

differences as do those of *Antedon* in the extent to which the radials appear on the outside of the calyx. In *Actinometra maculata*, *Actinometra lineata*, and *Actinometra stelligera* the centro-dorsal is so large that it actually supports the proximal ends of the second radials, and nothing but the angles of the first radials can be seen externally (Pl. V. figs. 1, 2, 5, *a*, *b*). Small portions of their sides can be seen in *Actinometra solaris* (Pl. V. figs. 4, *b*, *c*); while in *Actinometra paucicirra* and in all the *Phanogenia*-like forms the centro-dorsal only occupies a comparatively small space in the centre of the radial pentagon, a considerable portion of which appears externally as seen in Pl. V. fig. 3*c*, and in Pls. LIV., LXV.

Not only the centro-dorsal, but also the radials of *Actinometra* present very considerable differences from the corresponding parts of the *Antedon*-calyx, though these differences are less distinct in the fossil than in the recent forms of both genera. The outer or articular faces of the radials in *Antedon* are always much inclined to the vertical axis of the calyx, and are usually much wider at their dorsal than at their ventral ends, so that their outline is trapezoidal (Pl. I. figs. 6*a*, 8*a*; Pl. II. figs. 1-5, *a*; Pl. III. figs. 1*a*, 4*b*, 5*a*, 6*d*; Pl. IV. figs. 2*a*, 3*a*). *Antedon carinata* and *Antedon macronema* are, however, somewhat exceptional in this respect, the width of their articular faces being very much more uniform; and they further differ from most species of *Antedon* and resemble *Actinometra* (Pl. V. figs. 1-5, *a*) in the relatively great diameter of the central funnel of the calyx (Pl. III. fig. 1*d*; Pl. IV. fig. 3*b*). For as a general rule the opening of the central funnel which is bounded by the upper edges of the radials is very narrow, their ventral surfaces being quite small and having a steep inward slope. Hence when the calyx is viewed from above the greater part or even the whole of these inclined external faces is visible, always down to the opening of the central canal in the transverse articular ridge (Pl. II. fig. 4*d*; Pl. III. fig. 6*c*); while sometimes even the fossæ for the attachment of the dorsal ligament are visible in a superior view (Pl. I. figs. 6, 8, *b*; Pl. II. figs. 1-3, 5, *d*; Pl. III. fig. 4*a*). This last is especially the case in *Antedon macronema* (Pl. IV. fig. 3*b*), though the reverse is true of *Antedon carinata* (Pl. III. fig. 1*d*).

Most species of *Antedon* have large muscle-plates, which greatly increase the height of the distal faces of the radials (Pl. I. figs. 6, 8, *a*; Pl. II. figs. 1-5, *a*; Pl. III. figs. 4*b*, 5*a*, 6*d*). They are fairly large in *Antedon carinata* (Pl. III. fig. 1*a*), but in *Antedon macronema* they are quite small and linear and barely distinguishable in side view from the pair of fossæ immediately below them, though they are seen more clearly when viewed from above (Pl. IV. figs. 3*a*, *b*). This lower pair of fossæ was described by Dr. Carpenter¹ as serving for the attachment of the interarticular ligaments. The ridges which generally separate them from the upper fossæ mostly start from the raised rim round the opening of the central canal and run more or less obliquely outwards to meet the sides of the radials (Pl. II. figs. 2-5, *a*; Pl. III. figs. 4*b*, 5*a*, 6*d*). In *Antedon antarctica*, however,

¹ *Phil. Trans.*, 1866, p. 714.