throughout; their longitudinal muscular fibres are developed into a repeatedly folded muscular lamella, whilst their transverse fibres are weak. The parietobasilar muscle, which springs from the small pedal disk, and reaches half-way up the wall, is also weak (fig. 2).

The greater part of the thin-membraned portions of the septa had been torn away; where they still remained they lay in the interseptal and intraseptal chambers, from which they protruded through the stomidia. They contained the reproductive organs, the specimen examined by me being a male. The follicles, filled with spermatoblasts and spermatozoa, are not so thickly compacted as in most other Actiniæ, but rather isolated and of considerable size, so that they can be separately recognised with the naked eye placed beside one another like paving-stones.

All the septa reach the œsophagus; the upper part only of the forty-eight septa of the third order is connected with the œsophagus, whilst the others extend much farther downwards; they are all pierced by peristomial openings, forming a circular canal in the aggregate. The only difference between the septa—apart from size—seems to be that the principal septa are without reproductive organs. I must, however, remark that in consequence of the numerous injuries, it is impossible to make any positive statements as to the distribution of the reproductive elements upon the septa.

All the surfaces of the wall and of the septa covered with endoderm are brownish-violet, as numerous pigment granules are deposited in the epithelium. The mesenteric filaments, which I have figured in transverse section in fig. 5, form the only exception; they are whitish like the ectodermal parts, and are distinguished in this way from the dark ground of the septa on which they run in numerous meandrous curves.

## Family, Sagartidæ, Gosse.

*Sagartinæ* = *Phellinæ*, Verrill.

Hexactiniæ with acontia, a strong mesodermal circular muscle and numerous very contractile tentacles; the principal septa, or septa of the first order, only are perfect and at the same time sterile; all the remaining septa are imperfect.

In my researches on the Actiniæ, which have already extended over a very large amount of material, I have almost always found two characters combined. (1) The presence of filaments known as acontia near the lower end of the mesenteric filaments; they float freely in the gastric cavity, are thickly covered with nematocysts, and if danger threatens can be protruded quickly as weapons of defence. (2) The six pairs of principal septa only reach the œsophagus, all the others being imperfect. Reproductive organs are found only on the secondary septa, of which, however, the older are often permanently sterile.

My brother and I first observed these facts in *Adamsia diaphana*, *Metridium dianthus*,