

them is the long roots which carry the reproductive organs, and in some cases are as much as sixteen feet long. These were suspected by Brongniart, on botanical grounds, to be the roots of *Sigillaria*, and recent discoveries have confirmed this impression. Sir Charles Lyell, in company with Dr. Dawson, examined several erect *Sigillariæ* in the sea-cliffs of the South Joggins in Nova Scotia, and found that from the lower extremities of the trunk they sent out *Stigmaria* as roots, which divided into four parts, and these again threw out eight continuations, each of which again divided into pairs. Twenty-one

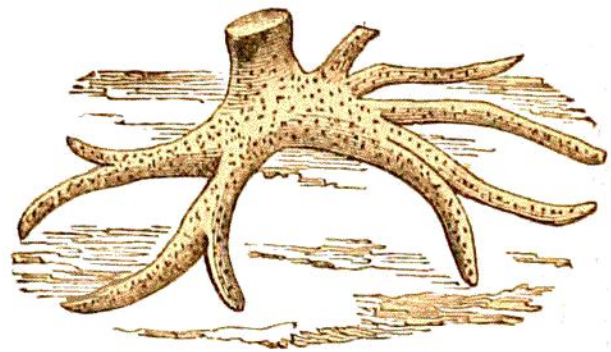


Fig. 41.—*Sigillaria lævigata*. One-third natural size. Fig. 42.—*Stigmaria*. One-tenth natural size.

specimens of *Sigillaria* have been described by Dr. Dawson from the Coal-measures of Nova Scotia; but the differences in the markings in different parts of the same tree are so great, that Dr. Dawson regards the greater part of the recognised species of *Sigillariæ* as merely provisional.*

Two other gigantic trees grew in the forests of this period: these were *Lepidodendron carinatum* and *Lomatophloyos crassicaule*, both belonging to the family of Lycopodiaceæ, which now includes only very small species. The trunk of the *Lomatophloyos* threw out numerous branches, which terminated in thick tufts of linear and fleshy leaves.

The *Lepidodendrons*, of which there are about forty known species, have cylindrical bifurcated branches; that is, the branches

* *Quart. Jour. Geol. Soc.*, vol. xxii., p. 129.