II.—*On the Genus Lepidophloios as illustrated by specimens from the Coal Formation of Nova Scotia and New Brunswick.*

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In the flora of the Carboniferous period, nothing is more remarkable than the abundance and wide distribution, as well as the magnitude and complex structure of trees allied to the humble Lycopods or Club Mosses of our modern woods. Trees of this type appear in the preceding Erian or Devonian period, but they attain their maximum development in the time of the deposition of the productive coal-measures, and rapidly diminish in the Permo-Carboniferous, disappearing altogether in the Permian. The great size and peculiar forms and structures of these trees, with the fragmentary state of most of the specimens obtained, have led to much confusion and controversy, and there are still important questions in dispute respecting some of the forms, and very specially in regard to the genus *Lepidophloios* and its allies.

As a contribution to the knowledge of these plants, and with the view of resolving some of the doubts entertained with respect to them, two species are here described, to which the attention of the writer has been directed for many years, and of which he has collected and studied many specimens in different states of preservation. They are those which he had named *Lepidophloios Acadianus* and *L. Cliftonensis*.

It will be instructive, in the first instance, to illustrate these by specimens from the coal-fields of Nova Scotia and New Brunswick, which have been placed with the rest of the author's collections of Carboniferous fossils in the Peter Redpath Museum of McGill University, and which more or less completely display their habit of growth, external parts, reproduction and internal structure.

The first of the species above-named, I met with about fifty years ago. In working at that time in the beds of sandstone containing erect *Calamites* at Dickson's Mills, near Pictou, Nova Scotia, I found lying prostrate among the Calamite stems a trunk, or large branch, with leaves and cones attached. It was mentioned, merely incidentally, in connection with the description of the mode of occurrence of the erect *Calamites*, in a paper in the Journal of the Geological Society of London,[1] and a cone and a portion of the bark, with the leaves attached, were presented to the collection of the society, along with the specimens of *Calamites*, rooted *in situ*, described in the paper. At that time, however, I supposed that the plant in question was referable to the genus *Lepidodendron*, and it was noticed merely as illustrative of the occurrence of other trees in the

[1] Vol. VII., 1851.