PROCEEDINGS
OF THE
GEOLOGISTS' ASSOCIATION.

No. 7.]

[Session 1861-62.]

Ordinary Meeting, Monday, Feb. 4th, 1861.

The Rev. Thomas Wiltshire, M.A., F.G.S., President, in the Chair.

The following gentlemen were elected members of the Association :—
A. C. Hailes, Esq. ; Dr. H. J. Sanderson.

The following donations were announced :—

Specimens of Fossil Ferns, from a Plant-bed cut into by the Severn Valley Branch of the West Midland Railway. By G. E. Roberts, Esq.

Mantell's "Fossils of the British Museum ;" and

Woodward's "Recent and Fossil Shells." By W. Hislop, Esq.

The President announced that the Committee had purchased five pounds' worth of books, towards forming a Library for the Association.

The following papers were read :—

1.—"On Casts of the Calcareous Plates, or *Opercula* of *Ammonites*, in flint pebbles, from the gravel at Whetstone." By Nathaniel Thomas Wetherell, Esq., M.R.C.S., &c.

On looking over the last edition of Morris's Catalogue of British Fossils, published in 1854, I was surprised to find there was no notice of the *opercula* of *Ammonites* from the chalk formation. The only record under

the head of *Trigonellites*,* at p. 363, being an enumeration of six species from the oolite and lias.

In 1856, the Palaeontographical Society published the third part of the late Mr. Daniel Sharpe's "Description of the Fossil Remains of Mollusca, found in the Chalk of England."

This part embraces the *Cephalopoda*, and a description is given at p. 53 of the genus *Aptychus*. A plate (numbered xxiv.) of all the known *Aptychi* of the chalk accompanies this description. From this plate, it appears that only six species are as yet known as occurring in the British chalk, namely:—

1. *Aptychus leptophyllus*. From the upper chalk of Brighton.
2. *Aptychus Portlockii*. From the upper chalk of Norwich, and in a flint pebble from the gravel near Croydon.†
3. *Aptychus Gollevillensis*. From the upper chalk of Norwich, and in flint pebbles from the gravel near Croydon.‡
4. *Aptychus Icenicus*. From the upper chalk of Norwich.
5. *Aptychus rugosus*. From the upper chalk of Norwich.
6. *Aptychus peramplus*. From the upper chalk of Norwich.

It has been my good fortune, during the last two years, to discover casts of two species of *Aptychus* in the Whetstone gravel, in a good state of preservation, namely, *Aptychus Portlockii* and *A. rugosus*. I have a cast in flint of a portion of the outer whorl of an *ammonite* from the Whetstone gravel. It is, however, too imperfect for specific identification. On examining Mr. Sharpe's plate, it will be seen that the majority of the specimens are more or less broken, rendering it difficult, in some instances, to make out the exact configuration of the fossil. My friend, Mr. S. P. Woodward, of the British Museum, has made a valuable and interesting contribution to the September number of the "Geologist." At p. 328 of that work, he has described and figured a beautiful *ammonite*, § from the inferior oolite of Dundry, near Bristol, with the *operculum in situ*. My reasons for bringing this subject before the Association are twofold:—in the first place, it is always useful and important to record fresh localities of fossils; and, in the next, it may have the effect of stimulating some of our younger geological friends to make a further search after these

* *Trigonellites*, Parkinson, 1811. *Aptychus*, Meyer. *Munsteria*, Desl.

† Discovered by Mr. Flower.

‡ *Ammonites subradiatus* of J. Sowerby.

interesting and curious remains; for more information is much wanted respecting them. The gravel-pits in the vicinity of London and elsewhere are well worthy attentive examination; and if the student does not succeed in finding the *opercula* of *ammonites*, he is very likely to meet with other objects of interest that will amply repay him for any loss of time or trouble.

2.—“On Oviform Bodies from the London Clay, Chalk, and Greensand Formations.” By Nathaniel Thomas Wetherell, Esq., M.R.C.S., &c.

Twenty-one years have now elapsed since I first called the attention of Geologists to the occurrence of oviform bodies in the London clay.* I found them in the excavations for the London and Birmingham railway, between Euston-square and Kilburn. Of late years I have procured these corpuscles from other localities in the London clay, namely, Whetstone, Finchley, and Sheppey. Mr. Prestwich has also noticed similar minute remains in the Thanet sand.† There has been, up to the present time, a great difference of opinion among scientific men as to the probable origin of these bodies, and I purpose, in the present paper, to lay before the members of the Geologists' Association, some additional information, which may tend to elucidate the mystery which has hitherto hung over this interesting subject. I have placed on the table a series of specimens for examination, but I wish to direct more especial attention to two examples—one, from Victoria river, Australia,‡ the other, from the crag formation. The first specimen consists of a mass of wood, profusely pierced by a species of *Teredo*, with the long tubes more or less filled with oviform bodies. The second specimen also consists of a mass of fossil wood, containing many columns of these bodies, some of the columns run parallel to the grain of the wood, whilst others pass across it. I have also brought for your notice some flints, obtained from the chalk of Northfleet; and some other flints from the Whetstone gravel-pit. You will perceive, in these instances, that the bodies are irregularly grouped in patches, and also in columns, similar to the specimen from the crag before

* “A notice of some undescribed organic remains, which have recently been discovered in the London Clay formation.” By N. T. Wetherell, Esq., F.G.S., M.R.C.S., &c. Charlesworth's “Magazine of Natural History,” for October, 1839, p. 496.

† In Dixon's “Geology of Sussex,” Table xiv., Fig. 34, a specimen is engraved from the Eocene formation of Bognor.

‡ This specimen was given to me by Mr. John Salter.

mentioned.* In one instance, the column appears to be covered with a thin membrane or sheath. In the "Annals of Natural History," Mr. J. G. Jeffreys gives a notice of an undescribed peculiarity in the living *Teredo marina*. Dr. Verloren pointed out to him that each of the tubes of the *Teredo* was protected by a thin, pellucid, and film-like membrane or sheath, which preserved the tubes from being clogged by the accumulation of flocculent pulp, &c., and preserved them from the attacks of animalcules.

Mr. S. V. Wood, in his valuable paper "On the Extraneous Fossils of the Red Crag," published in the Quarterly Journal of the Geological Society, for February, 1859, in reference to these bodies, states, "These small bodies have been considered by Mr. Prestwich (Geol. Journ., Vol. VIII., p. 247, pl. 16, fig. 11), as the eggs of mollusca, and by others as the spawn of crustacea; they have also been referred to a coprolitic origin; but that they are the ova of some animal seems the better opinion. They appear too regular in their arrangement to be the seeds of any vegetable."

I will here observe that the microscope does not reveal any structure.

The question may be considered, whether there is now sufficient data to decide that these oviform bodies are the rejectamenta of *Teredo*, or whether it must still remain open until further and more conclusive evidence is obtained.

3.—"On a plant-bed, cut into by the Severn Valley Branch of the West Midland Railway." By G. E. Roberts, Esq., Member of the Worcestershire and Malvern Naturalists' Field Club, &c.

No good account of the upper Coal-measures of Wyre Forest in Worcestershire has yet been published. Even Mr. Hull, in his recent book on the Coal-fields of England, devotes scarcely more than a page to a district six miles in length, by five in width, and is content to acknowledge that little is known about it. The Coal-field in question, however, in which a good five-foot-coal has been worked for years, and which contains several thinner beds, somewhat sulphurous in character, is of great local value to the many hop-growers who reside along its southern margin; for where sulphurous coal is not procurable to heat the kilns in which the hop is dried, brimstone has to be bought by the farmer. The beds are

* Mr. L. Barrett has presented me with two specimens from the greensand of Cambridge.

interesting also from another point of view, inasmuch as they abound with vegetable remains of great beauty, and in a fine state of preservation.

The lithological character of the bed which yields the richest treasures of fossil plants is that of a fine-grained yellowish-grey shale, very fissile, and somewhat inclined to crumble. It differs in character from any plant-shale of the *main*, or lower, coal-measures, with which every one is familiar by their exposures in the great coal-fields of England. The specimens exhibited* in illustration of these remarks, were obtained from the eastern bank of the Severn, about half a mile north of Bewdley, at a place where the railway is taken through the foot of a spur of the ridge which runs for the next four miles parallel to the river and the rail. Two beds of *fern-coal*, each about a foot in thickness, are here exposed, and upon these dark *brown* layers lie the lighter-coloured shales which contain the plants. These are chiefly ferns, belonging to the genera *Pecopteris*, *Neuropteris*, and *Sphænopteris*; of this last, a new species is abundant, with very small, but most elegant pinnules, in some cases showing fructification. This greatly resembles a delicate form of *Hymenophyllum* from New Zealand. Indeed, there is such a marked affinity in form between several forms of the Coal-forest age and the existing *Filicinae* of New Zealand, that I wish particularly to call the attention to the fern fronds from that country, which I exhibit.

The new *Dactyopteris* (*Woodwardites Robertsii*, Morris,) was first met with in these shales, which have also proved of value in determining the *stems* of some other genera. One curiously pitted rachis, which shows, in a very clear and beautiful manner, the attachment of the scales which clothed it in life, is very abundant in the bed, and forms, by the elegance of its areolæ, a pleasing object of study. The usual companions to these ferns are to be met with, namely:—leaves of *Lepidodendra*, stems with verticillate plumage of *Asterophylites*, and long sword-like fragments of *Calamites*.

A discussion followed the reading of the papers, in which the President, Professor Tennant, Mr. Lawson, Mr. Pickering, Mr. Cumming, Mr. Bott, Mr. C. Jones, Mr. Cresy, and other gentlemen took part.

* A considerable number of specimens from the plant-bed were placed before the members by Mr. Roberts.