

and similar pointed rays are beset only with short lateral prongs. Besides these hexacts, which form with one another a quadrate dermal lattice-work, the dermal skeleton contains numerous scopulæ with their four or five knobbed prongs at right angles to the surface, while the long slender smooth stalk runs out to a point.

In the case of the gastral skeleton unfortunately nothing certain could be discovered in the small dried fragment at my disposal; on the other hand, the loose parenchymalia were well preserved in great numbers. There were numerous uncinates arranged at right angles to the bounding surface, and therefore parallel to the radial prismatic canals. The greatest breadth of these does not occur at the middle, but in their outer third part, while the attenuated gastral extremity gradually runs out to a fine point. The thin pointed barbs of the uncinates are tolerably densely apposed. The peculiar elongated oxyhexasters, which have already been described, occur scattered irregularly and in great numbers throughout the whole parenchyma.

2. *Aphrocallistes bocagei*, Wright (Pl. LXXXIII. ; Pl. LXXXIV. figs. 1-8).

Both among the Hexactinellida of the Challenger Expedition and among the others purchased by Dr. Döderlein in Enoshima, there are numerous representatives of this form. Some of these are well preserved in alcohol. The fully developed typical form is a tube gradually widening upwards, with numerous radial glove-finger-like swellings on the lateral walls. The axis of the entire tube, which may attain a length of 20 cm. or more, exhibits as a rule a slight curvature. The inferior extremity, which is firmly attached to the substratum, has the form of a small cup, the wall of which shows diverticulum-like swellings only a few mm. above the basal plate, which is from 3 to 5 mm. in breadth. These are at first quite low, but further upwards they gradually increase in length, and finally attain a length of 5 cm. or more. The breadth of these diverticula, which always end blindly, measures on the under end of the tube in most cases only from 3 to 5 mm., but gradually increases in the middle and upper parts to a diameter varying from 1 to 2 cm. Very frequently much elongated diverticula occur here and there at a short distance above the base. These are bent obliquely downwards, reach the firm substratum or some laterally adjacent solid body, and become supports for the entire sponge (Pl. LXXXIII. fig. 1). In many cases the diverticula are arranged in more or less longitudinal rows, which in the inferior part of the entire tube are usually four in number and arranged in a cruciate manner. Superiorly this arrangement becomes indistinct or is no longer to be seen. A well-marked whorled disposition of the diverticula I have not been able to observe; on the other hand, I now and again saw certain variations from the normal conditions which are perhaps of importance as to the relation of this form to the others which, though separated off as distinct species, are at the same time closely related forms. On the one hand, cases are not unfrequent in which a lateral