ately prominent. Leaf-scars rhombic or sometimes shield-shaped or heart-shaped, in the middle or upper part of the leaf-base. Vascular scars three—the middle one always largest and corresponding to the single nerve of the leaf; the lateral ones sometimes obsolete.

In older stems three modes of growth are observed. In some species the expansion of the bark obliterates the leaf-bases and causes the leaf-scars to appear separated by wide spaces of more or less wrinkled bark, which at length becomes longitudinally furrowed and simulates the ribbed character of Sigillaria. In others the leaf-bases grow in size as the trunk expands, so that even in large trunks they are contiguous though much larger than those on the branches. In others the outer bark, hardening at an early age, is incapable of either of the above changes, and merely becomes cleft into deep furrows in the old trunks.

Lepidophloios.—Leaf-bases transverse and prominent—often very much so. Leaf-scars transversely rhombic or oval with three vascular scars, the central largest. Leaves very long and one-nerved. Large strobiles or branchlets borne in two ranks or spirally on the sides of the stem, and leaving large, round scars (*cone-scars*), often with radiating impressions of the basal row of scales.

Species with long or drooping leaf-bases have been included in *Lepidophloios* and *Lomatophloios*. Species with short leaf-bases and cone-scars in two rows have been called *Ulodendron*, and some of them have been included in *Sigillaria* (sub-genus *Clathraria*). Decorticated stems are *Bothrodendron* and *Halonia*. Some of the species approach near to the last genus, especially to the Lepidodendra with rhombic leaf-bases like *L. tetragonum*.

Cyclostigma.—Leaf-bases undeveloped. Leaf-scars circular or horseshoe-shaped, small, with a central vascular scar. In old trunks of Cyclostigma the leaf-scars become widely separated, and sometimes appear in vertical rows. Young branches of Lepidodendron sometimes have the leaf-scars similar to those of Cyclostigma.

Leptophleum.—Leaf-bases flat, rhombic; leaf-scars obsolete; vascular scar single, central. The last two genera are characteristically Devonian.

In contradistinction from the trees above mentioned, the following general statements may be made respecting other groups:

In conifers the leaf-bases are usually elongated vertically, often scaly in appearance, and with the leaf-scar terminal and round, oval, or rhombic, and with a single well-marked vascular scar.

In Calamites, Calamodendron, and Asterophyllites the scars of the branchlets or leaves are circular or oval, with only a single vas-