

the ray a longitudinal line which indicates the division of the superior and inferior series of plates. At the actinal edge of the plates is a slightly longer, though still very short, flattened and lancet-like spinelet; and the series of these is likewise continuous throughout the ray. In large examples, on the innermost ten or twelve plates, may be found a short-flattened, squamule-like spine similar to those above described, placed on the middle of the plate, both in the superior and inferior series, forming two exactly intermediate short incipient series.

The adambulacral plates are rather large and long, with a prominent angular margin towards the furrow. Their armature consists of an inner or furrow series of five remarkable spinelets enveloped in membrane. The median spinelet is the longest, and is directed over the furrow at a right angle to the direction of the ray. It is compressed laterally, more or less curved, often truncate at the extremity, and resembles a scimitar with broad and flaring blade. The spinelet on each side is usually peculiarly curved, suggesting the shape of a boomerang, and is flattened in the direction of the ray and has its convexity turned towards the median spinelet. Often these spinelets appear clavate in consequence of the fulness of the membranous sac in which they are encased. The outer spinelet on each side is rather smaller than those just described, and has with its investing membrane a distinctly papilliform character. On the actinal surface of the plate are normally three longitudinal series of flattened squamiform papillæ, covered with membranous sacs, all of uniform height, often somewhat irregular in position, and with three to six in each series, the lines being often badly defined. These papillæ are similar in character to, and indistinguishable from, those on the actinal intermediate and infero-marginal plates: indeed, when viewed superficially, it is usually impossible to say where the one series ends and the other begins.

The mouth-plates are elongate and very narrow, the united pair having a long fusiform outline. Their armature consists of a marginal series of sixteen to eighteen short, cylindrical, obtusely-rounded papillæ on each plate, increasing slightly in length as they approach the anterior end; the innermost two are larger than the rest, often more or less curved; and the innermost frequently has a boomerang form with its convexity directed towards the corresponding spinelet of the companion plate, producing a character at once conspicuous and remarkable. On the actinal surface of each plate is a single uniserial row of low, broad, round-topped, transversely compressed, and closely crowded papillæ. About sixteen or seventeen papillæ are in each series, and their breadth is nearly as great as that of the plates; the marginal series above noticed stand vertically and are appressed to the side of the superficial series. All the papillæ are invested with membrane.

The actinal interradial areas are narrow, but are occupied by numerous small imbricating intermediate plates; and these extend nearly to the extremity of the ray, in the form of elongate narrow plates intermediate between the adambulacral and infero-marginal plates. They bear skin-covered papillæ precisely similar to those on the adambulacral and infero-