

and the eighth and ninth, the head except the supraclypéal area for the mesonotum, the clypeus, the labrum, and some irregular marks on the postocellar area, sometimes represented by two black spots, an oval spot on each lateral lobe of mesonotum and a minute spot near the caudo-mesal angle of each oval spot, the metanotum and the sutures between it and the basal plates and first abdominal segment more or less, the ventral aspect of the mesopleura and metapleura, sometimes with a rufous spot on the mesopleura, variable in size and distinctness, mesosternum and metasternum, the coxæ except the distal portion, and a band at the distal end of the metafemora and metatibia; the labrum, antennal segments five and six, sometimes the proximal half of seven and the tegulae white. Length 8-10 mm.

*Male*.—The male differs only in having a larger proportion of black and in having the rufous colour tending toward white; the antennæ are pale beyond the second segment, rufous or yellowish, the distal segments viewed in certain lights, whitish; the three distal segments of the abdomen usually black, the entire abdomen sometimes rufous; the pronotum in great part black; the mesopleura entirely black. Length 7-8 mm.

*Habitat*.—Ottawa, Ontario, (W. Hague Harrington); North fork of Swananoa River, Black Mountains, North Carolina (Nathan Banks and Franklin Sherman); Franconia, New Hampshire (Mrs. A. T. Slosson); Durham, New Hampshire (C. M. Weed); Hampton, New Hampshire (S. Albert Shaw); Ithaca, New York.

### SOME NEW AMERICAN DELPHACIDÆ.

BY F. MUIR, HONOLULU, T. H.

Genus *Columbiana*, nov.

Head a little narrower than thorax; vertex slightly wider than long, apex slightly narrower than base, basal areas five-sided, nearly the length of the vertex with an oblong foveola in each, the diamond-shape cell small and projecting beyond the apical margin; length of face, about twice the width, slightly narrowed between the eyes beyond which the sides parallel, median carina simple, slightly thickened at base; in profile vertex and face rounded; antennæ cylindrical, reaching to apex of face, first joint about as long as broad, second joint about twice the length of first and slightly thicker; clypeus tricarinate. Pronotum tricarinate, lateral carinæ divergingly curved posteriorly not reaching to the hind margin; mesonotum tricarinate. Hind tibia longer than the tarsus, first tarsus equal in length to the two others together; spur slightly shorter than the first tarsus, narrow, cultrate, concave on the inner surface, a tooth on apex but none on the hind margin. Media touching cubitus, a short cross-vein between media and radius.

This genus comes near to *Sogatopsis* Muir; if we disregard the spur it comes near to *Delphacodes* Fieb. and *Sogata* Dist.

*Columbiana lloydi*, sp. nov. Figs. 6-a, 7-a.

Male, macropterous. Castaneous, darker on pro- and mesonota and abdomen. Tegmina hyaline, veins brown with very fine granules, fuscous or brown over the basal half of costal cell and slightly so over clavus, with a darker

Opening of pygofer oblong, the ventral edge produced into three processes, the middle one broad and bifurcate, the lateral smaller and lanceolate; anal segment large without spines; genital styles straight, flat, narrow at apical fourth, apex truncate; aedeagus large, produced into a long, curved narrow apophysis with a curved spine at base of the narrow apex.

Length 2.6 mm.; tegmen 4 mm.

*Habitat*.—Almaguer Cauca, Columbia, 10,500 feet elevation (Lloyd).

**Mesonotus megalostylus**, sp. nov. Figs. 8-a.

Male, macropterous. Width of head including eyes 1.7 times the length including eyes, antennae reaching nearly to the apex of clypeus, joints subequal length, vertex longer than wide, apex slightly narrower than base; lateral notal carinae straight, diverging posteriorly not quite reaching the hind margin; length of hind tibia subequal to tarsi, first tarsus slightly longer than the other two together, spur large, as long as first tarsus, laminate, small teeth on hind margin.

Light brown, darker between the carinae of face and clypeus, along the anterior margin of pronotum, over the medio-lateral areas of mesonotum, the abdomen and third tarsus. Tegmina hyaline, median vein and all the apical veins brown, on the median vein all the brown extends into the neighbouring membrane, a brown mark at the end of commissure; wings hyaline with brown veins.

Opening of pygofer oval, margin entire; anal segment small with two small spines on medio-ventral edge; armature arising from the middle of the diaphragma as a cultrate projection; genital styles large, flattened, curved, in latera widely bent at right angles before middle, apex pointed the apical portion curled and into nearly a complete circle, a small projection where the curl begins.

Length 2.5 mm.; tegmen 4 mm.

*Habitat*.—Demerara River, British Guiana.

**Gamelus timehri**, sp. nov. Fig. 9.

Male, macropterous. In structure and colour similar to the macropterous *notula* (Germ.) to which it is closely related. Spur slightly longer than first anal joint, thin and broad with apex rounded, numerous small teeth on the lateral margin.

Dark brown, carinae of head, legs, antennae and pygofer lighter brown; tegmina hyaline, veins brown with a few minute granules bearing black hairs; wings hyaline with light veins.

Pygofer on the same plan as that of *M. notula* (Germ.), the ventral margin with three emarginations, a semicircular median one and a pair of lateral ones narrower than wide; anal segment small, closely embraced by the pygofer; genital styles small, flat, outer edge slightly convex, inner edge straight or slightly concave, apex obtusely pointed.

Length 2.2 mm.; tegmen 3 mm.

*Habitat*.—Demerara River, British Guiana.

*M. notula* (Germ.) differs from this species in having the two processes between the emarginations on the ventral edge of the pygofer much narrower and pointed, the genital styles are more pointed and have a large projection at base, and the anal segment is not closely embraced by the pygofer. The

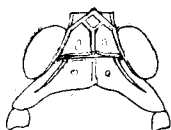


Fig. 6.—Dorsal view of head and pronotum of *Columbiana lloydi*.



Fig. 6a.—Face of same.

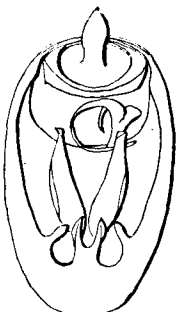


Fig. 7.—*C. lloydi*, full view of pygofer.



Fig. 7a.—Lateral view of same.

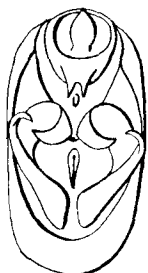


Fig. 8.—*Pissonotus megalostylus*, full view of pygofer.



Fig. 8a.—Lateral view of same.

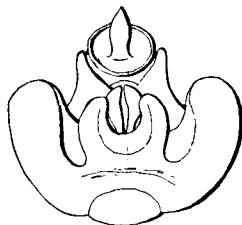


Fig. 9.—*Megamelus timehri*, full view of pygofer.

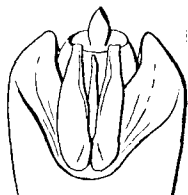


Fig. 10.—*Chloriona fuscipennis*, full view of pygofer.



Fig. 11.—*Delphacodes guianensis*, full view of pygofer.



Fig. 12.—*Delphacodes subfusca*, full view of pygofer.

***Aloriona fuscipennis*, sp. nov.** Fig. 10.

Male, macropterous. Length of vertex twice the width, apex slightly narrower than base, length of face two and one-half times the width, slightly wider on apical half; antennæ reaching to the base of clypeus or slightly beyond, first joint half the length of the second; hind tibia of equal length to tarsi, first tarsus longer than the other two together, spur nearly as long as first tarsus, wide, laminate, many small teeth on the hind margin; lateral pronotal carinae diverging posteriorly, slightly curved, not reaching the hind margin.

Dark brown, front and middle legs lighter brown, antennæ, rostrum, hind legs, lateral portions of pronotum, middle of pro- and metanota yellowish or light brown. Tegmina hyaline, fuscous, an area over apex of costal and subcostal cells clear, infuscation darkest along cubital area, commissure white with dark mark at apex, granules minute with black hairs; wings hyaline with brown veins.

Pygofer opening wide, dorsal emargination deep; anal segment sunk into margination, round; genital styles long, straight, flat, narrowed on apical third, apex truncate.

Length 2.5 mm.; tegmen 3.4 mm.

*Habitat*.—Demerara River, British Guiana.

***Alphacodes guianensis*, sp. nov.** Fig. 11.

Male, macropterous. Vertex as long as wide, length of face slightly more than twice the width, sides subparallel, slightly narrowed between the eyes; antennæ reaching slightly beyond the base of the clypeus, first joint more than half the length of the second (1 to 1.4); hind tibia longer than tarsi, first joint and hind tarsus as long as the other two together, spur large, as long as the first tarsal joint, broad, laminate, apex acute, small teeth on the hind margin.

Light brown or ochraceous; a minute black spot on the lateral carinae of face in front of the ocelli, a slightly darker longitudinal mark down the tibiae, abdomen darker with a light line down the middle of the ventral surface and pleura. Tegmina hyaline, slightly yellow, veins yellow, granules fine with black hairs; wings hyaline with yellow veins.

Opening of pygofer slightly deeper than broad, anal segment small not closely embraced by pygofer, a pair of short, stout, curved, diverging spines on medio-ventral surface, their bases approximate; genital styles large, flat, broadest at apex which is truncate and oblique, outer edge slightly concave, inner edge produced into a process at the middle, which is longer than broad and rounded at apex.

Length 2 mm.; tegmen 3.3 mm.

*Habitat*.—Demerara River, British Guiana.

***Alphacodes subfusca*, sp. nov.** Fig. 12.

Male, macropterous. Vertex slightly broader than long; antennæ reaching to base of clypeus, first joint about half the length of second; length of face about twice the width, slightly narrowed between the eyes, beyond which the sides are parallel; median carina furcate at base; hind tibia equal in length to tarsi, first tarsal joint equal to the second and third together, spur as long as first tarsi at joint, wide, pointed, laminate, small teeth on the hind margin.

Light brown or ochraceous, darker between carinae of head and over coxae

and abdomen. Tegmina hyaline with light brown veins, granules very small bearing black hairs, a dark mark at end of commissure, wings hyaline with brown veins.

Opening of pygofer round, margin produced into a small lobe at each side of the anal segment; anal segment small with a pair of small, stout spines on the medio-ventral edge, touching at their bases and slightly diverging to the apices; armature or diaphragm small, Y-shape; genital styles long, flat, slightly curved, slightly narrowed at middle, apex truncate with the corners slightly produced.

Length 1.6 mm.; tegmen 2.0 mm.

Female lighter in colour, especially so on coxæ and abdomen.

Length 2.2 mm.; tegmen 2.8 mm.

*Habitat*.—Demerara River, British Guiana.

## SAMUEL WENDELL WILLISTON.

In the death of Samuel Wendell Williston, on August 30, 1918, American entomology has lost one of its keenest students. Although his professional work lay mainly in palæontology, in which field he attained great distinction, he also ranked as the foremost American dipterist of his time and a world-authority in this branch of entomology.

The following brief sketch of his life is based upon, and largely quoted from, the admirable account by Prof. J. M. Aldrich, which appeared in the November number of the *Entomological News* (vol. XXIX, pp. 322-327, with portrait).

Samuel Wendell Williston was born on July 10, 1852, and was, therefore, 66 years old when he died. At this time and for some years previously he was Professor of Palæontology and Director of the Walker Museum in the University of Chicago. His boyhood was spent at Manhattan, Kansas, where he entered the Agricultural College, graduating in 1872. He began to study medicine in 1873, but in the following two years he spent the summer months in fossil-collecting expeditions in Western Kansas, the work being done for Prof. Marsh, of Yale University. After a winter at the Medical School of the University of Iowa, he visited Prof. Marsh in the spring of 1876, and this visit resulted in almost continuous employment with Marsh for nine years, until 1885, when he received his Ph. D., specializing in palæontology. He also managed to finish his medical course in 1880, and in 1886 was appointed demonstrator in anatomy at Yale Medical School. So great was his ability as an anatomist that he obtained a full professorship in Human Anatomy in the following year.

After three years in this position he accepted a call to the University of Kansas as Professor of Historical Geology and Palæontology. Twelve years of arduous and productive work followed, during which he helped to organize the Medical Department of the University and took on the deanship of the latter in addition to his other duties.

Though possessed of a vigorous constitution, his health began to give way under the strain of overwork, so that, after resigning from this post, he went to Chicago in 1902 as Professor of Palæontology, in which capacity he was able to concentrate upon his chosen specialty. Here he spent the last 14 years of his