The twenty-four tentacles are of extraordinary length compared with the size of the animal; the largest of them are 3–5 cm. long, whilst the smallest are only 1·5–2·0 cm., the six others being of medium length. The tentacles have precisely the same arrangement as in the Corallimorphidæ, so that the largest of them correspond to the intraseptal spaces of the primary septa, the six following to the intraseptal spaces of the secondary septa, and the twelve smallest communicate with the remaining interseptal spaces in the periphery of the œsophagus.

We may therefore assuredly assume, from this distribution of the tentacles, that the septa are arranged exactly on the same principle as in the other Hexactiniæ. This is corroborated by the distinct presence of two oral angles in the mouth, and two œsophageal furrows on the œsophagus. I was, however, only able, from personal observation, to ascertain that the septa are arranged in pairs, and that all the twenty-four bore reproductive organs.

The muscular system is nowhere mesodermal, the muscular lamellæ are, moreover, nowhere thickly pleated, either in the septa or in the tentacles and oral disk. The circular muscle is consequently entirely wanting.

## Family, Antheadæ, Gosse.

Hexactiniæ with long marginal tentacles and slightly developed endodermal circular muscle (so that the oral disk cannot be covered at all, or only incompletely); numerous septa, reaching for the most part up to the œsophagus, distinguished only by their size, and all (?) furnished with reproductive organs.

The family of the Antheadæ, of which the well-known *Anthea cereus* is the typical representative, was erected by Gosse. Owing, however, to my having limited it here on the basis of a more exact anatomical definition, it differs in extent from that given in Gosse's well-known work. On the one hand, I have separated from it the genus *Aiptasia*, which has acontia and cinclides, following Verrill, who was the first to declare this necessary (Comm. Essex Inst., vol. v. p. 322, 1866–7), whilst, on the other hand, I have no hesitation in incorporating in this family the Actiniæ with rough surface of the body, inasmuch as they fulfil the above-mentioned conditions, whilst Gosse considers the smooth surface of the wall as the most important characteristic.

According to my own observations, *Anthea cereus* has marginal spherules, though these do not strike the eye by their bright colours, so that we cannot separate the Antheadæ from the Actinidæ furnished with marginal spherules, on account of absence of these formations; it therefore becomes a question whether it would not be more to the purpose to follow Verrill and unite the two families (Trans. Connect. Acad., vol. i. p. 491, 1867–71). As my own experience has shown that the nature of the circular muscle in *Actinia mesembryanthemum* approaches that in *Anthea cereus*, I am inclined to answer