Report of the Committee appointed to explore the Marine Fauna and Flora of the South Coast of Devon and Cornwall.—No. 2. *Consisting of* J. Gwyn Jeffreys, *F.R.S.*, Rev. Thomas Hincks, Jonathan Couch, *F.L.S.*, Charles Stewart, *F.L.S.*, J. Brooking Rowe, *F.L.S., and* J. Ralfs, *F.L.S. Reporter,* C. Spence Bate, *F.R.S. &c.*

In presenting their Second Report, the Committee beg to state that their endeavour has been, as much as possible, to direct their researches towards the discovery of rare or new species,—to retake, upon the ground on which they were originally found, specimens similar to those that have been described by Leach and Montagu, some of whose typical specimens have been lost, misplaced, or destroyed. This is more true in regard to the Crustacea than perhaps of any other class of animals—a circumstance, when taken in connexion with the curt descriptions of the animals given by the authors, that materially interferes with the power of zoologists to pronounce with confidence upon the relation that any fresh specimens may bear to those types.

To carry out this plan as much as possible, we have directed our investigations hitherto mostly between Bigbury Bay toward the east, and the Dodman toward the west. Within these limits our dredging and trawling has been mostly carried on within a distance of about twenty miles of the shore, and in water that has not exceeded fifty fathoms in depth.

Fish.—As regards the obtaining of fish, the sweep of a dredge, Mr. Couch says, is too limited to afford a prospect of much success; and our notes about them can be but few. In shallow depths the Megrim or Scaldfish (*Rhombus arnoglossus*) was obtained in abundance; but none were found at between forty and fifty fathoms. At the latter depth the Launcelet and larger Launce had lain buried in the sand; as regards the latter, it seems worthy of notice that at this season the large abundance of its species have changed their quarters so as to approach the shore, while at least in this one instance an example has remained buried in its winter haunt. An observation made by an intelligent fisherman may also be deserving of notice. It refers to the habit of some small individuals of several kinds of fish seeking shelter within the cavity of some of the larger species of medusæ. Very small Scads, Bibs, and Whiting Pollacks are often found thus attending on these medusæ, so as to accompany them wherever they float; and on the least alarm they have recourse to the shelter thus offered to them; so that on lifting one of these creatures into the boat there were found concealed within the cavities no less than *sixty-two* young Scads—from which the question arises, As these medusæ are generally believed to come to us from a warmer region, may they not be the means of conveying to us young fishes of rarer sorts, which otherwise might not have visited us?

Among the rarer fishes which have come to our knowledge since our last Report to the Meeting of the British Association, I may be permitted to mention *Ausonia cuvieri*, of which an account is given in the Journal of the Zoological Society,—and also what there is some reason to judge a distinct species, to which the name has been assigned of *A. cocksii*. We have had also the Scabbard fish (*Lepidopus argyreus*), which was found floating on the surface near Falmouth, and also the Silvery hairtail (*Trichiurus lepturus*) taken in a drift-net near Penzance.

Mollusca.—*Rostellaria pes-pelecani*, in all stages of growth; *Psammobia vespertina*, *Crassina danmonii*, *Cardium espinatum*, *C. levigatum*, *Cerithium lima*, *Acmæa virginea*, from a trawl (but this example differs from the figure

ever, in rather shallower water, was obtained a large example of the species named, in the Journal of the Zoological Society, by Dr. J. E. Gray, *Rhodophyton couchii*, the second that has been met with, more fleshy than the former, and now also deposited in the British Museum. An incrusting *Alcyonium* was also found, which took the form, in its contorted windings, of the slender substance that passed through and supported it. Added to these, we dredged up *Cellepora ramulosa*, and what I believed to be *C. lævigata*; but having sent the specimen to our lamented friend the late Joseph Alder, he hesitated to decide regarding it.

Sponges.—The sponges were not the least interesting of the objects that we have obtained—and so much the rather as our observations on them have had the advantage of the assistance of Dr. Bowerbank, to whom specimens of all were submitted for his opinion. Among the sponges examined by Dr. Bowerbank, we have to congratulate ourselves on the acquisition of two which that naturalist pronounces new to science and the first as such which he has seen since the publication of his Treatise on this department of Natural History by the Ray Society.

These examples, of course, remain with Dr. Bowerbank, who has done Mr. Couch the honour to name the first of them *Halichondria couchii*. Of these we annex the author's descriptions.

"*Halichondria couchii*, Bowerbank.—Sponge massive, compressed, sessile. Surface even. Oscula simple, dispersed, minute. Pores inconspicuous. Dermal membrane pellucid, spiculous, reticulated; spicula of the rete same as those of the skeleton; tension specula acerate, minute, and very slender, few in number; retentive spicula simple and contort bihamate, minute and slender, not very numerous. Skeleton:—Reticulations regular and distinct; rete rarely more than unispiculous; spicula acerate, rather stout. Interstitial membranes pellucid, spiculous; tension and retentive spicula same as those of the dermal membrane.

"Colour. Dried, light grey.

"Habitat. Coast of Cornwall, Mr. Jonathan Couch.

"Examined in the dried state."

The next novelty was observed to bear a resemblance to the rare *Microciona fictitia*, but on dissection, with the aid of a microscope, it also showed itself to be new, and it is accordingly named *M. fraudator*:—

"*Microciona fraudator*, Bowerbank.—Sponge massive, sessile, parasitic on Fuci or Zoophytes. Surface uneven, pustulous. Oscula simple, dispersed. Pores inconspicuous. Dermal membrane abundantly spiculous; tension spicula same as those of the skeleton, irregularly fasciculated or dispersed; fasciculi broad and flat, multispiculous; retentive spicula bidentate, equianchorate, minute, not very numerous. Skeleton:—Columns diffuse, long, and very irregular; spicula fusiformi-acerate, short and stout. Internal defensive spicula attenuato-acuate, variable in length, very nnmerous, rather stout; tension spicula same as those of the skeleton, intermixed with internal defensive spicula; retentive spicula same as those of the dermal membrane.

"Colour. Dried, brown, with a tint of yellow.

"Habitat. Polperro, Mr. Jonathan Couch.

"Examined in the dried state."

Halichondria panicea, a large specimen; *H. albescens*, Johnston; *Hymeniacidon albescens*, Bowerbank; *H. simulans*, Johnston; *Isodictya simulans*, Bowerbank.

Halichondria suberea.—In a ball of this I found shut up, but with an orifice, the crustacean *Pagurus cuanensis*; and in one or two similar balls there

were other hermit crabs; but in these instances there was not a shell on which the sponge had incrusted itself. I can scarcely imagine how a shell can have disappeared after having been thus incrusted; and it is difficult also to imagine how, without a solid support, this sponge could have formed itself into a ball round the crab (which had a defined cavity within) as we find it to have done*.

H. incrustans, covering the carapace and legs in patches, of a species of spider crab.

Hispida dictyocylindrus, H. Bowerbank.—There is something remarkable in the circumstances which have attended the dredging of this species, and which I can explain only by supposing that two species are confounded together, which on the other hand I am assured, on high authority, is not the case. Thus, in spaces or districts at the depth of about twenty, and again in forty fathoms, there came up examples of this slender, branched sponge, measuring, some of them, a foot in length, with the surface truly hirsute, and which had been fixed to the ground by a well-marked and rather broad root. But at other places and in deeper water, there clearly had never been, of any one of the many examples obtained, an attachment to the ground; and the branching growth proceeded from both ends, with an intermediate space, not always in the middle, of from one to two or three inches in length, and which appeared to be that middle line or stem from which the branches at each end derived support, but which had not even a slight mark of a root or point of attachment. Secondary branches are at least rare, if they occur at all in this (variety); and its surface has a much finer grain than is common on the rooted examples. Some of these specimens at least appear to have lain along the ground; but in a single instance one of the ends must have been erect, since on it was growing, parallel with it, a flexible coral and two examples of *Pollicipes scalpellum*. In one instance also a fine specimen of *Grantia ciliata* had become fixed on a prostrate branch; and of another, of small size, now in the possession of Dr. Bowerbank, with three branches at each end of a short middle stem, it was the opinion of that gentleman that two examples had been brought into contact with each other and had thus become united; but on examination I was not able to discern any such mark of union, and of a root or footstalk there was no appearance.

Other species of sponge obtained in these dredgings are:—*Halichondria ficus*, named by my late friend Joshua Alder, from sixty fathoms; *Desmacidon fruticosa*, Bowerbank; *Hymeniacidon virgultosa*, Bowerb., near the land at Lantwit Bay; *Dysidea fragilis*, Johnston; *Grantia compressa*; *G. fistulosa*, Johnst.; *Leuconia fistulosa*, Bowerb.; *G. ciliata*; *G. lacunosa*, Johnst.; *Leucosolenia*, Bowerb., in shallow water, on the carapace of the Corwich crab; *Amouracium proliferum* and *A. lævе*, from rocks in Lantwit Bay.

Of a large abundance of Annelids we are not able to give an account, but they have been placed in safe hands, examples having been sent to the Reporter† and to the British Museum. What appear to be three species of *Aphrodyte* have afforded me figures. *Polynoë squamata*, *Ocnus brunneus*, and two or three species of *Sipunculus* derive their interest in our labours from a knowledge of the depth of water and distance from land in which they live.

* [The sponge is first formed on the shell, which is afterwards destroyed by the sponge, by the same power that enable sponges to bore into shells.—Reporter.]

† These are sent to Dr. Mackintosh for examination, and will be described in our next Report.