

## FAMILY FULGORIDÆ.

♂ SCOLOPS, Germ.

*S. sulcipes*.

♂ *Fulgora sulcipes*, Say, Journ. Acad. Phila. iv, 335.

Common in many parts of the United States, as well east as west of the Mississippi River. The specimens collected by these expeditions occurred in Colorado, Utah, Dakota, and Arizona. Specimens have been examined by me which were obtained in Maine, Massachusetts, Connecticut, Rhode Island, New York, Iowa, Illinois, Pennsylvania, and Minnesota. In Maryland and Virginia, they occur in sedgy and grassy low spots in the corners of meadows, particularly in places near woods, in July, August, and September.

This species may be known from its allies by the long and very slender cephalic prominence, acute at tip, by the first ulnar nervure giving three forking branches, and by the second ulnar giving off two forking branches, and with numerous cross-nervures producing several series of small areoles adjoining the tip.

Length from tip of head to end of hemelytra,  $8\frac{1}{2}$  to 10 millimeters. Length of cephalic horn, 2 to  $2\frac{1}{2}$  millimeters.

*S. hesperius*. New sp.

Straw-yellow or pale brownish, narrower than *S. sulcipes*. Cephalic protuberance shorter, broader, not compressed at tip; rostrum reaching upon the second ventral segment, the last joint black at tip; sutures of the face more or less infuscated; postocular process white, with a black spot inferiorly. Pronotum irrorated with pale brown and white, the sides and lateral pieces irregularly, obsolete tuberculate; tegular pieces minutely, confluent punctate. Mesonotum slightly guttate with pale brown, the apex tumid and emarginate just each side of the extreme tip; metapleura and sternum whitish. Carinate lines of the thorax and legs whitish; the spaces between usually brownish. Heme-

lytra less gibbously convex than in *S. sulcipes*, the nervures stouter, pale, and interruptedly spotted with brown, the first ulnar nervure forked beyond the middle, the second ulnar forked before the middle; the apex with but two or three series of cross-nervures; the costal area sometimes with two or three cross-nervures at tip; the costal margin very moderately arcuated. Wings milky-white, the nervures brown. Tergum reddish-brown, darker in the center; the margins of the segments and the connexivum pale-yellow.

Length from tip of head to end of hemelytra, 8 millimeters. Width of pronotum,  $2\frac{1}{2}$  millimeters. Length of cephalic horn,  $1\frac{1}{2}$  millimeters. Southern Colorado, C. Thomas; and Denver City, from B. H. Smith. In the specimens which I have examined, there is an entire absence of the large black spot of the sides anteriorly of the pronotum, so conspicuous in *S. sulcipes*, Say.

### 3. *S. grossus*. New sp.

Shorter and more robust than *S. sulcipes*; the cephalic horn as long, but much stouter, than in that species; very wide on the upper face, and the apex blunt and vertically carinate. Sides of protuberance, cheeks, and anterior pleural pieces infuscated, guttate with whitish, the lateral keels distinctly sinuate a little distance in front of the eyes; rostrum tipped with black, reaching almost to the genital segment. Pronotum curved toward the front more narrowly than in *S. sulcipes*; the geminate indentations present, but not black; the sides a little granulose. Mesonotum short and broad, the apex feebly tumid; femora more or less dotted with brown; hemelytra short and wide, strongly arcuated, more oblique at tip than in *S. sulcipes*, clouded with brown, and with a few pale transverse patches across the corium; the nervures thick, remotely and irregularly spotted with fuscous; the first and second ulnar nervures forked on the same line just before the middle of the corium; the apical cross-nervures very few, and the costal area with four or five cross-nervures near the tip. Wings smoky-brown, with the nervures darker; tergum more or less orange, shaded with fuscous.

Length from tip of head to end of hemelytra, 8 to  $8\frac{1}{2}$  millimeters; width of pronotum, 2 millimeters; length of cephalic horn,  $2\frac{1}{2}$  millimeters.

Collected in Texas by G. W. Belfrage.

### 4. *S. angustatus*. New sp.

More slender than either of the species described; the hemelytra almost flat above, hardly gibbous on the sides; head more or less orange-yellow, with the face, sides of protuberance, and ridges of the front brownish; cephalic horn very short and narrow, but blunt at tip; cranium with two black, impressed dots between the eyes; rostrum reaching to the end of the fourth ventral segment, yellow, black at tip, the lobes behind the eyes with a small black dot. Pronotum with an arcuated series of indented black points, the lateral margins obliquely curved toward the head; pale, grooved, and brown behind the eyes, and with the carinate edge whitish. Mesonotum varied with brown, and with a series of black, indented points across it, the tegular pieces a little confluent punctate; pleura washed with pale brown and flecked with dark brown; legs flecked with fuscous, the tibiae with two or more dark, band-like shades; hemelytra infuscated, moderately flat, the costal margin very feebly arcuated, a broad longitudinal vitta extending to the tip, a streak on the suture of the clavus, several coalescing spots running

back from the apex interiorly, and the interrupted flecks on the nervures dark brown; the costal area whitish throughout, nervures stout, the first ulnar nervure forked considerably behind the middle, and the second ulnar forked at a little distance behind the middle. Wings smoky, the nervures darker. Disk of tergum black, with the sides orange-yellow. Venter faintly brownish, flecked with yellowish.

Length from tip of head to end of hemelytra, 7 to 8 millimeters. Width of pronotum,  $2\frac{1}{2}$  to  $2\frac{1}{2}$  millimeters. Length of cephalic horn,  $1\frac{1}{2}$  millimeters.

Inhabits Nebraska, Dakota, Iowa, Massachusetts, and Connecticut."

## SUBFAMILY DELPHACINA.

### LIBURNIA, Stål.

#### *L. vittatifrons*. New sp.

Elongate-oval, pale green, bald, and polished. Apex of the head broadly conical; cranium minutely, obsolete punctate on the sides; the cranial shield triangular in front, so caused by the converging of the lateral carinae; central carina high and thick, the lateral ones very high and divaricating anteriorly; the front oblique, depressed, banded twice with orange or rufous; the pair of central carinae high, curving apart, abbreviated before the epistoma; the epistoma piceous or rufo-piceous at base; rostrum yellowish, piceous at tip, reaching to the tip of the intermediate coxae. Eyes large, horizontal, subreniform, pale brown; antennae greenish; the scapus and basal joint subequal, the former with a broad black line, the latter with two black lines and an anterior ring; second joint longer than the two former, with two black lines. Pronotum short, truncate in front, sinuate on the posterior margin, the central line and an oblique one each side carinated, the lateral edge sinuate to receive the tegulae; tegulae very minutely punctured. Mesosternum longer than the pronotum, with five carinated lines, the lateral ones a little curved, and the apex slightly elevated. Legs green; the femora and tibiae, excepting the posterior pair, lineated with black, and with the tips of the spines, the nails, a broad band near the tip of the anterior tibiae, and a large spot on each anterior coxa, black; hemelytra long and narrow, obliquely rounded at tip, yellowish-green, the nervures straight and wide apart, with only two or three cross-nervures near the tip; the radial nervure forked at the middle, the first and second ulnars forked near the tip. Wings white; tergum sometimes infuscated on the disks of the segments. Anus of the female armed with a long, acute stylet; both sexes with a few long bristles at the apex of the venter; hemelytra of the male with five longitudinal cells at the apex; the inferior genital segment divided into two curved, very acute, piceous hooks, and the anus with a still longer stylet than in the other sex.

Length to tip of hemelytra, 5 to  $8\frac{1}{2}$  millimeters. Width of pronotum,  $\frac{1}{2}$  to 2 millimeters.

Inhabits Dakota, collected by Mr. Rothauer; Illinois, Robert Kennicott. It also occurs abundantly upon the salt-marshes of the sea-coasts of Maryland and New Jersey, living among the long, stiff grass. When fresh and not weather-beaten, it is of a vivid light green, but when old and weathered it becomes soiled yellow in color. It would be interesting to know if this species belongs to places in the West which were originally the beds of salt-lakes. The salt-marshes of Eastern Massachusetts have thus far failed to yield any specimens of it.