than long, one-third longer on the middle than against the eye, disc slightly sloping to the rounded anterior margin, front slightly inflated, distinctly wider than in *decipens*, scarcely more than half longer than its basal width. Elytra not quite as long as in *decipens*, venation similar.

Colour: Vertex straw-yellow, with a pair of large, oval, black spots extending from behind the ocelli obliquely towards the middle of the disc. Another triangular black spot on apex usually narrowly bisected by the median line. Face pale yellow, with the sutures mostly narrowly black-lined, upper two-thirds of the front smoky, with a light median line and about six abbreviated arcs on either side. The front and vertex separated by an arcuated line. Pronotum green, the anterior margin dirty straw. Scutellum pale yellow, a pair of round black spots at the base half concealed by the pronotum. Elytra green, the nervures pale straw. Below straw-coloured, with some dusky on the abdomen and the ovipositor black.

Genitalia: Female segment nearly as long as its basal width, roundingly narrowing from the base to the truncate apex, which is narrowly marked with black. The lateral angles are semicircularly depressed, leaving an elevated median disc as wide as the black marking. Male valve very broad and short, obtusely angular; plates together, long, triangular, their margins slightly concave, and clothed with stiff hairs.

Described from two females and three males from Utah and Reno, Nevada, collected by the author. This species might easily be mistaken for a *Cicadula* in colour and marking, but is readily separated by the venation.

Thamnotettix viriosa, n. sp.

Size and form of *chiragrica* nearly. Broad, stout, powdery green, with five black spots on vertex. Length, 5.75 mm.

Vertex broad and short, nearly three times wider than long, the apex bluntly conical, disc slightly sloping, broadly rounding to the tumid front,

which is as wide as its median length. Pronotum broad and short, scarcely longer than vertex. Elytra broad, only slightly longer than the abdomen.

Colour: Vertex pale yellow, a pair of large, nearly quadrangular black spots on the margin just outside the ocelli, a still larger one on the apex, triangularly forking posteriorly, and two small round ones on the posterior margin equidistant from the median line and the eyes. Face pale, with the sutures black-lined, those around the loræ heavily so; a pair of black spots above the antennæ. Front smoky, set off from vertex by an arcuated black line, the median line pale, triangularly widening below, with about nine pale arcs on each side. Pronotum pale green, the anterior margin lighter, submargin sometimes with faint dusky spots. Scutellum pale powdery green. Elytra pale green, heavily powdered with white. Venation obscure.

Genitalia: Female segment as long as broad, slightly narrowing to the truncate apex; lateral margin depressed, a black line on the posterior margin, sometimes reduced to two spots. Male valve broad and short, bluntly angular, plates together, broadly triangular, their apices broadly, slightly roundly, truncate, scarcely exceeding the broad swollen pygofer.

Described from eight examples from Beaumont, California, collected by the author. A large and readily recognized species.

Thamnotettix Titusi, n. sp.

Size and form of *melanogaster* nearly. Slender, parallel, vertex right-angled. Green, with the face and tip of elytra smoky. Length, ♀, 5.5 mm.; ♂, 5 mm.

Vertex one-half wider than long, right-angled in front, the disc flat or transversely depressed, roundly angled with the front. Front much narrower than in *atriforsum*, wider and more nearly parallel margined than in *melanogaster*; distinctly longer than wide. Elytra long, narrow, inclined to be flaring at the tips, giving the insect a parallel-margined appearance. Venation simple.

Colour: Vertex pale straw, inclined to be greenish at base, and smoky or tawny at tip. The smoky front is visible from above on either side the apex of vertex, and often there are a pair of oblique spots at the base. Face pale, the front smoky, growing darker above, with numerous pale arcs. Pronotum green, rarely with dark spots on the submargin. Scutellum pale, sometimes a pair of small black spots at base. Elytra

green, the appendix and apical cells smoky, with the nervures light. Below smoky.

Genitalia: Female segment slightly longer than its basal width, roundly narrowing to half its basal width, then truncate and black-marked, curving around the long pygofers. Male valve short and broad, obtusely angled, plates together, slightly longer than their basal width, narrow and bluntly rounding at the apices, which slightly exceed the narrow pygofers.

Described from twelve examples from Colfax, California, and Medford and Grant's Pass, Oregon, those from the latter place collected by Prof. Titus, the remainder by the author. The black tip of the elytra and the angled vertex will readily separate this from any other described species. Named in honour of Prof. E. G. Titus, whose industrious collecting has brought to light many good things.

Thamnotettix vastula, n. sp.

Resembling *Titusi* in form and general appearance, slightly shorter and stouter, with distinct genitalia. Length, 5 mm.

Vertex slightly acutely angled in the female, scarcely wider than long, as long as the pronotum, about right-angled in the male; disc flat, roundly angled with the front. Front much more strongly retreating than in *Titusi*, distinctly narrowing below. Elytra broader and shorter than in the former species, and inclined to be appressed posteriorly. Venation simple, the apical cells not elongated.

Colour: Vertex pale, clear straw. Face in the female pale, the sutures and front pale, smoky, except for the pale arcs on the latter. In the male the face and venter are deep smoky, with a light spot on the clypeus. Pronotum and scutellum pale green, becoming straw-colour towards the margins, the appendix and apical cells abruptly deep smoky.

Genitalia: Female segment much narrower than the penultimate, constricted at the base, roundly narrowing towards the apex, which is narrow, slightly thickened, and a trifle excavated. The whole segment very much the shape of a blunt-tipped spoon. Male valve as in *Titusi*; plates together, slightly narrowing, and then extending into a long spatulate process between two and three times as long as wide.

Described from five examples from Chico and Salinas, California, collected by the author. The sharper pointed head and longer genitalia render this species quite distinct, and easily separated from the other members of the group.

(To be continued.)