VIII.—PALÆONTOLOGICAL NOTES.

By R. ETHERIDGE, Junior, F.G.S., etc.

THE following brief notes on rare, little known, or occasionally new fossils, in some cases anticipating more detailed descriptions, may be of interest to the readers of the GEOLOGICAL MAGAZINE.

1. *SPIORORBIS AMBIGUUS*, Fleming (Edinb. New Phil. Journ., 1825, vol. xii. p. 246, t. 9, f. 3).—This little Annelide appears to have been a good deal lost sight of by palæontologists, and for that reason it may perhaps be well to call attention to it. *S. ambiguus* was not mentioned by Prof. Morris in his "Catalogue of British Fossils," nor by Messrs. Armstrong and Young in their "Catalogue of the Carboniferous Fossils of the West of Scotland." It was originally described by the Rev. Dr. Fleming, in his paper on the British Testaceous Annelides, and placed in the second division of his arrangement of the species of the genus *Spirorbis*, those with the tube "destitute of longitudinal ridges." He obtained it from Cult's Limeworks, near Pitlessie, Fife, adhering to the surface of *Myalina crassa*, Flem. The tube expands towards the aperture, which is round; the umbilicus is open, and the surface unornamented, or very finely wrinkled across. Unlike *Sp. carbonarius*, Murchison, it does not, so far as I have observed, make a groove for itself in the surface of the body to which it is attached. In general appearance *Sp. ambiguus* closely resembles *Spirogyphus marginatus*, McCoy. It will be a question for careful consideration whether this species, from its early enunciation, will not absorb some of the later described forms; amongst the latter I would recommend particular attention being paid to *S. minuta*, Portlock, and *S. omphalodes*, Goldfuss. Mr. Bennie has obtained *S. ambiguus* from Roscobie Quarry, Fife, in addition to the typical locality. [Shale above the Roscobie Limestone, L. Carb. Limestone group.]

2. *SPIORORBIS CARBONARIUS*, Murchison, var. ?—The abundance with which the typical form of *S. carbonarius* is to be met with in all the strata about the horizon of the Burdiehouse Limestone (Cement-stone group of the L. Carboniferous or Calciferous Sandstone Series) is something wonderful. In a quarry on the Linnhouse Water, opposite the Oakbank Oil Works, near Mid Calder, there is a small band of limestone almost entirely made up of this species, and in company with it is to be occasionally found another peculiar and handsome little Annelide, which has not before come under my notice. It has the general characters of *S. carbonarius*, but the periphery is produced into a number of minute tubercules, almost amounting to spines, which give to the tube a very distinctive appearance. There is a described species having this character, *Spirorbis Siluricus*, Eichwald (Lethæa Rossica, vol. i. p. 668, t. 34, f. 1), from the Coral Limestone of the Isle of Oesel, and the Old Red Sandstone of the Department of Novgorod, and so like are our Lower Carboniferous forms to it, that I do not know how to distinguish them, although I scarcely like listing it under Eichwald's name without a direct comparison of specimens. In the mean time, as its other characters correspond with those of *S. carbonarius*, we may consider it as a well-marked variety of that species.

Collector, Mr. James Bennie.

3. In a bed of shale above a limestone of the L. Carb. Limestone group at Hillhead Quarry near Cockmuir Bridge, and Whitfield Quarry near Carlops, occur peculiar little microscopic onion-shaped bodies in thousands. They very much resemble an onion in general appearance, but at the same time are indistinctly four-lobed and provided with a small peduncle or stalk. The form is usually round or globular, and the four-lobed character is caused by furrows or constrictions, but always in a symmetrical manner. Occasionally, they are met with of a more flattened form, but still showing traces of the four-lobate structure. I forwarded these little bodies many months ago to Mr. H. B. Brady, who informed me that he was well acquainted with them, that they bore no Foraminiferal characters, and usually occurred in large numbers together, but seldom where Foraminifera abounded. He adds, "I suspect they must be vegetable. They occur in one of the beds of the Yoredale Rocks (England), where they are very abundant." I have not been able to detect any structure which would lead me to assign to them any particular position in the Animal Kingdom. If they are not Foraminiferal, and of this there can be no better judge than Mr. Brady, and so far as I have seen there does not appear to be any Echinodermal structure about them, we are reduced to the alternative of regarding them as of vegetable origin. May they be Sporangia?

Collector, Mr. James Bennie.

4. BORINGS IN THE SHELL OF *CHONETES LAGUESSIANA*, de Kon.—Specimens of this species from shale above the limestone at Roscobie Quarry near Dunfermline are perfectly riddled with fine borings quite perceptible to the naked eye. They appear to be of two kinds. Those seen on the exterior of the ventral valve are straight, and all more or less tending in one direction, generally parallel with the surface striae of the shell, but at times crossing these latter at an angle. The second kind are visible on the dorsal valve, they are irregularly festoon-shaped, and are more commonly confined to near the front margin of the valve, but all connected with, and running into one another. Each boring appears to form almost a semicircle; these being placed in longitudinal rows, and connected by their extremities with the row in front, give rise to the appearance of irregular festoons. They may be the borings of sponges, or perhaps of parasitic algæ (?).

Collector, Mr. James Bennie.

5. Some very minute, quite microscopic, flask or bottle-shaped little bodies were obtained by Mr. Bennie from the shale above the limestone at Roscobie Quarry, Fife (L. Carb. Limestone Group). They may be described as elongately bottle-shaped, inferiorly tapering almost to a point, expanding at about the centre, becoming constricted towards the superior end, where bifurcation takes place. The larger portion, which is the cell-mouth, is bent almost at right angles to the imaginary axis of the fossil; the other portion is continued vertically as a small connecting stolon for the cell which would succeed. They have a shining hyaline appearance. Examples were forwarded to the Rev. T. Hincks, who was kind enough to confirm my previously entertained suspicion as

to their Polyzoal affinities. He remarks that the little bodies appear to come very near the recent genus *Scruparia*, and its ally *Hippothoa*. He adds, there is also a Cretaceous species of the genus *Ætea* (*Æ. anguinaria*) closely related to them. The present form need not be mistaken for either of the following Palæozoic species:—*Hippothoa Voigtiana*, King, Permian Foss. England, 1850, p. 31, t. 3, f. 13; Gienitz, Dyas, p. 120, t. 20, f. 24, 25; *H. inflata*, Hall, Nicholson, Ann. Nat. Hist., 1875, vol. xv. p. 123, t. 11, f. 1. As regards size, *H. inflata*, Hall, approaches nearest to our Carboniferous forms, but it is much larger. I propose to call this *Hippothoa* ? *Hincksii*, and hope before long to give a more detailed description and figure.

(To be continued.)

NOTICES OF MEMOIRS.

I.—THE FOREST-BED OF EAST NORFOLK. By HENRY NORTON, F.G.S.
Paper read before the Norwich Geological Society, May 1st, 1877.—*Norwich Mercury*, May 5th.

THE author first refers to an excursion made to Mundesley and Happisburgh by members of the Norwich Geological Society, an account of which was published in the *Eastern Daily Press*, of February 15th. It was therein stated that "several stools of trees, with roots branching out, were seen, and proved on examination to have grown upon the bright blue clay of the soil of the forest." Having been unable to attend the excursion, he went two days later for the special purpose of ascertaining whether the stumps of trees observed were actually *in situ* as they grew. The few he was enabled to examine, although they had a false appearance of having grown where found, had their roots broken off, and could not have lived on the spots. They might very naturally have been drifted into such positions.

The poor result of his visit induced him to examine what is the evidence on which the belief in the Forest-bed rests; and the main object of the present paper was to point out how unsatisfactory were the statements of those who have written upon the subject. He referred to the observations of R. C. Taylor, Rev. J. Layton, S. Woodward, J. Trimmer, and to those of Mr. Prestwich and Mr. John Gunn. Lyell had never seen the stools of trees *in situ*. The statements made by these geologists were all vaguely general. No one had taken a particular stump, examined the condition of the roots, whether whole or broken, and told us their actual length and their position on the ground. It was known that remains of oak have been found, but we were never told that any particular stool was oak; nor have we ever been told that any particular trunk was ever found lying near its own stool. It was, in fact, only too clear that our observers in general did not appreciate the value of precise facts as opposed to loose generalities.

Mr. Norton was ready to admit the high, very high probability, of a forest *in situ*, but contended that there was yet no absolute proof of it.

H.B.W.