

numerous, long, slender, hair-like processes, broadest at the base, where they join the stem. They are arranged very regularly in four rows, so as to lie in two vertical planes which intersect each other at right angles. The interval between each two successive processes in a row is about 1.5 mm.; the processes themselves may attain the great length of 17 mm. *Colour* in spirit pale yellowish.

Skeleton.—A stout axis of spiculo-fibre runs through the stem, branching to form the roots and giving off above the hair-like processes (pinnæ).

Spicules.—(a) *Megasclera*; smooth, slender styli, broadest in the middle and tapering rather abruptly to a fairly sharp point at the apex. They may reach the great length of over 2 mm., and have a diameter of about 0.019 mm. Their length, however, varies much, and is generally less than that given. They are very firmly bound together in fibres, and it is difficult to get one separate for purposes of measurement. (b) *Microsclera*; of two kinds; (1) anisochelæ, with long, curved shaft and very unequal, claw-like extremities; they are very small, measuring about 0.025 mm. in length, and closely resemble those figured by Sars¹; (2) rather large, smooth, simple sigmata, measuring about 0.13 by 0.007 mm.

The anatomy of the soft parts of this remarkable species has always been a mystery and must still remain so, for unfortunately the only specimen obtained by the Challenger was found dried up when we came to describe it. It will be seen that, as regards external form, the Challenger variety differs very considerably from those described and figured by Sars.² It also differs widely in appearance from the "Porcupine" specimens, now in the British Museum. It resembles in slenderness and delicacy *Cladorhiza pennatula*, Schmidt,³ which has, however, the lateral pinnæ developed only in one plane. Two remarkable features about this sponge are the very great depth at which it occurs and the locality; Sars⁴ says:—"I have only found this remarkable sponge in one single locality, namely at the fishing station Skraaven in Lofoten at the great depth of 300 fathoms on soft clay bottom"; whereas the Challenger variety comes from a depth of 2750 fathoms, in the middle of the Pacific Ocean. The "Porcupine" specimens were obtained between Scotland and the Færøe Islands, Schmidt's in the Skagerrack, and Hansen's (those of which the localities were preserved) either between Norway and the Færøe Islands, or near the west coast of Spitzbergen, one of these stations having a depth of 1215 fathoms; but uncertainty overhangs the identifications of the species by both these authors (e.g., Hansen perhaps includes Carter's so-called variety *corticocancellata*, which may probably be regarded as a distinct species).

Locality.—Station 274, September 11, 1875; lat. 7° 25' S., long. 152° 15' W.;

¹ Remarkable Forms of Animal Life, pt. i. pl. vi. figs. 31, 32, a.

² *Loc. cit.*, figs. 16, 17.

³ *Jahresb. Comm. Wiss. Untersuch. d. deutsch. Meere*, Jahrg. i., ii., p. 119, pl. i. figs. 14-16.

⁴ *Loc. cit.*, p. 68.