

Ophiocreas.

Ophiocreas, Lym., Bull. Mus. Comp. Zool., vol. i., part 10, 1869.

Disk very small, slightly arched, and divided into radiating lobes by the radial shields, and covered by a soft skin. Large strong teeth in a single vertical row. No mouth papillæ or tooth papillæ. Arms simple, very long and slender, and covered by a soft skin, which obscures the underlying parts; their under side is nearly covered by the side arm plates which bear two slightly rough cylindrical tentacle scales (or arm spines), and are continued upward by a row of narrow plates homologous with upper arm plates and covering sides and top of arm. Under arm plates small but distinct. Two small genital openings in each interbrachial space, slanting or nearly vertical and placed at the outer corners.

There are five pairs of side mouth shields, each with its mouth shield, apparently always madreporic, for each has a tube which I have not yet properly traced, but which, doubtless, is a stone canal. These shields are an Ophiuran character shared by *Astroschema*, which is only an *Ophiocreas* with a granulated skin.

Ophiocreas brings us a long step towards the true Ophiurans. An opening, somewhat inclined from the vertical, through the base of an arm and the outer corner of the disk is sketched in (Pl. XLVI. fig. 1). The integument of the arm, cut through on the side, is lifted and thrown back, while the side of the disk is wholly cut away. Above the arm bones at the base of the arm lie the double lobed spermaries (δ, δ), long, cylindrical, smooth bodies, a little curved, and tapering at each end. On the opposite side of the arm lies a corresponding pair. The genital opening (*no*) enters a spermatic pouch, or bursa, separated from the body cavity, as in Ophiurans. An extension of the lining membrane of this bursa encloses the spermatic lobes (δ, δ), which discharge into it by a pore at their inner end. I have already remarked¹ that the ovaries of this species lay in the same position, at the base of the arm. I made, however, a mistake as to the "large eggs which are about .7 mm. long." They are not eggs but clusters of eggs, each wrapped in its membrane and comparable to those of *Astrogomphus*. The position of the genital organs, though curious, is not so exceptional as might at first appear. Among true Ophiurans the space between the digestive cavity and the sides and roof of the disk wall is crammed with these organs when gravid. In *Ophiocreas*, however, not only is the disk small, but its body cavity is limited to the perihæmal canal and to a sinus over each arm. Everywhere else the digestive cavity adheres to the body wall; therefore the genital organs are, as it were, forced into the space between the skin of the arm and the arm bones.

The dissection of a female *Ophiocreas* (an undescribed species from the "Blake" dredgings) demonstrated the homology of the genital organs with those of Ophiurans. There were two long lobes, or tubular membranous bags, on either side of the upper surface of the arm. These were in process of discharging their eggs, which takes place by the breaking up of the egg clusters and the passage of the eggs to the inner end of the

¹ Bull. Mus. Comp. Zool., vol. vi., part 2, p. 66.