

Neither of the species exhibit distinct fructification. Certain obscurely cuneate carbonaceous spots attached to the sides of the branches of *P. princeps* are, perhaps, of this character; and the object represented in fig. 1 c, which appears to be thus attached, may be an example in better preservation than usual. It consists of four thick lanceolate leaves or bracts with single midrib, arising from a flattened carbonaceous patch, which shows traces of similar leaves on its surface. These leaves or bracts have evidently enclosed the fructification of some lycopodiaceous plant; and from their association with *Psilophyton princeps*, I regard it as highly probable, though by no means certain, that they belong to that species.

The rhizomata of *Psilophyton princeps* occur *in situ* in a number of argillaceous beds, in a manner which shows that they crept in immense numbers over flats of sandy clay, on which their graceful stems must have formed a thick, but delicate, herbage, rising to the height of from two to four feet. The rhizomes and the bases of the stems may possibly have been submerged; but I should infer, from the appearance and structure of the latter, that they were rigid, woody, and perhaps brittle. In many beds in which the rhizomes have not been distinctly preserved, the vertical rootlets remain, producing an appearance very similar to that of the Stigmarian under-classes of the coal-measures. Sir W. E. Logan has noted in his detailed sections numerous cases of this kind.

When broken into fragments and imperfectly preserved, *Psilophyton princeps* presents a variety of deceptive appearances. When perfectly compressed in such a manner as to obliterate the markings, it might be regarded as a dichotomous fucoid or a flattened root. When decorticated and exhibiting faint longitudinal striæ, it presents, especially when the more slender branchlets are broken off, the aspect of a frond of *Schizopteris* or *Trichomanites*. When rendered hollow by decay, it forms bifurcating tubules, which might be regarded as twigs of some tree with the pith removed. Lastly, the young plants might be mistaken for ferns in a state of veneration. In all conditions of preservation, the stems, rhizomes, and rootlets, if separated, might be referred to distinct genera. I have little doubt therefore that many imperfectly preserved Devonian plants of this general form, noticed under various names by authors, may belong to this genus, and some of them to the species above described. In particular I may refer