

and they often alternate more or less regularly on opposite sides of the medio-ventral line of the pinnule, where there is an opening in one of them for the exit of the genital products.

In the young individuals obtained, even in those with a spread of 12 cm., there is no trace of the enlargement either of the pinnule-joints or of the protecting plates (Pl. XVI. fig. 5), although both are visible in the older forms, which still show a considerable part of the first radials externally. In the regenerated arms too the lower pinnules are for some time quite small and inconspicuous, and altogether different from those of the uninjured mature individuals. This is the case even when the arm has attained almost its full size, and is absolutely larger than those of other individuals not yet quite mature, but with comparatively large genital glands.

All these greatly enlarged genital pinnules are devoid of ambulacra, like the non-tentaculiferous posterior arms of *Actinometra*; but at about the position of the twenty-fifth brachial there is a sudden diminution in size both of the pinnule-joints and of the protecting plates, more especially of the latter. They become much smaller and relatively more numerous, while the sacculi which are absent in the large lower pinnules begin to appear, just as they show themselves in the genital pinnules of *Antedon angusticalyx* from the same station;<sup>1</sup> while eventually the ambulacral skeleton shows itself above the small protecting plates, as in *Antedon incerta*.<sup>2</sup> A little further out on the arms these protecting plates disappear, and the ambulacral skeleton comes to rest directly upon the pinnule-joints, as shown in Pl. XVI. fig. 4. The side plates are very well differentiated and are often notched for the reception of the sacculi or of portions of them; but in other cases, when the sacculi are large, they are altogether covered and concealed by the side plates.

2. *Antedon discoidea*, n. sp. (Pl. X. figs. 1, 2).

*Specific formula*— $A. \frac{a}{c}$ .

Centro-dorsal a thick disk, bearing fifteen to eighteen cirri in a single or partially double row, with the dorsal surface free. The cirri reach 27 mm. in length and consist of forty or fifty joints, a few of which at the base are longer than wide, and the following ones gradually develop a sharp dorsal keel.

Three radials visible; the first short, except at the angles of the calyx, where the ends of the basal rays sometimes appear. Second radials short, wide and oblong, and the axillaries barely pentagonal.<sup>3</sup> Both joints have large muscle-plates, and their dorsal surfaces rise towards the middle of their apposed edges. Rays well separated.

<sup>1</sup> See Part I., pl. liv. fig. 5.

<sup>2</sup> See Part I., pl. liv. fig. 6.

<sup>3</sup> The above description applies to the joints as seen in full face view. They have a very different shape in the figure of the entire animal, owing to the angle at which the rays are set on the calyx (Pl. X. fig. 1).