

cular scar, and situated in verticils at the top of well-marked nodes of the stem.

In tree-ferns the leaf-bases are large and usually without a distinct articulating surface. The vascular bundles are numerous. *Protopteris* has rounded leaf-scars with a large horseshoe-shaped bundle of vessels above and small bundles below. *Caulopteris* has large elliptic or oval leaf-scars with vascular scars disposed concentrically. *Palæopteris*,* of Geinitz, has the leaf-scars transversely oval and the vascular bundles confluent in a transverse band with an appendage or outlying bundle below. *Stemmatopteris* has leaf-scars similar to those of *Caulopteris*, but the vascular bundles united into a horseshoe-shaped band.

2. *Subdivision of Sigillariæ in Accordance with their Markings.*

The following groups may be defined in this way; but, being based on one character only, they are of course in all probability far from natural:

1. *Sigillaria*, Brongniart. Type, *Sigillaria reniformis*, Brongniart, or *S. Brounii*, Dawson.—Stem with broad ribs, usually much broader than the usually oval or elliptical tripunctate areoles, but disappearing at base, owing to expansion of the stem. Leaves narrow, long, three-nerved.

2. *Rhytidolepis*, Sternberg. Type, *S. scutellata*, Brongniart.—Ribs narrow, and often transversely striate. Areoles large, hexagonal or shield-shaped, tripunctate. Leaves as in last group. Rings of rounded scars on the stems and branches mark attachment of fruit. It is possible that some of the smaller stems of this group may be branches of trees of group first.

3. *Syringodendron*, Sternberg. Type, *S. organum*, L. and H., *S. oculata*, Brongniart.—Stems ribbed; areoles small and round, and apparently with a single scar, or three closely approximated. These are rare, and liable to be confounded with decorticated examples of other groups; but I have some specimens which unquestionably represent the external surface.

4. *Favularia*, Sternberg. Type, *Sigillaria elegans* of Brongniart.—Leaf-bases hexagonal, or in young branches elliptical, in vertical rows, but without distinct ribs, except in old or decorticated stems. Fruit borne in verticils on the branches bearing transverse rows of rounded scars. Leaves somewhat broad and longitudinally striate.

* This name, preoccupied by Geinitz, has been inadvertently misapplied to the Devonian ferns of the genus *Archæopteris*.