

may perhaps be a fragment only of the entire flora, but they are enough to show that the state of the vegetable world was then extremely different from that now prevailing. We are struck at the first glance with the similarity of many of the ferns to those now living, and the dissimilarity

Fig. 404.



Pecopteris lonchilica.
(Foss. Flo. 153.)

Fig. 405.



a. Sphenopteris orenata.
b. Part of the same, magnified.
(Foss. Flo. 101.)

of almost all the other fossils except the coniferæ. Among the ferns, as in the case of *Pecopteris* for example (fig. 404), it is not always easy to decide whether they should be referred to different genera from those established for the classification of living species; whereas, in regard to most of the other contemporary tribes, with the exception of the coniferæ, it is often difficult to guess the family, or even the class, to which they belong. The ferns of the carboniferous period are generally without organs of fructification, but in some specimens these are well preserved. In the general absence of such characters, they have been divided into genera distinguished chiefly by the branching of the fronds, and the way in which the veins of the leaves are disposed.

Fig. 406.



Caulopteris primæva, Lindley.

The larger portion are supposed to have been of the size of ordinary European ferns, but some were decidedly arborescent, especially the group