

fibrous bands, closely but irregularly reticulated, the interspaces being small, usually oval, and each occupied by a single spiraculum. The paxillæ are rather widely spaced, the tips of the spinelets forming prominent little conical peaks or elevations of the membrane, which on certain parts of the area conform themselves to a regular definite order of arrangement. A regular curved row or ridge of these spinelets stands on each side of the median line of the ray, forming a petaloid elevated area, which corresponds with the position of the underlying ray, and imparts a very characteristic facies to the species. A prominent circle surrounds the oscular orifice, marking out in a subpentagonal outline the place of the attachment of the valve-spines. The oscular valves are five in number, composed of rather short radiating spines, forming regular triangular fans, the web which unites them being reticulated in a similar manner to the rest of the supradorsal membrane, the valves when closed forming a prominent pyramidal peak in the centre of the disk. The reticulated supradorsal membrane reaches close up to the margin of the lateral fringe.

The ambulacral furrows are distinctly petaloid. The armature of the adambulacral plates consists of two rather short spines placed side by side well up in the furrow, and forming a straight line parallel thereto. The spines of a pair radiate slightly apart from one another in the plane of their position, and each is covered with a thick semi-transparent membrane which is somewhat expanded opposite the outer third of the spine, imparting thereby an elongate subspatulate form, the adoral spine of a pair having a more robust appearance than its companion. The aperture-papillæ are small and short, suboval in form on the inner portion of the ray, but becoming more elongate as they recede from the mouth.

The mouth-plates are small, with a strongly developed ridge at the line of junction, and a prominent peak aborally. Each plate bears two short, robust, conical secondary surface-spines, one placed near the adoral extremity, and the other about midway along the ridge; both spines are nearly equal in length, not longer than the spines of the adambulacral armature, very wide at the base, and tapering to a blunt extremity, faintly bowed outward and the tip approximated to the tip of the corresponding spine on the companion plate. There are three small mouth-spines; two situated at the extreme outer portion of the lateral margin, and one more inward.

The actino-lateral spines are about twenty-four in number on each side, the eighth or ninth from the mouth being longest. The spines anterior to this are included within the disk, their extremities reaching almost but not quite up to the median interradian line. The succeeding spines diminish in length gradually as they proceed outward, and even towards the extremities remain comparatively long in comparison with those of the other members of the genus. The actino-lateral spines are very robust and taper slightly to the tips, which project well beyond the membrane, and give the appearance of a sharply indented margin. The web of the actino-lateral spines, which also forms the actinal floor, is made up of very thickly packed, fine, delicate, crossing fibres.