

ZOOPHYTOLOGY.

DESCRIPTIONS of NEW or imperfectly known POLYZOA. No. 1.

1. CHEILOSTOMATA.

Fam. 1. MEMBRANIPORIDÆ, B.

Gen. 1. *Membranipora*. Blain.1. *M. delicatissima*, n. sp. Pl. XXXIV, fig. 1.

M. membranacea, *inermis*; *cellulis oblongis apertura permagna, ovali*; *marginē tenui, lævi. Orificio semi-orbiculari.*

Membranaceous, unarmed; cells oblong; aperture occupying almost the entire area—oval; margins thin, smooth; orifice semicircular.

Hab.—St. George's Sound, South Australia, on the fronds of *Amansia pinnatifida*, W. Harvey.

This delicate and elegant *Membranipora* appears to occur exclusively on the slender, ligulate fronds of *Amansia pinnatifida*, which we believe is rarely seen without its gauze-like parasitic covering.

Fam. 2. FLUSTRIDÆ, D'Orb.

Gen. 2. *Spiralaria*, n.g.

Polyzoario ramoso; *ramis cylindricis e lamina angustā spiraliter contortā constitutis. Cellulis ad faciem superiorem tantum spectantibus, marginalibus armatis.*

Polyzoarium composed of short, cylindrical branches, attenuated at each extremity. The branches are constituted by a narrow lamina, twisted spirally round an imaginary axis, and having the openings of the cells on the upper surface only; the marginal cells armed with sessile avicularia.

1. *S. florea*, n. sp. Pl. XXXIV, fig. 2.

Hab.—Australia.

For this species, which is perhaps one of the most beautiful and curious of the Polyzoa, we are indebted to Mr. W. Flowers, of Croydon, whose name has suggested the specific appellation. He procured it from Australia. The light and feathery polyzoary is irregularly branched, and forms a tuft of an

inch or two in height, the branches being from a quarter to three quarters of an inch or more in length, each articulated, as it were, to that from which it rises by a slender point of attachment. They are composed of a thin and narrow lamina, which is twisted spirally with the utmost regularity round an imaginary axis, and the outer or marginal cells each support a strong sessile avicularium, besides which are other avicularia scattered irregularly among the cells on the upper surface of the lamina.

The cells themselves (in *S. florea*) are irregularly oval in outline, and usually much attenuated below, and on the right-hand margin of each, close to the top, is a blunt, hollow, marginal spine, filled apparently with a granular material. No indication of ovicells is observable in the only specimen we have seen.

Fam. 3. CELLEPORIDÆ, B.

Gen. 3. *Cellepora*. O. Fab.

1. *C. edax*, B. Pl. XXXIV, figs. 3 and 3^a

Polyzoarium massivo, crasso, mamillato, conchæ parvæ turbinatæ formam gerente; cellulis ovatis, rhomboidalibus erectis seu subdecumbentibus, umbonatis, superficie scabrâ, puncturatâ. Ostio supra-arcuato, medium versus constricto, utrinque denticulato, labio inferiori recto.

Polyzoarium forming a dense, thick, botryoidal mass, having the form of a small turbinate shell; cells ovate, rhomboidal, erect, or subdecumbent, umbonate; surface punctured, rough; mouth rounded above, contracted below, the middle, with a small denticle on each side; lower lip straight.

Hab.—Coast of Devon, on a small turritid shell. (*Fossil*) Coralline Crag, on a species of *Natica* and *Turritella*.

This curious and interesting Cellepore, which constitutes one of the links between the British Fauna of the period to which the Coralline Crag of Suffolk and Norfolk belongs and that of the present time, is described and figured in our 'Monograph of the Crag Polyzoa' from fossil specimens. We now give a figure taken from a recent Devonshire specimen, for the opportunity of inspecting which we are indebted to the kindness of the Rev. Mr. Hincks. The following observations occur in the work cited:—"This is a very peculiar and interesting form. The rather dense crust, which has a botryoidal aspect, appears to have been in all cases formed by superimposed layers of cells, covering, most usually, small, turbinate *Natica*-like shells, in most instances of the same species, but in other cases it invests a small *Turritella*. These specimens consequently are all much alike, resembling small, thick, univalve shells, with a comparatively small, circular mouth. But it is curious that it is extremely rare to find in these masses any remains of the original shell. In by far the

greater number of instances this appears to have been entirely removed, the sides of the spiral canal being formed by the backs of the polyzoan cells, usually disposed in parallel rows, much as they are on the concave surface of some Lunulites. When any remains of the original shell are found, it appears to be reduced to extreme tenuity, and its outer surface to have been eaten away, as it were, by the parasitic incrustation."

The recent form presents the same aspect as the fossil, having been moulded apparently on a species of *Turritella*, which, and this is especially worthy of remark, is, so far as can be seen, as completely removed as it is in the fossil specimens.

Fam. 4. VINCULARIIDA, B.

Gen. *Vincularia*. DeLancey.

1. *V. ornata*, B. Pl. XXXIV, fig. 4.

V. ornata, B. 'Brit. Mus. Cat.,' Part I, p. 96, pl. lxx, fig. 2.

2. *V. neozelandica*, n. sp. Pl. XXXIV, figs. 5 and 5*.

Polyzoario simplici per tubos radicales basi affixo; cellularum areis subpyriformibus; pariete anteriori perforato; marginibus laevibus; orificio supra arcuato, labio inferiori medio denticulato.

Polyzoarium simple, rooted at the base by radical tubes; areas of cells sub-pyriform; anterior wall perforated; margins smooth; orifice arched above; lower lip with a broad central denticle.

Hab.—New Zealand, Dr. Lyall.

Two or three other recent species of *Vincularia* are noticed by M. D'Orbigny ('Voy. dans l'Amér. Merid.'), amongst which the only one with which either of the above could possibly be confounded is *Vincularia elegans*, which differs, however, from *V. neozelandica* in the absence of the median denticle on the lower lip, and of the pores in the front of the cell, as well as in its branched growth. M. D'Orbigny's *Celtaria ornata* is a *Sablicornaria*, and otherwise quite distinct from *V. ornata*, mihi.

Fam. 5. FERRUCINARIIDA, B.

Gen. 3. *Ferrucinaria*, B.

1. *F. dichotoma*, v. Sutr. (sp.) Pl. XXXV, figs. 1 and 1*.

Polyzoario dichotomo, ramulis cylindricis gracilibus; inermibus; cellulis clausis ventricosis; ostio prominente.

Polyzoarium regularly dichotomous, much branched; branches slender, cylindrical, unarmed; cells quite transparent and membranous; ventricose; orifice prominent.

Ferrucinaria dichotoma, v. Sutr, 'Flora,' 1834, p. 725, tab. i, fig 9, a, a.

Hab.—Port Philip (Australia), Kirchenpauer.

2. *F. Bideri*. Harvey? Pl. XXXV, figs. 2 and 2^a.

Polyzoario irregulariter ramoso; ramis compressis, ligulatis, spinis sparsis, armatis; cellulis turgidis, membranaceis.

Polyzoarium irregularly branched; branches flattened, ligulate, furnished with scattered, horny, aculeate spines; cells bulging, wholly membranaceous.

Hab.—Sidney, Harvey?

F. Bideri appears to attain a large size, spreading four or five inches in all directions, very irregularly branched, and of a deep-olive colour. The cells themselves closely resemble those of *F. dichotoma*, but the size, habit, and compression of the polyzoarium, whose branches are sometimes more than one-eighth of an inch wide, amply serve to distinguish the two at a glance.

The extraordinary resemblance to Fuci born by both these species is so very remarkable, especially in the case of *F. Bideri*, that by the unaided eye it would be almost impossible even to guess that they belonged to the animal kingdom. They appear, of all the Cheilostomata, to be those in which the tissue of the polyzoary contains the least amount of calcareous matter.

We have been long acquainted with *Farciminaria dichotoma*, though not aware till very recently that it had been anywhere described. Our knowledge of this fact and of the reference to v. Suhr's notice of it in the Ratisbon 'Flora,' as well as of the existence of the second species, we owe to the kindness of Senator Kirchenpauer, of Rützbüttel, who, among many other interesting species of Sertulariidae and Polyzoa which he was good enough to send to us, included fine specimens of the two *Farciminariae* now described. We have appended Dr. Harvey's name to *F. Bideri* on M. Kirchenpauer's authority, but are unable at present to cite the work in which that learned algologist has adverted to it.

It seems doubtful whether these two species should be referred to our genus *Farciminaria*, but we have thought it better provisionally at any rate to place them in it. Should it be thought advisable to separate them from *F. aculeata*, there appears to be no reason against the adoption of v. Suhr's name of *Verrucularia*, notwithstanding his having placed the genus among the Fuci.
