

opening, as seen between the arms (Pl. VI. *Fig.* 1) and through the genital cavities themselves (Pl. VII. *Fig.* 1), seem at first sight to be the natural outlets of the sexual apparatus, and have generally been considered as such. Ehrenberg, in the paper quoted above, has entirely overlooked the floors with double arches which separate the genital pouches from the open cavities below, and has represented the round opening of these cavities as leading directly into the genital sacs. See Pl. VII. *Figs.* 1 and 2, of his memoir.

The natural consequence of this arrangement is, that the ovaries, which are developed along the periphery of the lower floor of the genital sacs, discharge their eggs into the cavity above that floor, from which they have no other escape than through the channels leading into the main cavity of the body, from which they pass along the medial canals of the arms, into the little pouches formed by the folding of their margin, where they undergo their first development. This structure explains fully how it happens that, at the spawning season, the fringed margins of the arms are so heavily laden with eggs (Pl. VIII. *Figs.* 1 and 9). Were the eggs discharged through the lower opening below the genital pouches, as Ehrenberg supposed, they would immediately be scattered in the water, and could hardly be gathered again into the folds of the arms; but following the course above described, at the time when the arms have ceased to be very active, and when their margins are brought into close contact with one another from both sides, it is hardly possible that the eggs should readily escape; and, indeed, we find that while they accumulate in large numbers in the little pouches formed by the folds of the margin, in which they remain even when the animals are shaken in the water, it is only late in the season, when the margins of the arms begin themselves to decompose, that the young, already in their planula state, are successively dropped.

Having thus considered the general relations of these organs, we may now consider more closely some other points of their structure. It is already known that the Discophoræ have distinct sexes, but what is not so generally understood is, that at the spawning season, the males and females may readily be distinguished by their external appearance. In our *Aurelia*, at least, the distinction is very easy. In the first place, the oral appendages of the females (Pl. VI. *Fig.* 6) are much stouter and thicker than those of the males (*Fig.* 5), their upper side is more rounded, while those of the males show a prominent keel, and the marginal fringes are more extensively folded and the folds more intricately interwoven, preventing, no doubt, the ready escape of the eggs in their undeveloped condition. It may also be noticed, that even in their full-grown condition, the oral appendages of the males are more pendant, while those of the females are usually coiled up. In the second place, the ovaries are of a lighter, more yellowish color, while the spermaries are more purplish, or rose color. At the time of spawning, this difference