

that which is so marked in *Antedon spinicirra* and *Antedon acutiradia* (Pl. XI. figs. 1, 3, 5). The characters of the cirri and of the first pinnules also separate *Antedon breviradia* from *Antedon lusitanica*, which was probably without such distinctly carinate outer arm-joints as occur in *Antedon breviradia* (Pl. XI. fig. 5; Pl. XIX; Pl. XX. fig. 1). Some of the later pinnules of this species have the lower joints flattened and expanded as in *Antedon valida*, while in other arms there is but little trace of this peculiarity. There is a similar variation as regards the sacculi. On some pinnules they are abundant, alternating regularly with the side plates; on others there are very few, and some pinnules are altogether without them.

The characters of the centro-dorsal and calyx of *Antedon breviradia* undergo a considerable amount of change during development, as will be seen on comparison of figs. 4 and 5 on Pl. III., which I at first took to represent distinct species. The centro-dorsal is deeper and more conical in the older form, while its more numerous cirrus-sockets are arranged in tolerably regular vertical rows. There are two of these rows under each interradial angle, each with three sockets, which alternate with those of adjacent rows, and the dorsal pole is covered with a number of short stout processes of which there is but little trace in the younger individual (Pl. III. figs. 4*b*, 5*a*). The two forms also differ in the characters of the radial pentagon. In the younger one (fig. 5*b*) its under face is tolerably flat and smooth, with the rosette rather near the surface and little or no indication of a basal star; while in the older form (fig. 4*c*) the rosette is more deeply sunk within the axial opening, and is surrounded by a fairly definite basal star. The surface of each radial is also very convex and rises to one or two sharp points near the middle of its distal edge. These are well seen in the side view (fig. 4*b*), which is considerably different from that of the younger individual (fig. 5*a*). The lower part of the muscle-fossæ is occupied by two or three strongly marked ridges with intervening furrows, which are altogether absent in the less mature form. The latter, however, has the upper end of the muscle-plates more everted than in the adult condition, so that the central opening of the calyx is relatively larger and more pentagonal in appearance (Pl. III. figs. 4*a*, 5*c*). I have now no doubt, however, that these differences are merely those of growth, and that they are not of specific value, as I supposed them to be when Pl. III. was lettered.

7. *Antedon spinicirra*, n. sp. (Pl. XI. figs. 1, 2).

Specific formula— $A. \frac{b}{c}$.

Centro-dorsal hemispherical or bluntly conical, bearing twenty to twenty-five cirri with forty to forty-five joints, a few of the lowest of which are longer than wide, while all but the basal ones have a sharp dorsal spine.