

The paxillæ of the abactinal area are small and compact, and composed of six to nine spinelets, of which one is central. The spinelets, which are short and robust, are directed upward, and their radiation apart is very slight. No definite order is maintained in the arrangement of the paxillæ. The papulæ are small, and dark brown or almost black in colour; and a broad space occurs along the median line of the ray in which none are present. In the centre of the disk there is a large and conspicuous conical prominence, upon and in the neighbourhood of which the paxillæ are greatly reduced in size.

The supero-marginal plates, which are twenty-two in number from the median interradial line to the extremity, are higher than broad along the inner half of the ray, but broader than high on the outer portion. Each plate, excepting two or three in the interbrachial arc and a few at the extremity, bears two small, conical, sharply pointed spines. The inner series are placed close to the inner edge of the plates, and are continuous from the arm-angle until near the tip, decreasing in size as they proceed outward, until they disappear altogether. The outer series are slightly larger, and are placed at the extreme edge of the plates on the curvature where the abactinal and lateral superficies unite; they are continuous throughout the ray, excepting the innermost plate on each side the median interradial line.

The infero-marginal plates are higher than broad, and flush with the superior series. Each plate bears a single lateral spine, which is short, tapering continuously from base to tip, sharply pointed and slightly compressed. On the inner half of the ray, two similar and slightly smaller spines are situated on the median line of the plate—one, which is the smallest, not far from the inner edge of the plate adjoining the adambulacral plates, and the other about midway between this spine and the lateral spine, the three forming a lineal series transverse in relation to the direction of the ray. On the outer portion of the ray the inner spine is aborted or indistinguishable from the squamules of the plate. When the side or lateral wall of the ray is placed in direct view, the above-mentioned spines of the infero-marginal plates are all visible, and they, together with the spinelets of the supero-marginal plates, appear to form a continuous vertical series. The lateral spine is very little, if at all, longer than the outer spine on the supero-marginal plate, and all these spines stand at an angle to the superficies of the plate, and are directed upward and outward. Very short, widely spaced, papilliform squamules are distributed over the surface of the infero-marginal plates, and the granulation of the supero-marginal series partakes of the same character, and is indistinguishable at the junction of the plates.

The armature of the adambulacral plates consists of short, robust, subpapilliform spinelets, which do not taper, and stand more or less perpendicular to the surface of the plate. The furrow series consists of four or five spines, and their base line forms a slight angle projecting into the furrow; the middle spinelets are a shade larger and more robust than the others. The actinal surface of the plate behind the furrow series is occupied by spinelets which are little more than elongate papillæ; they are small, stumpy, covered