

with respect to the evidence which they afford as to a particular portion of the fossil flora of Canada, but as throwing light on that of Alaska and Oregon.

Prof. Penhallow, of McGill University has kindly examined and described for me some of the more difficult and critical new species, to which his name will be found attached. The drawings for the figures are by Mr. L. M. Lamb, artist to the Geological Survey.

CRYPTOGAMIA.

Equisetum Similkamense. 'Rep. Geol. Survey,' 1877-8, p. 187, B. (Fig. 1.)

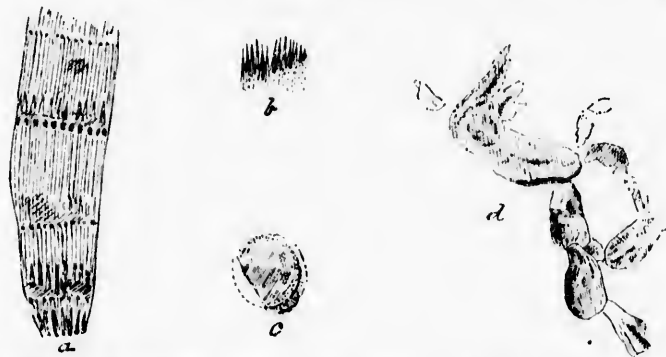


FIG. 1.—*Equisetum Similkamense*. a, Stem, b, part of sheath, c, flattened node, d, Root with tubers.

Stems naked or with remains of slender branchlets; ordinary diameter, fifteen millimetres, but some much larger; lacunæ and ribs, as many as sixty in large stems; walls thin, with small exterior lacunæ; nodes in some stems as close as one centimetre, but often further apart; sheaths, about six millimetres in length, with about thirty-five teeth, varying from a long and very acutely-pointed tapering form to a short form with somewhat obtuse tips, one-nerved.

Rhizomata, smooth, obscurely striate, with oval or rounded tubercles or bulbs in rows on the sides of branches; rootlets slender and branching.

The stems and roots of this fine species are very abundant, in a brown, laminated shale from the south fork of the Similkameen River. They are associated with grass-like plants and with coniferous and dicotyledonous leaves, probably blown or drifted into the pond or swamp in which the *Equiseta* were growing. The specimens of this plant are abundant and well-preserved, and very characteristic of the locality. When flattened obliquely, the stems often appear as rows of discs (Fig. 1c.)

Of the described species known to me, *E. Winkleri*, Heer, and *E. limosellum*, Heer, the variety with large, round sheaths, make the nearest approach to the present species.

It is just possible that the fragments from Alaska noticed by Prof. Lesquereux in the Report above referred to, under the name *Equisetum globulosum*, may belong to the above species, but the material is not sufficient for comparison, and the root tubercles are more globular in form.