

truncate granules of the supero-marginal plates. There is also an odd plate in the median interradial line, generally narrower than the others, but sometimes so nearly similar that it is hard to distinguish.

The adambulacral plates are short but broad, and their armature consists of four or five pairs of spinelets standing one behind the other, the outermost pair being much smaller than the rest, which are nearly equal. The inner pair of spines on the furrow margin are flattened and truncate at the tip, the flattening being at right angles to the furrow; sometimes the second pair are in like manner slightly flattened, but usually the second and third pair are cylindrical and truncate or obtusely rounded; the small outermost pair are more conically pointed. Occasionally there is some obliquity in the posture of the second and third pair, but this is by no means the rule.

The mouth-plates are rather small and narrow, each pair intimately united and forming a prominent keel along the median line, which is prolonged posteriorly as a short sharply-pointed vitreous spine. Their armature consists of four or five small spines on the anterior free margin of each plate, often chisel-formed in the adult; and five or six short cylindrical upright spines, which form a line on each side of the vitreous prolongation, the lines converging as they proceed outward, and the spinelets diminishing gradually in size.

The actinal interradial areas are extensive and covered with small subrhomboid pavement-like plates, regularly arranged, which diminish in size as they recede from the inner part of the area, and extend very nearly to the tip of the ray. The plates bear a paxilli-form group of small conical-pointed spinelets, often subfusiform or narrower at the base than at the outer third. There may be from five to a dozen spinelets in a tuft, radiating apart slightly, and with three or four central spinelets a little longer than the rest, the separate tuft-like groups being fairly well-defined. The larger spines are nearly, but not quite, as large as those in the armature of the adambulacral plates.

The anal aperture is obscured by paxillæ, but there is no reason to doubt its presence.

The madreporiform body is small, subcircular, and slightly convex, situated nearer the centre of the disk than midway between that point and the margin. Its surface is marked with fine striations, which are considerably convoluted. The paxilla standing on its ad-central side is rather larger than the others in this neighbourhood.

The ambulacral tube-feet have a well-developed sucker-disk.

Young Phase.—In a smaller specimen than the above, measuring $R = 27$ mm., $r = 14.5$ mm., there are seventeen supero-marginal plates between the odd median interradial plate and the terminal, and the whole character of the abactinal surface is precisely similar to that already described above. The singular puffball-like appearance of the paxillæ is if anything even more pronounced. The armature of the infero-marginal plates is, however, scarcely so spiniform as in the adult, this character being only developed on the actinal part of the plate,—the covering of the upper part of the plate, which enters into the lateral wall of the ray, being truncate, prismatic granules, similar to those on the supero-