

ZOOPHYTOLOGY.

AMONGST numerous specimens of Polyzoa and Sertularians, chiefly from the Cape of Good Hope and Australia, with which we have been lately favoured by Mrs. Gatty and by Miss E. Gore, are many new species, which we hope to be able in due course to describe. On the present occasion we give four of these.

I. Class—POLYZOA.

Sub-Order I. CHEILOSTOMATA.

Fam. I. BICELLARIADÆ, Busk.

Gen. *Bugula*, Ok.

B. cucullata, n. sp. Pl. XXXVI, figs. 1—6.

Cells biserial, elongate, subpyriform; aperture occupying about two thirds of the length of the cell; a short spine at each upper angle, and a smaller one on the outer margin a little way below the angle; ovicell very shallow, cucullate, or saucer-shaped; avicularia sparse, affixed usually on the outer side of the cell.

Hab. Australia, *Miss Gore*; Western Australia, *Mrs. Gatty*.

The polyzoary of this pretty species is white. It appears to attain several inches in height, the branches being short and fan-shaped. In general habit and mode of growth it closely resembles *B. avicularia*, from which, in fact, it is distinguished chiefly by the peculiar saucer-shaped form of the ovicell, and the extreme rarity of the avicularia, which organs, however, are, as usual in the family, of the capitate form.

Fam. 2. FLUSTRIDÆ.

Gen. *Chaunosia*, n. gen.*

Cells sejunct, attached apparently only by long tubular fibres.

C. hirtissima, n. sp. ?

Cells ovate, elongate, suberect, very convex behind; aperture occupying the whole front of the cell; mouth at the summit, crescentic above, border simple; margin of the aperture and the entire surface of the cell behind

* *χαῦνος, lazus.*

covered with numerous long spines, many of which are bi- or trifurcate; polyzoary composed of narrow ligulate, or subcylindrical, irregularly dichotomous, lax branches; ovicells —?

Diachoris hirtissima? Heller, 'Verhand. d. k. k. bot. zool. Gesellschaft. in Wien.,' xvii, 1867, p. 18. Pl. i, figs. 6, 7.

Hab. Cape of Good Hope, *Dr. Rubidge*.

This is a very curious form, and we are not sure that it is not identical with a species recently described by Prof. Cam. Heller, from the Adriatic. But as we have not been able to perceive the six connecting links of the cells characteristic of the genus *Diachoris*, in our specimen, we have thought it better for the present to regard the two as distinct. Prof. Heller figures and describes the connecting-tubes in his *Diachoris hirtissima* so clearly that he cannot have been mistaken in seeing them. At the same time, the general resemblance of his species with ours is so striking that it is almost impossible to believe that they can be distinct. Should the mode of intercellular connection be as he states it, there can be no doubt that *Chaunosia* (χαῦνος, *laxus*) must be merged in *Diachoris*.

Sub-Order 2. CYCLOSTOMATA.

Fam. DIASTOPORIDÆ, Busk. ('Crag Polyzoa,' p. 113.)

Gen. *Tennysonia*, n. gen.

Polyzoary arising from a rather thick central base (substipitate); lobate, stelliform; lobes curved, with a median angle; tubes wholly immersed; orifices disposed in straight lines, extending from the median angle to the denticulate margin of the lobes; interspaces cancellous.

Hab. Cape of Good Hope, parasitic upon *Onchopora tubulosa*. *Dr. Rubidge* (*Mrs. Gatty*).

This is an extremely beautiful form, which is provisionally referred to the family Diastoporidæ, in which it appears to be most closely allied to *Discoporella*, Gray (as defined in 'Crag Polyzoa,' p. 115). In that genus, however, the polyzoary is normally sessile or adnate, and of a disciform shape, sometimes rising into more or less of a cone, and the tubes are not wholly immersed, but have their notched or toothed mouths usually considerably exserted. In *Defrancia*, which is closely allied to *Discoporella*, the orifices of the immersed tubes are placed on elevated ridges, radiating more or less regularly from the centre of the discoid polyzoary, the interstices being sometimes cancellous, as they are in some species of *Discoporella*.

The polyzoary of *Tennysonia*, which is represented of the size of nature in fig. 10, is of a pale rose tint, and semitransparent, whence it has a very elegant appearance. The generic name is given to this species at the express desire of Mrs.

Gatty, to whom we have on many occasions been deeply indebted for interesting additions to the number of species, more especially of polyzoa. We presume her intention is to combine the name of our great poet with certainly one of the most beautiful objects in the class to which *Tennysonia* belongs.

Sub-Kingdom CŒLENERATA.

Class ACTINOZOA.

Order ASTEROIDA.

Fam. CORNULARIADÆ, n. fam.

Gen. *Cornularia*, Lamk.*C. australis*, n. sp. Pl. XXXVI, figs. 7, 8.

Cells smooth, or slightly wrinkled only at base; white.

Hab. Australia, *Miss E. Gore*.

The only original figures of *Cornularia* with which I am acquainted are those by Cavolini ('Mem. terza,' pl. ix, figs. 11, 12); for that given by Lamouroux ('Exposit.,' pl. lxxviii, fig. 4) is a bad copy of Cavolini's fig. 12, in which the transverse wrinkling of the cell-walls is omitted, although this condition enters into the specific character, whilst Blainville's figure ('Actinol.,' pl. lxxxii, fig. 4), though slightly altered in position, is evidently merely a copy from Cavolini. Fig. 11 of Cavolini represents the cells of the natural size, spreading over the surface of a *Balanus*; and in his description (loc. cit., p. 250), under the name of *Tubulara cornucopia*, (*Tubularia cornucopia*, Pallas), he states that it is found upon pebbles and *Balani*, though he observes that Pallas, who appears to have been the first to notice the species, had met with it dry on other marine productions. It is possible, therefore, that *Cornularia cornucopia*, as it ought to be named, may occur on fuci as well as upon hard bodies at the bottom of the sea. Cavolini's admirable description of the genus has left scarcely anything to be added by subsequent observers, and his figures suffice to show the distinctness of Pallas's species from that we have described above. The differences, so far as they can be determined from the scanty means at present in our power, seem to consist in the smooth, even, white walls of the cell in *Cornularia australis*, which in *C. cornucopia* are more or less wrinkled ("per totam longitudinem rugis annulosi), and, according to Cavolini, of an orange colour ("un colore che si accosta a quello dell' arancio") (lutei, Pallas). We have also been informed by Prof. Allman, who is well acquainted with the Mediterranean species, that *C. australis* is distinct from it.

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DESCRIPTION OF PLATE XXXVI.

Fig.

1— 6.—*Bugula cucullata.*

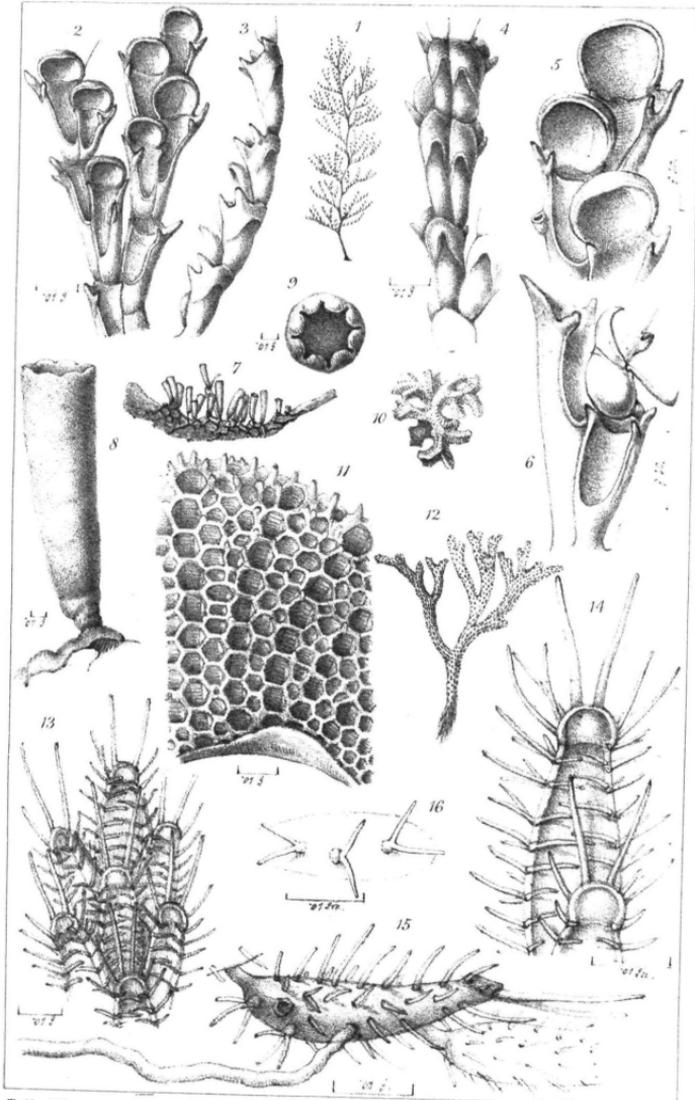
7— 9.—*Cornularia australis.*

10, 11.—*Tennysonia stellata.*

12—16.—*Channonia hirtissima.*

ZOOPHYTOLOGY.

Plate XXXVI.



Tuffen West del. et lith.

W West imp.