

tinguished for its simply pinnated leaves, whose leaflets are auriculate at the base : of the five species, 1, *O. dubia* ; and 2, *O. obtusa* ; and 3, *O. acuminata* ; and 4, *O. cuneata* (Fig. 117), are from the Oolite. In addition to these we may name *Coniopteris Murrayana*, *Pecopteris Desnoyersii*, *Pachypteris lanceolata*, and *Phlebopteris Phillipsii* ; and among the Lycopods, *Lycopodus falcatus*.

The vegetation of this epoch has a peculiar facies, from the presence of the family of the Pandanaceæ, or screw-pines, so remarkable for their aërial roots, and for the magnificent tuft of leaves which terminates their branches. Neither the leaves nor the roots of these plants have, however, been found in the fossil state, but we possess specimens of their large and spherical fruit, which leave no room for doubt as to the nature of the entire plant.

The Cycads were still represented by the *Zamias*, and by many species of *Pterophyllum*. The Conifers, that grand family of recent times, to which the pines, firs, and other trees of our northern forests belong, began to occupy an important part in the world's vegetation from this epoch. The earliest Conifers belonged to the genera *Thuites*, *Taxites*, and *Brachyphyllum*. The *Thuites* were true *Thuyas*, evergreen trees of the present epoch, with compressed branches, small imbricated and serrated leaves, somewhat resembling those of the Cypress, but distinguished by many points of special organisation. The *Taxites* have been referred, with some doubts, to the Yews. Finally, the *Brachyphyllum* were trees which, according to the characteristics of their vegetation, seem to have approached nearly to two existing genera, the *Arthotaxis* of Tasmania, and the *Weddringtonias* of South Africa. The leaves of the *Brachyphyllum* are short and fleshy, with a large and rhomboidal base.

LOWER OOLITE ROCKS.

The formation which represents the Lower Oolite, and which in England attains an average thickness of from 500 to 600 feet, forms a very complex system of stratification, which includes the two formations, *Bajocien* and *Bathonian*, adopted by M. D'Orbigny and his followers. The lowest beds of the *Inferior Oolite* occur in Normandy, in the Lower Alps (Basses-Alpes), in the neighbourhoods of Lyons and Neuchatel. They are remarkable near Bayeux for the variety and beauty of their fossils : the rocks are composed principally of limestones—yellowish-brown, or red, charged with hydrated oxide of iron, often oolitic, and reposing on calcareous sands. These