P. tuberculatus. The last named species appears to characterise the upper beds of this formation, and is that found so abundantly about Shuckborough in Warwickshire.

CORALS.

A species of *Turbinolia* of Lamarck (*Madrepora turbinata* of former writers) occurs in the upper beds of the lias formation, especially at Fenny Compton tunnel on the Oxford canal.

VEGETABLE REMAINS.

These consist of fossil wood occasionally silicified,* and several species of ferns, flags, &c.

(*d*) *Range and extent.* This formation stretches across from the coasts of the German ocean in Yorkshire to those of the channel in Dorsetshire. To commence with its northern limit, it is seen lining the coast, and underlying the mountains of the eastern moorlands (composed of sand and sand-stone strata probably belonging to the inferior oolite,) from the Peak alum works on the south of Whitby nearly to the Tees mouth.†

* The wood is sometimes charred; sometimes impregnated with quartz, hornstone, agate, or pyrites. (G. Notes.)

Mr. Hornsey of Scarborough shewed me a specimen of jet from Whitby completely silicified, and encrusted with agate, in which are brilliant specks of pyrites. This beautiful specimen was presented to him by the Duchess of Leeds. He has others from the same coast in which the fossil wood of the lias is completely silicified. (G. Notes.)

† The following particulars, connected with the phænomena of this formation in Yorkshire, are here inserted as belonging to its local rather than general history.

Mr. Smith has represented indeed the alum-shale of Yorkshire as belonging to another formation; but all other geologists who have examined the district, among whom Mr. Greenough and Professors Buckland and Sedgewick may be mentioned, are unanimous in assigning it to the lias. In the article dedicated to the express consideration of the differences of opinion which have arisen concerning the identification of the strata in this part of the island, the arguments on this subject will be stated; but this article is necessarily postponed to the end of the part of this work now published, in order to await the result of some further enquiries on the subject.

Over the alum-slate lies a bed of hard compact stone, six to twelve feet thick The workmen call it *dogger*, a name by which they also designate the septaria or cement-stone, and the component parts appear to resemble each other. The colour of the recent fracture of the dogger is bluish grey, but on exposure it changes to a deep purple brown; and it appears to be divided into nearly cubical masses by transverse fissures filled with a soft ferruginous earth, containing thin ochreous plates having the earth between them. (P. M. vol. 51. p. 20.)

The whole of the upper part of the alum-shale resembles indurated clay, when first wrought; but by exposure to the atmosphere it suffers decomposition, and crumbles into thin layers. (N. J. vol. 25. p. 241.)