

Review of the Genus *Macrotylus*. *Fieb.* (Hemiptera)

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This genus in common with others of the tribe *Phylini* has the aroliæ parallel with the claws and attached to them, at least at base. Here they are large, exceeding the very small claws. Like other genera in the division *Oncotylaria* they have the prosternal xyphus convex at base and more or less carinate on the margins at apex. In *Macrotylus* the presence or absence of a hamus in the cell of the wings seems to have little significance and an examination of numerous individuals would possibly show that it may be either present or absent in the same species. I have found it present in *amænus*, *sexguttatus*, *regalis*, *infuscatus* and *essigi*, and absent in *tristis*, *lineolatus* and *dorsalis*. I have been unable to determine this point in the unique type of *multipunctatus*. Our species are mostly handsome, clearly marked insects. They may be distinguished as follows:

- Apex of the closed elytra marked with six large white spots placed on the outer border of the cuneus and membrane. 1.
- Cuneus without a basal white spot; membrane black with pale nervures and sometimes with white marginal spots. 2.
1. Color deep black; head greenish olive; basal spot of the cuneus sometimes yellow. 1. *6-guttatus* Prov.
Color pale yellowish-green; cuneus and membrane blackish, strongly contrasting with the white spots, size very small. 2. *amænus* Reut.
2. Color above pale testaceous marked with numerous distinct round black dots; head deep black with two green dots on the base of the vertex; membrane black with two white spots beyond the cuneus. 3. *multipunctatus* n. sp.
Membrane without white marginal spots, the nervures only pale. 3.
3. Color clear yellow with a broad black dorsal stripe connecting with the black membrane. 4. *dorsalis* n. sp.
Color sometimes yellow, then without a black dorsal vitta. 4.

4. Color of the elytra clear yellow with the clavus, narrow costal margin, apex of the corium and the membrane black; head and pronotum greenish marked with black. *5. essigi* n. sp.
Color never yellow with clearly defined black markings. 5.
5. Color above greenish-yellow obscurely clouded with fuscous, becoming darker on the pronotum, clavus and middle field of the corium; membrane black with the nervures clear yellow.
6. lineolatus Uhl.
Color black red or testaceous, never greenish-yellow. 6.
6. Color testaceous, more or less infuscated leaving the costal margin pale; above thickly clothed with pale pubescence.
7. infuscatus n. sp.
Color black or red, the costa never pale. 7.
7. Color slaty-black with the nervure of the membrane conspicuously white. *8. tristis* Uhl.
Color dull red, the costal margin slenderly black, the head and callosities sometimes black. *9. regalis* Uhl.

1. *Macrotylus 6-guttatus* Prov.

A very distinct deep black opaque species with the head polished and olive green or even yellowish before; the apex of the second antennal joint and the apical one-half of the tarsi fulvotestaceous. The cuneus has a large oval yellow or white spot at base and the apex is white. Near the end of the membrane is a large white marginal spot and there is a small one close to the white apical portion of the cuneus. I swept four examples of this interesting form from a low bush at Aylmer, near Ottawa, Ont., June 30, 1912.

2. *Macrotylus amœnus* Reut.

This is a very small species, scarcely $2\frac{1}{2}$ mm. to the tip of the membrane. It is pale yellowish-green with the cuneus and membrane fuscous and marked exactly as in the preceding species except that the apical white spot is smaller. The antennæ are fuscous with pale incisures, and the feet pale with the anterior edge of the femora and the tibiæ and tarsi fuscous or black. The type of this species was taken in Connecticut by Dr. W. E. Britton, Mrs. Slosson has taken it at Delaware Water Gap, Pa., and I took a very small example at Estero, Fla., in May.

✓ 3. *Macrotylus multipunctatus* n. sp.

A little broader than *lineolatus* and its allies; pale testaceous closely dotted above with distinct round black points. Length $3\frac{3}{4}$ mm. to the tip of the membrane.

Head as in *6-guttatus*, more vertical than in *lineolatus* and the allied forms. Vertex nearly flat, collar-like; front convex, especially anteriorly; clypeus very prominent and polished. Pronotum as in *6-guttatus*, shorter than in the *lineolatus* group, its carinate sides rectilinear; anterior angles scarcely rounded but not dentate as in *6-guttatus*. Basal lobe of the scutellum broadly exposed. Elytra rather wide, the sides distinctly arcuated toward their apex. Antennæ short, the basal joint little surpassing the tip of the clypeus. Cell of the wing without a hamus.

Color pale testaceous tinged with yellow on the scutellum and on the median line and anterior margin of the pronotum. Head black, polished on the clypeus; vertex with two squarish pale green spots connected anteriorly with a very slender line. Pronotum, scutellum and elytra ornamented with distinct round black dots, each dot carrying a stiff black hair; incisure of the scutellum on either side and the basal lobe anteriorly marked with black. Membrane blackish, the nervures clear white; margin with two large whitish-hyaline spots beyond the tip of the cuneus, separated by a deeper black one. Antennæ black, the incisures white, the middle of the second joint broadly testaceous. Legs testaceous, extreme apex of the femora white preceded by a black annulus; tibiæ narrowly black at either end, the tarsi black. Beneath fuscous, the edges of the ventral segments white. Genital segment and region of the stomata black.

Described from a single male example taken by me on the flats near the lower end of Fallen Leaf Lake, California, July 17, 1915. This is a very distinct species easily recognized by its pale upper surface closely dotted with rather large black setigerous points.

✓ 4. *Macrotylus dorsalis* n. sp.

Clear lemon yellow; membrane and a linear dorsal line black. Length $3\frac{1}{2}$ mm. to the tip of the membrane.

Head as in the foregoing species, nearly vertical. Vertex scarcely flattened; front strongly convex, especially anteriorly. Clypeus

very prominent, its base deeply incised. Eyes rather small, viewed from the side oval, reaching hardly below the middle of the side of the head. Antennæ short, basal joint scarcely surpassing the clypeus; second a little more than twice the length of the first; third and fourth together a little longer than the second. Pronotum short, its carinate sides feebly concavely arcuated, the hind margin depressed, nearly covering the basal lobe of the scutellum. Upper surface sparsely clothed with deciduous black hairs.

Color, a pale lemon-yellow, sometimes tinged with green on the anterior margin of the pronotum and on the lower surface. Head more or less obscured or sometimes with a fuscous median line. Pronotum with a median fuscous longitudinal vitta, sometimes widened so as to cover the callosities. Scutellum infuscated with its basal angles yellow. Closed elytra with a rather broad black commissural vitta. Membrane black with the nervures pale at apex about the smaller areole. Apex of the tibiæ and tarsi black.

Described from one male and four females taken by me on *Adenostoma* at Alpine, San Diego County, California, April 8, 1913, and one female taken by Mr. Fordyce Grinnell at Pasadena, California, April 30, 1909. This species is easily distinguished by its clear yellow color with a black dorsal vitta.

5. *Macrotylus essigi* n. sp.

Dark green; antennæ, legs and disk of the pronotum black; elytra clear greenish-yellow, the clavus, costal nervure, broad apical margin of the corium and the membrane black, the latter with yellow nervures. Length 4 mm. to tip of membrane.

Head a little more oblique than in the foregoing species. Vertex narrowly flattened, the front becoming strongly convex toward its apex; clypeus as in the allied species. Eyes small, viewed from the side oblong, reaching about half way to the gula. Pronotum long, the sides straight and scarcely carinate. Basal lobe of the scutellum well exposed. Elytra nearly parallel, a little widened posteriorly. Antennæ rather short, the basal joint just surpassing the clypeus; the second over three times the length of the first; apical two together longer than the second. Rostrum long, reaching on to the base of the venter. Legs long, the hind tibiæ as long as the corium.

Genital segment of the male very large, polished, occupying one half the length of the abdomen. Oviduct of the female long, beginning before the middle of the venter.

Color dark green, more or less varied with black or fuscous. Vertex green with two minute black points at the middle; front more or less broadly bordered with fuscous. Clypeus black, the cheeks usually green. Pronotum black with the lateral margins and sometimes the median line green, the callosities more or less broadly yellow. Scutellum greenish-yellow, the middle of the basal lobe black. Elytra clear greenish-yellow with the clavus, linear costal margin and apical vitta on the corium black. Cuneus entirely yellow. Membrane black, deeper beyond the areoles, the nervures conspicuously yellow. Beneath infuscated along the middle, the genital segment black and polished. Antennæ and legs black, the hind femora with a green line. Upper surface clothed with short deciduous black hairs.

Described from two males and two females taken by Mr. E. O. Essig on chaparral growing among the hills at Berkeley, California, July 7, 1915. It gives me pleasure to dedicate this strongly marked species to its discoverer who is well known for his studies on the Aphididæ and for his work in economic entomology.

6. *Macrotylus lineolatus* Uhler

This and the following two species belong to a group having a more elongated body with the head subhorizontal, the pronotum much narrowed anteriorly with its sides feebly sinuated and sharply carinate as far forward as the transverse impressed line, the rostrum long, surpassing the base of the venter and the elytra parallel or slightly sinuated. The colors here are more subdued and uniform without the striking patterns we find in the preceding species.

In *lineolatus* the color is a peculiar shade of greenish-yellow over almost the entire body. The upper surface is sparsely clothed with short fuscous hairs and is clouded with fuscous on the posterior field of the pronotum, excepting the sides and median line, on the clavus and on the disk of the corium within the principal nervure, more distinct apically. These dark markings on the elytra are often nearly obsolete or they are represented mostly by blackish punctures.

Cuneus pale. Membrane infuscated with a short blackish ray at apex of the areole, the nervures yellowish. Antennæ black with pale incisures; the feet infuscated with the base of the femora pale. I took numbers of this neat little species about the lower end of Fallen Leaf Lake, near Tahoe, California.

7. *Macrotylus infuscatus* n. sp.

Allied to the preceding; dull fuscous with the costal margin pale or largely pale, sometimes greenish-testaceous in the female. Length 5 mm.

Head subhorizontal. Vertex scarcely flattened, the front becoming strongly convex anteriorly as in the typical forms of this genus, with a deep constriction at the base of the clypeus. Clypeus prominent, a little produced at apex as in many of our species. Eyes large, viewed from the side nearly vertical and reaching much below the middle of the side of the head. Antennæ rather long; the basal joint surpassing the apex of the clypeus by one-half its length; second two and one-half times the length of the first; the third about equal to the second; fourth flattened and about equal to the first. Pronotum long, strongly narrowed anteriorly, scarcely half as wide before as behind; sides sharply carinate throughout, a little sinuated, the humeral angles prominent. Elytra parallel or slightly widened behind; wing cell with a hamus.

Ground color pale testaceous; tinged with greenish on the pronotum, head and beneath; shaded with fuscous, especially in the males; pronotum, excepting the lateral edges and sometimes the callosities, scutellum except the outer angles of the basal lobe, and the elytra except the costal margin, more or less deeply infuscated, sometimes becoming a blackish-fuscous; disk of the front at times infuscated, the clypeus usually black and polished. Cuneus usually pale or decolorated. Membrane deeply infuscated with pale nervures and a small black ray beyond the tip of the areoles. Antennæ black with pale incisures, often with a broad pale annulus on the second joint. Legs pale, the femora more or less dotted with fuscous; the knees, tips of the tibiæ and the tarsi black. Above clothed with long gray pile giving the insect a hoary aspect.

Described from numerous examples taken about the lower end of Fallen Leaf Lake, California, in July, 1915.

8. *Macrotylus tristis* Uhler

This is a dull slaty-black insect about the size of the preceding, becoming polished beneath and on the unusually prominent clypeus. There are two minute pale spots on the vertex and there may be two more on the callosities and two on the basal and two on the apical lobe of the scutellum; the membranal nervures, basal margin of the cuneus and commissural nervure beyond the apex of the clavus calloused and white. Wing cell without a hamus. Basal joint of the antennæ scarcely surpassing the clypeus, the antennal incisures and knees white. The whole upper surface is rather sparingly clothed with pale pubescence.

I took numbers of this sombre looking species on the hills about Lakeside and Mussey's, San Diego County, California, during April and May, 1913.

9. *Macrotylus regalis* Uhler

I took three males of what I am identifying with some doubt as Uhler's *regalis* from *Adenostoma* at Alpine, San Diego County, California, in June, 1913. These are smaller than Uhler's unique female, measuring but three and one-half millimeters to the tip of the membrane; the anterior lobe of the pronotum is red like the posterior, the vertex and front have a median red vitta; the pectoral surface and abdomen are red instead of black and the membrane is infuscated with the nervures pale. Most of these differences represent merely an extension of the red color which may be characteristic of the male sex.

In this species the head is almost horizontal with the apex more produced than in any of our other species and the basal joint of the antennæ is shorter, not attaining the apex of the clypeus. The upper surface is of an almost uniform dark sanguinous, sparsely clothed with fine pale pubescence and showing some dark markings about the callosities and along the median line of the pronotum and scutellum. It is peculiar in having the apical antennal joint conspicuously flattened, much more distinctly so than in our other species of the genus.