

furrow series of ten to twelve small, delicate, cylindrical spinelets, their delicacy giving them an elongate appearance. These are situated on the margin of the angular projection, and radiate slightly apart, the length of the spines diminishing as they recede from the apex of the angle. Two or three still smaller spines form a continuation of the marginal series on each side on the surface of the plate. (2.) On the actinal surface of the plate are a number of small spinelets, similar in size and character to the furrow series. An oblique line of three to five, running subparallel to the adoral side of the angular prominence, is nearly always definitely formed, and sometimes a second line of fewer spines is discernible, converging towards the inner extremity of this line, with sometimes one or more spines in the included area, but usually the spines additional to the oblique line first mentioned are more or less grouped and irregular in their disposition. All these spines diminish in length as they recede from the furrow. Several of the adambulacral plates on the inner half of the ray bear at their junction with the marginal plates one of the large pedicellarian apparatus about to be described presently.

The mouth-plates are broad and conspicuous, but only slightly convex. The inner free margin of the united pair is subcircular in outline or even subparaboloid. The armature consists of ten small, slightly compressed, obtusely rounded spinelets, on each plate. The innermost one is much the longest and most robust, and is abruptly pointed; the other spinelets decrease as they recede from the mouth. There is consequently a pair of larger mouth-spines at each mouth-angle directed horizontally over the actinostome parallel to one another, the five pairs meeting at the centre of the orifice. The actinal surface of the plate is covered with a number of very small, uniform, delicate, thornlike papilliform spinelets, rather widely spaced, amongst which no order of arrangement is distinguishable.

The actinal intermediate (ventral) plates are not more than eight to ten in number in each interradiar area, and they bear a peculiar pedicellarian apparatus. This is situated on the suture between two laterally adjacent plates, and consists of five or six short tapering compressed spinelets borne on each plate on the margin of a semicircular cavity, over which they are directed so as to meet and interlock at their tips with the corresponding series of the neighbouring plate. The outline of the apparatus is suboval, and the cavity contains in most cases a pulpy mass, probably foreign matter. There are five of the organs in each of the interradiar areas, the median one and the next adjacent on each side being the largest; and from three to six similar organs may be present on isolated adambulacral plates on each side of a ray, as noticed above. A few pseudo-pedicellariæ of similar appearance, formed by the modified spinelets of adjacent paxillæ, occur occasionally on the paxillar area of the abactinal surface.

The anal aperture is subcentral and distinct, and surrounded by a circlet of slightly larger spinelets.

The papulæ are confined to a limited area at the base of each ray, but I am unable to