

of the arms are united by a very thin interbrachial membrane, which surrounds the buccal disk and does not carry suckers.

b. Tentacular Arms.—The tentacular arms were retracted in the Challenger specimen, but only partly and not completely as in *Sepia*, *Sepioida*, &c.; their acetabuliferous extremities bent back reach those of the sessile arms (Pl. I. fig. 1, *T.*). The free extremity of the “tentacles” is pointed, but not widened as in the other Decapods; the “suprabrachial” longitudinal ridge is there more elevated and more like a membrane than that upon the sessile arms. The remainder of the tentacular arms is rounded and smooth. The pocket in which each tentacle is in part retracted is formed by the interior of the base of the third and fourth sessile arms as usual, and when the retraction of the organ takes place, it is folded back on itself. In this position the tentacle resembles a bent arm, the proximal portion (attached) representing a very short arm, while the remainder corresponds to a long fore-arm with the acetabuliferous part at the extremity like a hand (Pl. III. *T.*). When the tentacular arms are thrown out and extended they are longer than the whole body (Pl. II. figs. 1, 2). The area on which the suckers are situated is in the form of an elongated oval, narrowed at the extremity corresponding to the summit of the arms, not exceeding one quarter of an inch in length; the suckers have the same form and arrangement as those of the sessile arms, the diameter of the largest not exceeding $\frac{1}{200}$ th of an inch.

c. Suckers.—The suckers are “cups” slightly pedunculated; their peduncle is not, as in *Sepia*, inserted in the axis of the sucker, but laterally as in the *Cecephalopods*, *Loligo*, &c. (see Pl. VI. fig. 10). The largest suckers are found at the proximal extremity (basal) of each acetabuliferous area, and do not exceed $\frac{1}{100}$ th of an inch in diameter. They gradually diminish in volume up to the summit where their diameter is not more than $\frac{1}{200}$ th of an inch. They are closely crowded over the whole surface of the acetabuliferous area, but without perfect regularity; six or seven of them occupy the width upon the largest part of the area, while there are not more than three or four at the base of the area, and not more than two or three at the summit. Their “horny” armature is thick, and in a few the form is that of a globular glass without bottom; the free annular border is produced into short spines (see Pl. VI. fig. 9).

3. The Funnel, Muscles, and Cartilages.—The funnel is closed ventrally, as in all the Dibranchiates. On the internal cephalic wall is a small anterior valve in the female (Pl. I. fig. 7, *I.v.*). This character also exists in the male.¹ There does not seem to be any trace of “Müller’s organ” (mucous gland of the funnel) so widespread in the Dibranchiates. The infundibular collar (see Pl. I. fig. 5) is high and not fused to the mantle dorsally (Pl. III.). Ventrally, upon the sides of the collar, are linear, elongated, cartilaginous fossæ (Pls. I., II., and IV., *li.*) corresponding to the protuberances of

¹ Steenstrup, *Sepiadarium og Idiosepius* (*Vidensk. Selsk. Skr.*, naturhist. og math. Afd., ser. 6, Bd. i., Kjöbenhavn, 1881, p. 229).