

above; the breadth of the plates is less than the length or height; and they form a well-rounded lateral wall to the rays and disk. Each plate bears a short, delicate, cylindrical and tapering spinelet, only a trifle more than a millimetre in length midway along the ray, placed on the abactinal side of the rounding and directed more or less upwards and at a slight angle outwards and aborally. The rest of the plate is covered with very small papilliform spinelets, of uniform size and widely spaced.

The infero-marginal plates are subequal in height to the companion series, with which they alternate rather than stand opposed; and their breadth on the actinal surface is greater than their length. Each plate bears a short, delicate lateral spine, similar to, but rather longer than, that on the supero-marginal series, directed horizontally and at a slight angle aborally. The longest measures about 1.75 mm.; and the length diminishes towards the extremity of the ray. On the inner half of the ray there is a second small spinelet, half the length and size of the lateral spine, standing close behind it in the median line, and occasionally another still smaller. On the outer part of the ray these small spinelets do not appear to be developed; and even on the inner part of the ray, plates occur in which they are scarcely distinguishable from the general miliary spinulation of the plate. This consists of minute, slightly tapering, thorn-like spinelets, of uniform size and widely spaced.

The adambulacral plates have an acute angular projection into the furrow; their breadth is greater than their length; and successive plates are rather widely separate, with the intervening space filled by ligament. The armature consists of:—(1.) A furrow series of seven to nine short, delicate, tapering spinelets; the median one, which occupies the apex or point of the angular projection, is the longest, and the others decrease as they recede from it on each side. (2.) A superficial series on the actinal surface of the plate, consisting usually of two, and occasionally three, short tapering spinelets, one longer and more robust than the others. These stand in a slightly oblique line, transverse to the direction of the ray. In small specimens and on the outer part of the ray the second and third spinelet may be greatly reduced in size or aborted altogether, but usually a representative miliary is present. One to three very small miliary spinelets may also stand on the actinal surface of the plate along its adoral margin, forming an apparent continuation of the furrow series; and occasionally one on the aboral margin, likewise in series with the marginal spinelets; and, more rarely, one on the outer margin behind the actinal spines. No other spinelets are present on the plate.

The mouth-plates are broad and the united pair convex and subtubercular, with a wide semicircular free margin. Each plate bears seven small mouth-spines, the innermost longest and most robust, the rest diminishing in size step by step as they recede from it. The innermost spine of each plate is directed horizontally over the buccal membrane parallel to the median interradiial line, each succeeding spine radiating slightly more outward, the small outermost spines of the series having also a slightly downward trend. On the actinal surface of each plate there is a lineal series of four to six small spinelets running