

bearing some curved branches of *Psilophyton* and a fruit stalk bifurcating to bear two capsule or seed-like bodies. (C). There is no evidence beyond association that these fragments belong to each other, and when Dr. Matthew kindly showed me his originals it became evident that he had drawn his figures in the way they are from considerations of space, because the fructification and the vegetative parts are on different slabs of matrix. Furthermore, I think it very likely that his fructification C fig. 2, and fig. 5 pl. V. are fragments of the fertile branch I illustrate (pl. XIII, fig. 45), and which presumably belongs to a pteridosperm (see p. 74).

The bifurcations of several of the less tufted specimens of this "species" suggest that it belonged to one of the Lycopodiaceae, and it is not unlikely that some at any rate of the fragments were pieces of ultimate twigs and branchlets of a small-leaved *Lepidodendron*, that was partly macerated. It is also more than likely that other and different macerated scraps have been included in the "species." From a specimen kindly lent me by the St. John Natural History Society, I am able to illustrate the appearance of a small characteristic fragment (see pl. V, fig. 9).

FILICALES AND PTERIDOSPERMALES.

Genus SPHENOPTERIS, Brongniart.

1822. *Filicites*, section, *Sphenopteris*, Brongniart, Class. végét. foss., p. 233.
1828. *Sphenopteris*, Brongniart, Prodrome, p. 50.

The genus does not approximate to a true one in a modern sense and it includes a number of forms which are certainly not ferns at all, but Pteridosperms. It is made to include the impressions of vegetative fronds of fern-like appearance of which the rachis may dichotomise or branch pinnately, and the pinnules are small, the laminae generally lobed, and the veins dictomise, running from a midrib at an angle. The forms included in the genus vary with each author, and many other genera, such as *Diplothemema*, *Hymenophyllites*, *Oligocarpia*, etc., have been separated from types sometimes included in *Sphenopteris*.