Markings of Stem.—Leaf-bases long oval, pointed at ends, enlarging with growth of stem. Leaf-scars central, rhombic, transverse.

Leaves.—One-nerved, acutely pointed, from four inches in length on the larger branches to one inch or less on the branchlets.

Fructification.—Cones large, cylindrical or long oval, with large scales of trigonal form, and not elongated but lying close to the surface. Borne on lateral, slender branchlets, with short leaves.

Genus LEPIDOPHLOIOS, Sternberg; ULODENDRON, L. and H.; LOMATOPHLOIOS, Corda.

Lepidophloios.—Under this generic name, established by Sternberg, I include those lycopodiaceous trees of the coal-measures which have thick branches, transversely elongated leaf-scars, each with three vascular points and placed on elevated or scale-like protuberances, long one-nerved leaves, and large lateral strobiles in vertical rows or spirally disposed. Their structure resembles that of *Lepidodendron*, consisting of a *Sternbergia* pith, a slender axis of large scalariform vessels, giving off from its surface bundles of smaller vessels to the leaves, a very thick cellular bark, and a thin dense outer bark, having some elongated cells or bast-tissue on its inner side. In these trees the exogenous outer cylinder is less developed than in the Lepidodendra, and is sometimes wanting in stems or branches of some thickness.

Regarding *L. laricinum* of Sternberg as the type of the genus, and taking in connection with this the species described by Goldenberg, and my own observations on numerous specimens found in Nova Scotia, I have no doubt that *Lomatophloios crassicaulis* of Corda, and other species of that genus described by Goldenberg, *Ulodendron* and *Bothrodendron* of Lindley, *Lepidodendron ornatissimum* of Brongniart, and *Halonia punctata* of Geinitz, all belong to this genus, and differ from each other only in conditions of growth and preservation. Several of the species of *Lepidostrobus* and *Lepidophyllum* also belong to *Lepidophloios*.

The species of *Lepidophloios* are readily distinguished from *Lepidodendron* by the form of the areoles, and by the round scars on the stem, which usually mark the insertion of the large strobiles, though in barren stems they may also have produced branches; still, the fact of my finding the strobiles *in situ* in one instance, the accurate resemblance which the scars bear to those left by the cones of the red pine when borne on thick branches, and the actual impressions of the radiating scales in some specimens, leave no doubt in my