

to give it the effect of being divided nearly to the centre into five broad radial lobes; these lobes are a good deal inflated, and each lobe is traversed in a radial direction by two deep grooves, so that a deep outer rim of the upper surface of the disk is strongly fluted. The space in the centre of the disk corresponding with the middle third of its diameter is flat, and considerably depressed beneath the level of the outer inflated rim. The whole of the surface of the disk is tessellated with a certain approach to regularity with strong calcareous plates, those toward the periphery larger than those near the centre; and the plates bear small stump-like spines, each with a crown of spinules on the free end, inserted into distinct sockets hollowed out in the plates. The radial shields are long and narrow, and lie in the bottom of the grooves in the radial lobes; so that the shields of each pair are separated from one another by a high calcareous arch, almost a tube, formed of the inflated calcified perisom. The spines are specially congregated on the central depressed portion of the disk.

The mouth-papillæ are nine for each angle; they are broad and rather blunt, with the exception of the odd papillæ terminating the strong prominent jaws beneath the rows of teeth, which are larger than the others and pointed. There are no tooth-papillæ; the teeth are about five in a row, pointed and compressed vertically. The mouth-shields are large and wide, and rudely diamond-shaped; at the outer angle the sides of the plate are turned up a little, so as to form a short spout-like extension toward the base of the interbrachial groove. The first lower arm-plates are shield-shaped, the points closing the distal ends of the mouth-fissures; and those beyond are wide and crescentic, extending across the whole width of the arm. The tentacular scales are simple and leaf-like, one to each tentacle. The side arm-plates are very large, meeting both above and below; they are raised distally into a high ridge marked with the shallow sockets of the arm-spines. The height of this ridge