

and projects at the extremity of the cell instead of standing erect, as it does in *A. hirsutum*. To the best of my recollection, the apertures are turned slightly outwards; and I find, from a note made at the time of its first occurrence, that it resembles an *Alecto* in habit.

As it is said to be not uncommon on shells from deep water off the Northumberland coast, we may hope to hear of it again before long.

SPECIES NEW TO BRITAIN.

Hippothoa flagellum, Manzoni.

This species, described by Manzoni from the Mediterranean and the Italian Tertiaries, occurs abundantly on our shores and is widely distributed. It has, no doubt, been confounded with *H. divaricata*, to which it bears a general resemblance, but from which it is separated by a very important character, in addition to other minor differences. The orifice is subovate, somewhat elongate, rather broader above than below, whereas that of *H. divaricata* is semicircular, with a straight lower margin and a central notch. The cells are also shorter (less produced below) and in every way smaller; and the connecting fibre is very long and slender.

XXIX.—Note on the Radical Fibres of the Polyzoa.

By the Rev. THOMAS HINCKS, B.A., F.R.S.

IN 'Nature' for June 21, 1877, I find a brief notice of a paper on British Polyzoa, by Mr. Peach, presented to the Linnean Society by Mr. Busk, in which the interesting observation is recorded, that "the tubulous roots" of *Scrupocellaria scruposa* are armed with spines, by which it attaches itself to sponges. Much remains to be written of the filamentary appendages by which the members of certain genera attach themselves, and their modifications. Mr. Peach's observation shows that in *S. scruposa*, as in others of its tribe, these organs exist under two forms at least. Commonly they are present as smooth, slender fibres, which adhere to solid bodies by means of a terminal enlargement or disk. It now appears that under certain conditions they take on a different character, are clothed with spines, and act as grapnels by means of which the polyzoon fastens itself to the soft substance of the sponge. I have not noticed these facts in the case of *S.*

scruposa; but I have long been aware that they enter into the history of another member of the same genus, the common *Scrupocellaria reptans** of authors. I will insert here the passage relating to this subject which I had prepared for my forthcoming 'History of the British Marine Polyzoa.' It is taken from the account of *Scrupocellaria reptans*:—"The radical fibres are present under two forms, and enable the species to adapt itself to very different habitats. In one they are simple tubes, originating, as all similar appendages do in this group, at the base of the vibracular cell; and from the free extremity a number of fibrils are given off, that anastomose and form circular reticulated disks, by which the polyzoon is firmly attached to the surface of the rock or the frond of the seaweed. These disks may remind us of the rootlets by which the ivy clings to its support. The radical tubes are not merely produced towards the base of the zoarium, but along the course of the branches, which, as they increase in length, are firmly attached by them at intervals; and in this way the polyzoon creeps, like a plant, over the surface on which it grows. But a modification of the merely adherent appendage is also met with; and it would seem that the particular form which the radical fibre assumes is very much determined by the nature of the base on which the polyzoon is developed. In its second form it is covered for about two thirds of its length with sharp, recurved, hook-like processes, and is converted into an admirable prehensile organ. It is now a veritable grapnel, by means of which the polyzoon can lay firm hold of the stems of zoophytes or the more delicate algæ, or, plunging it into the soft sarcode, find a safe home upon the sponge. Dredging on one occasion in Salcombe Bay I took up a piece of some cotton material which was overgrown by *S. reptans*. On the uneven fibrous surface the adhesive disks would have been almost useless; a few only were developed; but the toothed processes were present in profusion, and had worked their way in amongst the threads of the fabric, which had become entangled about the hooks, and so anchored the tufts securely. On a specimen beside me, growing on the flat surface of a *Laminaria*-frond, I can find not a single grapnel; but the disks are finely developed and of large size."

In *Cellularia plumosa* we meet with another interesting modification of the radical fibres. In this species they occur

* I have restored this species to the genus *Scrupocellaria*, instead of referring it with Busk to the *Canda* of Lamouroux, because it is furnished with the lateral avicularia which are characteristic of the former genus. They are small and feebly developed, and have hitherto escaped observation; but they exist.

on certain portions of the shoots, as rather short and stout processes, which give off towards the free extremity a number of tendril-like claspers, by means of which, we may suppose, the slender tufts cling to some neighbouring support. They are also present in the more usual form of simple tubes, and in this condition form a dense and tangled mass of rootlets at the base of the shoots.

We know that some foreign species are also furnished with hooked fibres such as we find on *Scrupocellaria reptans*; and in all such cases we have, no doubt, a similar adaptive modification of the simpler structure.

XXX.—On a new Genus of Hydroids from the White Sea, with a short Description of other new Hydroids. By C. MERESCHKOWSKY.

[Plates V. & VI.]

DURING the summer of 1876 I undertook a journey to the White Sea, the zoology and botany of which are almost completely unknown, with the object of studying its fauna as thoroughly as possible, my attention being principally devoted to the study of invertebrated marine animals. My expectations were fully realized; for this sea, hitherto completely unexplored and almost entirely separated from the Arctic Ocean, afforded me numerous and highly interesting specimens of types differing from those generally observed.

Amongst these I may mention a new and interesting Hydroid, which I now propose to describe.

In the part of the White Sea called the Bay of Onega, at small depths (5 fathoms), and where the bottom is slimy, specimens of *Tellina solidula* are frequently found, with the edge of the shell covered with an agglomeration of small animals of a light yellowish colour, giving off long, thin, floating filaments. On observing this mass more carefully I discovered that it was a colony of hydroids, of the suborder Athecata or Gymnoblastera (Pl. V. fig. 1). They are always to be found on the same Mollusca, and, on all those I have observed, on the same part of the shell. Their hydrorhiza consists apparently of a continuous mass, and not of detached filaments as in most other hydroids (Pl. V. fig. 2, c). It appears that the structure of the hydrorhiza is not developed to the same degree as that of the *Hydractinia*, but consists simply of a mass of cœnosarc containing a consider-