

as to give the appearance of coarse velvet pile. The supero-marginal plates bear no spinelets.

The infero-marginal plates correspond to the superior series, each plate being equal in length to its companion in the upper series. Their height, however, is slightly less, and they are well curved upon the actinal surface. Their surface is covered with short close-set papillæ similar to those on the supero-marginal plates, which become slightly larger and more spiniform at the end of the plate adjacent to the adambulacral plates. Each plate bears along the upper half of the aboral margin a series of four (normally, but sometimes three) small tapering spinelets. The uppermost spine is the smallest, the rest sub-equal or with either the lowest or the median spine slightly longest. They are closely appressed to the side of the ray, and are directed at a slight angle upward: the position of the series on the plate being also sometimes very slightly oblique.

The adambulacral plates are elongate, large, with a faintly convex margin towards the furrow. Their armature consists of a furrow series of six or seven rather long, delicate, cylindrical spinelets, equal in length, covered with membrane, and standing parallel to one another. The series or "combs" thus formed are distinctly spaced from the neighbouring series on adjacent plates. On the actinal surface of the plate and near to the marginal series is a longitudinal series of three or four spines, slightly shorter and more robust, widely and irregularly spaced; and external to these is another longitudinal series of four or five similar spines, but even more irregular in disposition: indeed, so far is this carried in both cases that it is often impossible to distinguish any regular serial arrangement at all. Sometimes a few additional spinelets may be present, external to those above mentioned, and the grouped character becomes then more marked. These spinelets on the actinal surface of the adambulacral plate are covered with membrane like the marginal series, and they have generally a more or less straggling and irregular appearance.

The mouth-plates are elongate and narrow, and the united pair form a convex keel actinally. Their armature consists of a marginal series of small, rather robust, and abruptly tapering spinelets, shorter than the marginal series on the adambulacral plates, about six or seven on the free margin of the plate, although others appear to continue the series up to the outer extremity of the plate. At the innermost point of each mouth-plate is one elongate, flattened and round-tipped mouth-spine, greatly exceeding any of the other spines in size, and the pair of spines at each mouth-angle are parallel to one another and directed towards the centre of the actinostome. At first sight these enlarged spines might be considered as the innermost spines of the marginal series above described, but I am doubtful whether this is really the case, as there is the singular occurrence in this form of a small group of short spinelets present on each plate at a still higher level than the foremost mouth-spines above mentioned, and this little insignificant group is further peculiar from the fact that it is not directed towards the centre of the actinostome, but in the direction of a line crossing the ambulacral furrow. If this group of small and abnor-