

sists of irregularly united fibres, reticulated beams, with interposed irregular spaces and passages, the outer orifices of which are covered by a dermal membrane. In addition to the regularly disposed dermal pentacts or hexacts there are scopulæ with knobbed branches. The parenchyma contains, besides uncinates, scopula-like spicules, each of which is provided with one prolonged principal ray, which runs out to a fine point.

1. *Cyrtaulon sigsbeeii*, O. Schmidt (Pl. XCII. fig. 9).

Since I am inclined to believe that the description which O. Schmidt (*loc. cit.*, pp. 58, 59) has given of his *Volvulina sigsbeeii* was based on specimens of different species, I must, in regard to the minute structure, restrict myself in the first instance to that specimen of which only a fragment is available, as represented from a photograph in Pl. XCII. fig. 9. For an account of the more macroscopic characters I must simply refer to O. Schmidt's results.

We have here to deal with very variously shaped, often goblet-like specimens, whose wall consists of an irregular feltwork, with anastomosing cavities both on the external and on the internal bounding surface, covered over by a porous skin.

The dictyonal framework consists of tuberculate beams, in which the nodes of intersection are here and there, and especially near the surface of the body, thickened and beset with wart-like elevations.

The parenchyma contains uncinates with central thickened nodes, and scopula-like spicules with several thin prongs radiating out from the terminal knob of the stalk, and bearing marginally-toothed terminal discs. The dermal skeleton consists of pentacts and hexacts, and also of scopulæ with knobbed prongs.

As to localities, O. Schmidt mentions (1) Barbados, 100 fathoms; (2) lat. 32° 9' N., long. 82° 23' W., 158 fathoms; (3) Morrolight, 292 fathoms; (4) St. Vincent, 124 fathoms.

2. *Cyrtaulon solutus*, n. sp. (Pl. XCII. figs. 1-8).

Among the numerous Hexactinellida which were obtained by the Challenger at Station 192 (lat. 5° 49' 15" S., long. 132° 14' 15" E.), near Little Ki Island, from a depth of 140 fathoms, on blue mud ground, there is one dried specimen which grew in the tubular cavity of a piece of limestone, and which had the form of a cylinder 5 cm. in length and 2 cm. in breadth. As may be observed in the sketch given on Pl. XCII. fig. 1, the dictyonal framework passing through the body consists of irregularly united flat or rounded beams from 1 to 2 mm. in thickness, which surround interspaces and passages from 3 to 4 mm. in breadth. As may be clearly recognised in some parts of the surface which have been specially well protected by the surrounding stone, the whole was covered by a cylindrical mantle-like veil, which exhibits in the dried state a square-meshed network with large