

The adambulacral plates are large and long, and their armature consists of a furrow series of five to seven short, delicate, slightly tapering spinelets, which decrease slightly in length towards each end of the series, radiate slightly apart, are covered with thin membrane and united with a delicate web for some distance above the base; they have the appearance of an elegant semicircular comb. At the adoral extremity of each series, very slightly behind and on the actinal surface of the plate, is a single long pedicellaria, often longer than the nearest spinelet, and with the two jaws narrow and very slightly modified in shape from that of the spinelets. This pedicellaria, which is very constant in its position and conspicuous, is directed usually at an angle toward the mouth. On the actinal surface of the plates on the inner half of the furrow are usually two short conical spinelets, standing side by side, but sometimes only one is present; these are thick at the base and sharply pointed, and though much more robust are not longer than the furrow series. On the outer half of the ray only one spinelet is present, and its relative length is distinctly greater than those on the inner half of the ray.

The mouth-plates are large and the united pair are somewhat spade-shaped anteriorly. The plates are curved couler-shaped, and they rise towards the median line of juncture to form an elongately oval keel or eminence, the suture being more or less imperfectly closed. Their armature consists of a furrow series of eleven marginal spines on each plate, the outermost eight being equal and of about the same size and character as the furrow series of spines on the adambulacral plates proper; the inner three spines are larger and increase in size as they approach the mouth, they are also subprismatic or quadrangular in section, stand side by side, and are directed towards the actinostome at an angle of about 45° to the plane of the actinal surface generally. On the actinal surface of the plate, behind the eight small marginal spinelets in parallel line between this series and the margin and opposite the innermost of the small marginal spines, or about the middle of the series, may be placed a pedicellaria similar to that on the free adambulacral plates, but this is not always present. The mouth-plates, like the whole of the actinal and abactinal surfaces, are covered with thin membrane and beset with a few small widely spaced granules.

The actinal interradial areas, which are large and extensive, are almost equilaterally triangular in outline, excepting the interbrachial curve. They are paved with numerous regularly arranged, thin, hexagonal plates, the whole being overlaid with a continuous layer of thin membrane through which the sutures of the plates are barely visible. The largest plates are near the mouth, the rest decrease as they recede therefrom, and the smallest are those on each side of the median interradial line at the margin. The plates in the series next to the adambulacral plates are thirteen or fourteen in number, and diminish in size as they proceed outward; the other plates of the area are arranged in lines parallel to the last named and consequently parallel to the furrow. The plates adjacent to the adambulacral plates each bear a small, robust, rather elongate, valvate pedicellaria, which