

Described from numerous specimens of both sexes collected at Columbus, Ohio, in 1903.

This species resembles *viridis* Ball, but is larger, with more pronounced coloring, especially the black spots of the front. The vertex is less elongate and genitalia different.

While the root inhabiting habit is unusual in this family there are, of course, abundant instances in other homopterous families, as Aphidæ, Membracidæ and Cercopidæ.

NEW SPECIES OF OHIO FULGORIDÆ.

HERBERT OSBORN.

PHYLLODINUS KOEBELEI N. SP.

Brachypterous, female. With transverse markings on vertex and front, pronotum except anterior border, all of scutellum, a broad apical margin of the aborted elytra and the first two joints of the tarsus and margin of the pygofer white, with terminal joint of the antennae, base of the legs, most of the coxæ and a series of marks on the abdomen, dirty white. Length, 2.7 mm; width, 1½ mm.

The head narrower than pronotum, vertex quadrangular, carinae distinct, front with sides parallel; two times longer than wide; median carina distinct and continued to apex, and a faint carina intermediate between median and lateral. Clypeus longer than width at base, polished black. Pronotum about as long as vertex, anterior border truncate between the eyes, posterior border nearly straight or slightly concave. Scutellum wider than long, a short divergent lateral carina at base, median carina continued to apex. Elytra reaching to base of the second abdominal segment; veins well marked, becoming indistinct, on posterior margin. Legs dilated about as in *nervatus*.

Color dull black or fuscous black. Vertex with a soiled occipital white margin, a broken polished band just in front of the middle and two quadrate spots just behind the apex. Front black, with short quadrangular bars just beneath the vertex margin. Three interrupted bars across its disk, two spots about the middle of the lateral margin and a band across the apex, yellowish white. Clypeus black, labrum brownish or yellowish. Pronotum white, the anterior margin blackish, the dusky line extending further along the curved carinae. Scutellum entirely white. Elytra pitchy black with broad apical margin, narrower at apex of clavus. Abdomen fuscous with a series of dorsal triangular spots, a lateral suffused spot on second abdominal segment, a series of round spots on first to third segments and longitudinal stripe, one on third, three on fourth, three on fifth, one broken stripe on sixth, and margins of terga yellowish white. Anal style white; legs, yellowish brown at base; femora yellowish brown at base; the anterior and middle

tibiae, dull black; hind tibiae, fuscous, indistinctly annulated with yellowish; tibial spur and first and second joints of tarsus, yellowish white. Third joint of tarsus and claws, black.

Brachypterous, male. Color as in the female, but the black of elytra and head more intense and white a purer white. Length, 2.3 mm.

Structural characters of the body as in the female, the difference lying in the size and the intensity of the color marking. The tibiae slightly more dilated.

Genitalia. Pygofer excavated ventrally; styles narrow, nearly parallel, slightly curved dorsally.

Macropterous, male. Black with the white bars on the vertex and front and tip of scutellum faintly white. Length to tip of elytra, 3.2 mm.

Head as in brachypterous forms, the carinae of the vertex apparently a little stronger. The hind border of pronotum broadly sinuate. Scutellum larger, broader than in the brachypterous form, with the posterior lateral margins concave. Elytral venation strong, veins tuberculate, having short setae. Almost entirely black. Differs from the brachypterous form in not having white on pronotum and scutellum. Vertex barely shows traces of white margin, front has the transverse bars and lateral spots distinct, with apical border distinct but narrow; tip of scutellum is faintly whitish; the antennae are brownish; the apex of the first joint, black; femora, yellowish brown; anterior and middle tibiae, black; tip of tibiae and first and second tarsal joints, white; hind legs mostly brownish; tips of spines and claws, black.

Macropterous, female. Black with margins of vertex in front and tarsal joints white, as in the brachypterous forms.

Elytra hyaline with a fuscous spot at vertex of clavus. This form agrees with the macropterous male, except that the hind border of the pronotum is more broadly whitened. White markings of the vertex more distinct near the apex. The color as a whole somewhat less intensely black. A single specimen of this form, which must evidently be associated with the preceding.

Described from two brachypterous females, two brachypterous males, and one macropterous male, collected in Columbus, O., by Mr. Albert Koebele, September, 1903. One macropterous female collected in "D. C.," May.

This is one of the most elegant Delphacids which has yet come to light in Ohio fauna, and I take special pleasure in dedicating it to my friend, Mr. Albert Koebele, who collected these and a number of other interesting fulgorids here the past summer.

It resembles *nervatus* but differs particularly in the white tarsal joints and in the extent of the frontal bars, and in the coloring of the pronotum and scutellum.

PHYLLODINUS FUSCOUS N. SP.

Brachypterous, female. Somewhat larger, lighter colored than *Koebelei* but similarly marked. Length, 3 mm.

Head narrower than prothorax; vertex quadrate, carinae well marked; front with sides parallel, median carina small with very faint carinae about one-third of the distance from the median to the lateral. Clypeus triangular; median and lateral carina strong; pronotum as long as vertex; posterior margin faintly sinuous; scutellum scarcely longer than pronotum; median carina becoming obsolete before the apex; elytra reaching the middle of the first segment. Veins moderately elevated, becoming obsolete towards apex.

Color brownish and fuscous; markings very similar to those of *Koebelei*, but those of pronotum white with median anterior portion black. A somewhat interrupted band on either side close to the anterior margin and the anterior angles directly beneath the eyes, black. Scutellum white, with an irregular transverse broken band of fuscous-black. Elytra brown, somewhat fuscous; on costal margin a broad apical band of soiled white. Abdomen medially polished brown, laterally fuscous with white markings, quite similar to those of *Koebelei*. Tibiae moderately dilated.

Described from one specimen collected at Columbus in September by Mr. Albert Koebele.

This may possibly be an extreme variety of *Koebelei* or the brachypterous female of *nervatus*, but without sufficient material to connect them definitely it would better stand by itself. It is a large and handsome specimen, but the color markings are much less intense than in *Koebelei*.

MYNDUS FULVUS N.SP.

Light orange or yellow-orange, immaculate. Length, to tip of elytra, female, 4.5 mm.; male, 4 mm.

Vertex quadrate, carinae indistinct; front broad, widened to near apex, then narrowing abruptly to clypeus; lateral carinae of clypeus sharp. Pronotum shorter than vertex, hind border sinuate; carinae of scutellum weak.

Color uniformly tawny or light yellow-orange. The elytra hyaline but tinged with tawny. Tips of spines and tarsal claws black.

Male styles long, expanded on apical half, bent at about the middle.

Described from four females and two males collected at Sandusky and Castalia, Ohio, in late June and July.

Easily recognized by the bright tawny color and the absence of spots.