

structures, allied to hydroids, Lesquereux has described some of the Carboniferous forms under the generic name *Trochophyllum*, which is, however, more appropriate to plants with verticillate leaves which are included in this genus. Before I had seen the publications of Hall and Lesquereux on the subject, I had in a paper on "Scottish Devonian Plants" * separated this group from the genus *Lycopodites*, and formed for it the genus *Ptilophyton*, in allusion to the feather-like aspect of the species. My reasons for this, and my present information as to the nature of these plants, may be stated as follows:

Schimper, in his "Palæontologie Vegetale" (possibly from inattention to the descriptions or want of access to specimens), doubts the lycopodiaceous character of species of *Lycopodites* described in my published papers on plants of the Devonian of America and in my Report of 1871. Of these, *L. Richardsoni* and *L. Matthewi* are undoubtedly very near to the modern genus *Lycopodium*. *L. Vanuxemii* is, I admit, more problematical; but Schimper could scarcely have supposed it to be a fern or a fucoid allied to *Caulerpa* had he observed that both in my species and the allied *L. pennæformis* of Goepfert, which he does not appear to notice, the pinnules are articulated upon the stem, and leave scars where they have fallen off. When in Belfast in 1870, my attention was again directed to the affinities of these plants by finding in Prof. Thomson's collection a specimen from Caithness, which shows a plant apparently of this kind, with the same long narrow pinnæ or leaflets, attached, however, to thicker stems, and rolled up in a circinate manner. It seems to be a plant in veneration, and the parts are too much crowded and pressed together to admit of being accurately figured or described; but I think I can scarcely be deceived as to its true nature. The circinate arrangement in this case would favour a relationship to ferns; but some lycopodiaceous plants also roll themselves in this way, and so do the branches of the plants of the genus *Psilophyton*. (Fig. 17, *supra*.)

The specimen consists of a short, erect stem, on which are placed somewhat stout alternate branches, extending obliquely outward and then curving inward in a circinate manner. The lower ones appear to produce on their inner sides short lateral branchlets, and upon these, and also upon the curved extremities of the branches, are long, narrow, linear leaves placed in a crowded manner. The specimen is thus not a spike of fructification, but a young stem or branch in veneration, and which when unrolled would be of the form of those

* "Canadian Naturalist," 1878.