

and at a right angle to the direction of the ray. The spine is delicate and tapering, covered with membrane, and a few pedicellariæ are usually congregated near the distal extremity. On the middle of the plate one large spine stands perpendicularly; it measures 5 to 6 mm. in length, and is encased in a membranous sheath crowded with pedicellariæ. The pedicellariæ are similar to those previously noticed, and measure from 0·175 to 0·2 mm. in length on a spine near the base of the ray. On the inner portion of the ray, extending perhaps half way along the ovarian swelling, these spines are flaring and flattened at the tip, with a truncate extremity coarsely crenulate, and the membranous sheath is not continued over this expanded portion, but terminates abruptly in a roll at its commencement. The flattened extremity is transverse to the direction of the ray. Beyond the ovarian region the spine is delicate, tapering, and sharply pointed, and the membrane has a saccular prolongation. The long lateral spines which fringe the margin of the rays do not occur on every plate, but usually on alternate ones; sometimes, however, two unarmed plates are together, and rarely two succeeding plates bear a lateral spine. The spines, which are of great length and delicacy, measure from 14 to 19 mm. near the middle of the ray, are articulated on a rudimentary infero-marginal plate ankylosed to the outer margin of the adambulacral plate, and are enveloped in a delicate membranous sheath crowded with pedicellariæ, which develops a saccular prolongation at the distal extremity. Very few lateral spines are present on the ovarian region, and only on the outer part. The spines here are short (about 4 mm.), and with their membrane appear more robust; they increase in length as they proceed outward, and again diminish at the extremity of the ray. The pedicellariæ are attached to the membrane by long thread-like stalks, and the valves when closed measure 0·11 mm. on a spine 12 mm. long, from near the middle of the ray. The thickness of the spinelet, just above its widely expanded articulatory base, is only 0·177 mm.

The actinostome is large and of wide expanse, as in all the group; its diameter is 14·5 mm. in a disk of 20 mm. diameter. Within its periphery, and at a higher level, is a broad tract of delicate buccal membrane surrounding the widely open mouth. The membrane is semitransparent, and the internal organs are more or less clearly visible through it; the margin is strongly muscular, and has a subvillous or papillose appearance.

The mouth-plates are small and quite inconspicuous, and the median suture line is indiscernible. The adoral margin of the united pair in each "mouth-angle" is semicircular, and four small mouth-spines are borne upon it, two on each plate. The inner spine on each plate stands close to the median line of juncture, forming a pair nearly parallel to one another and directed horizontally towards the centre of the mouth. The other mouth-spine on each plate is also directed horizontally, but at an angle of about 45° to the direction of the inner spine. The marginal mouth-spines are short (2 mm. in length), and are covered with a thin membranous sac, slightly expanded midway between the extremities, which gives a subfusiform appearance to the spinelet, and a few isolated pedicellariæ are