and durable wood, such as we have in our modern pines and yews (Fig. 29).

These primitive pines make their appearance in the Middle Erian, in various parts of America, as well as in Scotland and Germany, and they are represented by wood indicating the presence of several species. I have myself indicated and described five species from the Erian of Canada and the United States. From the fact that these trees are represented by drifted trunks embedded in sandstones and marine limestones, we may, perhaps, infer that they grew on the rising grounds of the Erian land, and that their trunks were carried by river-floods into the sea. No instance has yet certainly occurred of the discovery of their foliage or fruit, though there are some fan-shaped leaves usually regarded as ferns which may have belonged to such trees. These in that case would have resembled the modern *Gingko* of China, and some of the fruits referred to the genus *Cardiocarpum* may have been produced by them. Various names have been given to these trees. I have preferred that given by Unger, *Dadoxylon*, as being more non-committal as to affinities than the others.* Many of these trees had very long internal pith-cylinders, with curious transverse tubulæ, and which, when preserved separately, have been named *Sternbergia*.

Allied to these trees, and perhaps intermediate between them and the *Cycads*, were those known as *Cordaites* (Fig. 30), which had trunks resembling those of *Dadoxylon*, but with still larger Sternbergia piths and an internal axis of scalariform vessels, surrounded by a comparatively thin woody cylinder. Some of them have leaves over a foot in length, reminding one of the leaves of broad-leaved grasses or iridaceous plants. Yet their flowers and fruit seem to have been more nearly allied to the yews than to any other plants (Fig. 31). Their stems were less woody

* *Araucarites*, Goeppert; *Araucarioxylon*, Kraus.