

the shortest, the other three pairs subequal, the order of length being 3, 4, 2, 1; they are quadrilateral, with rounded angles externally, with two slightly raised ridges internally, on which the suckers are situated; they taper gradually to very slender tips; the third pair have a delicate narrow web along the third quarter of their outer aspect. The *suckers* are in two series throughout; they are small and distant along the proximal third (the webbed portion) of the arms, then larger and closer, and finally minute and very closely set towards the tips; they are set transversely on short conical peduncles, spheroidal, with a swollen band round the face. The *horny ring* (figs. 12, 13) is smooth proximally, distally it bears about five close-set, broad, bluntly rounded teeth; the smaller proximal suckers have a smooth ring (fig. 14). No trace of *hectocotylisation* could be found on any of the arms. The *umbrella* is found only between the dorsal, dorso-lateral, and lateral arms; it takes origin from the sucker-bearing ridge and extends about one-third up the arm. The *buccal membrane* (fig. 11) is broad and somewhat contracted over the mouth; it has the usual seven points, but they are very blunt and indistinct; it is united by three ligaments with the web between the dorsal and dorso-lateral arms, by a ligament with the inner side of each ventro-lateral arm on its ventral aspect, and by another to the inner surface of each ventral arm, there being altogether seven ligaments. The membrane bears no suckers; its inner surface is much creased and folded. The *outer lip* is very thin and smooth, and hidden between the creased integument of the buccal membrane and the *inner lip*, which is thick and marked with irregular radial grooves.

The *Tentacles* have been removed; the stumps which remain are not half the length of the arms; they are quadrangular and flattened from above downwards.

The *Surface* bears a large number of papillæ, slightly elevated, resembling those of *Calliteuthis*; they are arranged most thickly on the ventral aspect of the head and body, but there are also a few on the dorsal surface; they extend up the outer aspect of the arms, three series on the ventral arms, two on each of the others. Near the tip of each dorsal arm is a series of four or five black, elongate, egg-shaped swellings, gradually diminishing in size, and forming apparently an extreme development of the papillæ above mentioned. The second pair of arms appears to have been similarly provided; the third has been so stripped of integument towards the tips that it is impossible to ascertain the original condition. In the fourth the warts at the tip are quite similar to those lower down the arm.

The *Colour* is a dull purplish-madder, paler above than below, the papillæ are a deep black, with a white centre, usually situated towards the anterior margin. The *buccal membrane*, both sides of the umbrella, and the inner surfaces of the arms, so far as this extends, are a deep purple.

The *Gladius* (fig. 15) resembles that of *Loligo*, the anterior portion forming about one-fourth the total length.