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Article VI.— SUPPLEMENTAL DESCRIPTIONS OF TWO NEW GENERA OF ÆSCHNINÆ.

By James G. Needham.

When Professor Cockerell was collecting fossils at Florissant he wrote me of the discovery of the *Lithæschna* described in the foregoing pages, and sent me a sketch of its venation. Having in my possession some unpublished figures of related genera, I sent them to him for whatever use he

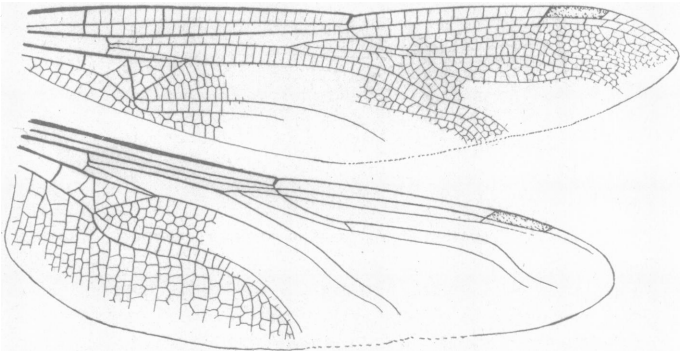

Fig. 1. Venation of *Cymatophlebia longiolata* Muenst.

might choose to make of them. These included a drawing of the venation of *Cymatophlebia* (probably the type species *C. longiolata* Muenst.) more complete than any that have been published, a drawing of the venation of another fossil Æschnine, and a photograph of a recent undescribed genus from Borneo. The specimens are in the Museum of Comparative Zoölogy at Cambridge, where in 1897, through the kindness of Mr. Samuel Henshaw and Dr. R. T. Jackson, I had the privilege of studying them and of making these figures. The two last mentioned represent genera as yet undescribed.

Professor Cockerell has made good use of the figures in the comparisons of the foregoing paper, and has invited me to add descriptions of the two new genera. Since it is desirable under the circumstances that these should be made known, I append brief diagnoses of them, with figures, inserting my new figure of *Cymatophlebia* (Fig. 1).

Morbæschna gen. nov.

Type, the specimen labelled *Æschna muensteri* Germar in the Hagen collection of fossil Odonata in the Museum of Comparative Zoölogy.

Only the venation of this specimen is in a sufficiently good state of preservation to admit of critical diagnosis. Its chief characters are shown in Fig. 2, and are as follows: —

Stigma with a strongly developed brace vein; ante- and post-nodals in the fore wing about 12 and 10, in the hind wing about 10 and 12 respectively; arculus slightly arcuated, especially in the fore wing, the sectors arising from it well separated and with gentle curvature; proximal end of the bridge slightly more identified vein

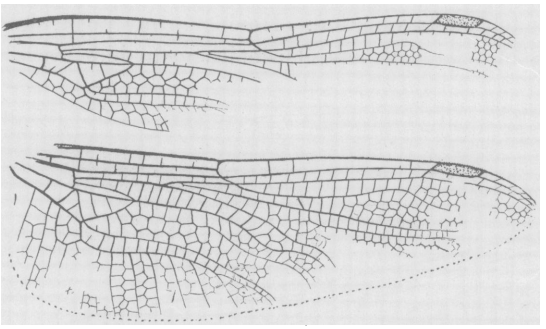

Fig. 2. Venation of *Morbæschna muensteri* (Germar).

M_{1+2} then with vein M_3; oblique crossvein 4 to 5 cells beyond the subnodus: veins M_1 and M_2 separated by a single row of cells as far as the brace vein of the stigma (at which point they are most approximated), then diverging, with three rows between; a straightened line of crossveins one row of cells behind the radial sector, simulates a radial supplement; veins M_3 and M_4 are sinuated in their middle course, the space between them is widened at the sinuation and narrowed again beyond in the hind wing: no crossveins are discoverable in the super-triangle; there are two in each triangle and there are at least three cubito-anal crossveins; there are three rows of post-triangular cells, and in the hind wing there is a sinuous median supplement paralleling vein M_4 and separated from it, first by one, then by two, then by one, and finally by three rows of cells; the branches of the cubital vein in the hind wing are separated by a single row of cells, and are approximated beyond the level of the triangle, vein Cu_2 having about seven distinct straight posterior branches extending to the hind margin; the compact anal loop consists of four cells, and behind it are at least two straight sectors extending from the cubital vein to the hind margin.

Dolæschna gen. nov.

Type, *D. elacatura* sp. nov.

Most nearly allied to *Gomphæschna*. The venational characteristics of the genus are as follows: The stigma has a strong brace vein, and two additional crossveins meet its hind margin; ante- and post-nodal crossveins are in the fore wing 17 and 8 or 9, and in the hind wing 12 and 9 respectively; the first two branches of the median vein are most approximated at the level of the stigma, after which they diverge to include two rows of cells to the margin; between the hinder of these and

the radial sector there are but two rows of cells from the upward bend to the wing margin; the oblique vein is but little more than one cell distant beyond the subnodus; the last two branches of the median vein are sinuate beyond their middle, and include for a distance two rows of cells between them; a more or less distinct median supplement parallels the hinder of these, separated from it by a single row of cells; there are but four principal branches arising from the vein Cu_2. The arculus is somewhat angulate at the approximated origin of its sectors; there are two crossveins in super triangle and in triangle in all wings, and there are two cubito-anal crossveins; there is a small anal loop, consisting of three cells, and there are no strongly developed sectors in the anal angle behind it.

A very remarkable, primitive Æschnine genus, with hemispherical head, eyes touching on the dorsal side for a little way, ovipositor arcuate and with the abdomen curiously spindle-shaped beyond the constricted third segment.

Dolæschna elacatura sp. nov.

Fig. 3.

Length 54 mm.; abdomen 42 mm.; hind wing 44 mm.

A brown species, apparently without thoracic stripes. Eyes contiguous

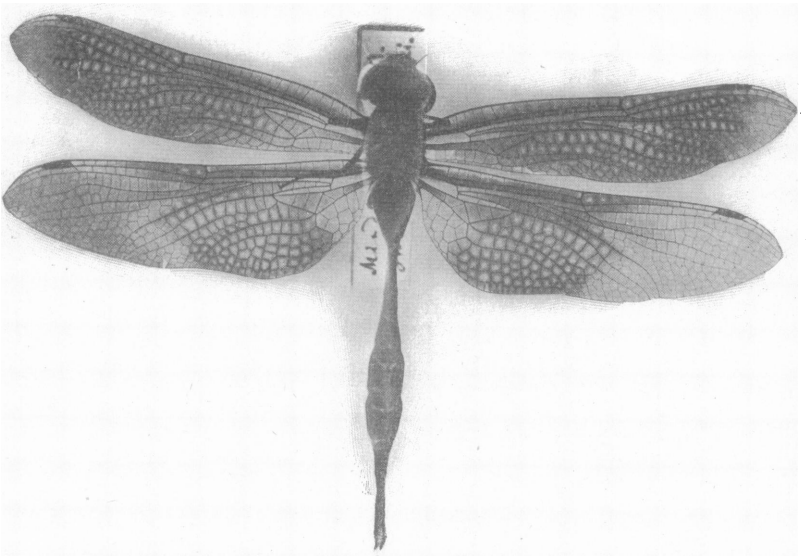

Fig. 3. *Dolæschna elacatura* sp. nov.

for a distance somewhat exceeding the breadth of the vertical tubercle. Frons obtusely projecting, unmarked above, with an obscure transverse ridge across its superior margin. Face receding to the mouth; labrum yellowish with brown border. Occiput naked, very narrow, and deeply notched behind between the eyes: face and vertical tubercle pubescent.

with blackish hairs. Legs moderately short and slender, reddish, darker on the knees and tarsi; claws with a very minute tooth under the middle. Wings transparent amber brown, hyaline at apex and behind triangles; stigma reddish brown.

Abdomen constricted on segment 3, spindle-shaped beyond (whence the specific name), being depressed on segments 4–6 and strongly compressed on segments 7–9; brown, with pale (bluish?) half rings bordering the middle transverse carina behind on segments 2–9, interrupted on the mid-dorsal longitudinal carina, and narrowed laterally to form paired lance-triangular spots on segments 4–7; segments 8 and 9 paler below. Segment 3, about as long as 1 and 2 together and slightly longer than segment 4. Segments 4–6 are of equal length, and segments 7, 8 and 9 are successively a little shorter, with segment 10 hardly half as long as segment 9, and of very peculiar form. It is abbreviated dorsally and declined at hind margin. It is prolonged ventrally from its hind margin, and the prolongation is concave ventrally at base to receive the upcurving tips of the ovipositor blades; it is concave above at the tip, for the reception of the decurrent subanal lobes; the latter are clothed with re-curved hairs, and the hind border of the prolongation of segment 10 is beset with minute denticles. The palps of the ovipositor guides are about as long as the 10th segment and each is tipped with a pencil of brown hairs of equal length; the appendages are broken off.

Type, a single female from Mindai, Borneo, in the Museum of Comparative Zoölogy of Harvard College.