

Zoanthidæ amongst the Actiniaria have a similar axis, which in some cases, too, becomes tubular. In *Savaglia* the colonies are larger and more important, and apparently the sclerenchymatous sheath may be continued beyond the foreign substance which at first forms its support, but in both cases the growth is at first parasitic. In the Zoanthidæ it apparently never ceases to be so. On the other hand the zooid of *Savaglia* does not appear related to that of the Zoanthidæ. R. Hertwig and Erdmann regard the alternation of macro- and microsepta as the most prominent feature of the latter group, and this condition does not obtain in *Savaglia*. I have not been able to make sections of this species, and am unable to add anything to the researches of Lacaze Duthiers. Temporarily I have retained it amongst the Antipatharia, but it must be regarded as a genus quite apart, and one which may ultimately be included in the Actiniaria.

With the exception of *Savaglia* the most constant feature of the Antipatharia is the presence of spines on the axial horny sclerenchyma. This is a feature which, so far as I know, is only shared, and then in a modified manner, by one other genus of Anthozoa, viz., *Acanthoisis*, Wright and Studer. In this genus, the only one amongst the Gorgonidæ which appears to approach the Antipatharia in this respect, the axis consists of alternating calcareous nodes and horny internodes; the internodes have the surface raised in ridges, which are dentate.<sup>1</sup> Next in importance, and with the additional exception of the Dendrobrachiidæ (also at present limited to one species), we may consider the simple nature of the tentacles and the absence of a sphincter muscle, as a necessary result of which the tentacles cannot be covered by the upper portion of the body-wall. The former feature was until recently supposed to separate sharply the Zoantharia from the Alcyonaria. We now know, however, that certain families of Actiniaria (Sarcophanthidæ and Thalassianthidæ) have the tentacles branching or bushy, and thus approach the Alcyonarian type. *Dendrobrachia*, too, amongst the Antipatharia has pinnate tentacles. The presence of a sphincter muscle, though frequent in the Actiniaria, is not a constant feature. The group includes all grades of differentiation in this respect. Further, and again with the exception of *Savaglia*, the arrangement of mesenteries in the Antipatharia is constant, and in all genera yet described (? *Dendrobrachia*) they may be reduced to one type.

The characters which I have considered of generic value refer chiefly to the form of zooid and the number and relations of the mesenteries. The latter have been found to vary from twelve to six in the Antipathidæ. The following is the arrangement at present proposed:—

<sup>1</sup> Wright and Studer, Challenger Alcyonaria, Zool. Chall. Exp., pt. lxiv. (vol. xxxi.) p. 45, pl. viii. figs. 1, 1a, 1b.