

We can scarcely avoid suspecting that the two genera above described may have borne a like insignificant proportion to the entire assemblage of warm-blooded quadrupeds which flourished in the islands of the oolitic sea.

Prof. Owen has remarked that, as the marsupial genera, to which the *Phascolotherium* is most nearly allied, are now confined to New South Wales and Van Dieman's Land, so also is it in the Australian seas, that we find the *Cestracion*, a cartilaginous fish which has a bony palate, allied to those called *Acrodus* (see fig. 412, p. 321) and *Strophodus*, so common in the oolite and lias. In the same Australian seas, also, near the shore, we find the living *Trigonia*, a genus of mollusca so frequently met with in the Stonesfield slate. So, also, the Araucarian pines are now abundant, together with ferns, in Australia and its islands. as they were in Europe in the oolitic period. Endogens of the most perfect structure are met with in oolitic rocks, as, for example, the *Podocarya* of Buckland, a fruit allied to the *Pandanus*, found in the Inferior Oolite (see fig. 383).



Fig. 383.
Portion of a fossil fruit of *Podocarya* magnified. (Buckland's Bridgw. Treat. Pl. 63.) Inferior Oolite, Charmouth, Dorset.

The Stonesfield slate, in its range from Oxfordshire to the northeast, is represented by flaggy and fissile sandstones, as at Collyweston in Northamptonshire, where, according to the researches of Messrs. Ibbetson and Morris,* it contains many shells, such as *Trigonia angulata*, also found at Stonesfield. But the Northamptonshire strata of this age assume a more marine character, or appear at least to have been formed farther from land. They inclose, however, some fossil ferns, such as *Pecopteris polypodioides*, of species common to the oolites of the Yorkshire coast, where rocks of this age put on all the aspect of a true coal-field; thin seams of coal having actually been worked in them for more than a century.

In the northwest of Yorkshire, the formation alluded to consists of an upper and a lower carbonaceous shale, abounding in impressions of plants, divided by a limestone considered by many geologists as the representative of the Great Oolite; but the scarcity of marine fossils makes all comparisons with the subdivisions adopted in the south extremely difficult. A rich harvest of fossil ferns has been obtained from the upper carbonaceous shales and sandstones at Gristhorpe, near Scarborough (see figs. 384, 385). The lower shales are well exposed in the sea-cliffs at Whitby, and are chiefly characterized by ferns and cycadeæ. They contain, also, a species of calamite, and a fossil called *Equisetum columnare*, which maintains an upright position in sandstone strata over a wide area. Shells of *Estheria* and *Unio*, collected by Mr. Bean from these Yorkshire coal-bearing beds, point to the estuary or fluvial origin of the deposit.

* Ibbetson and Morris, Report of Brit. Ass., 1847, p. 131; and Morris, Geol. Journ., ix. p. 384.