

diaceæ, and their size, and abundant occurrence among the fossils of the Coal Formation have led writers on fossil plants to infer that great heat, and moisture, and an insular Position were the conditions, under which the first forms of this family attained that gigantic stature, which they exhibit in deposits of the Transition period; thus corroborating the conclusion they had derived from the Calamites associated with them, as already mentioned.*

Lindley and Hutton state, that *Lepidodendra* are, after *Calamites*, the most abundant class of fossils in the Coal formation of the North of England; they are sometimes of enormous size, fragments of stems occurring from twenty to forty-five feet long; in the Jarrow colliery a compressed tree of this class measured four feet two inches in breadth. Thirty-four species of *Lepi-*

* The leaves of existing *Lycopodiaceæ* are simple, and arranged in spiral lines around the stem, and impress on its surface scars of rhomboidal, or lanceolate form, marked with prints of the insertions of vessels. In the fossil *Lepidodendra*, we find a large and beautiful variety of similar scars, arranged like scales in spiral order, over the entire surface of the stems. A large division of these are arborescent and dichotomous, and have their branches covered with simple lanceolate leaves. Our figure of *Lepidodendron Sternbergii* (Pl. 55. Figs. 1. 2. 3.) represents all these characters in a single Tree from the Coal mines of Swina in Bohemia.

The form of the scales varies at different parts of the same stem, those nearest the base are elongated in the vertical direction.