

and *Calliactis (Sagartia) parasitica*; I have been able to corroborate them in five different species of the Challenger material, and found, moreover, that in no instance, where the acontia were present, was the differentiation of the septa wanting, and that the Amphianthidæ were the only Actiniæ in which the acontia were absent, though the septa showed the Sagartid type. I therefore feel justified in making use of both characters to limit a family of Actiniæ, which I still term Sagartidæ, as most of the forms belonging to it have been determined as such by former authors.

A third characteristic is common to all Sagartidæ, viz., the presence of a strong mesodermal circular muscle, but this is only of subordinate value, as it occurs in other families.

Nearly all the descriptions published of the *Sagartiæ* and the closely allied forms are unfortunately so imperfect that it is impossible to determine how far the forms hitherto described come under the above diagnosis. As yet, we can only assume this to be definitely the case in *Sagartia schilleriana*, discovered by Stoliczka (Journ. Asiat. Soc. Bengal, vol. xxxviii. part ii. p. 28-63, 1869). Another form, *Sagartia troglodytes*, may, on the other hand, be considered as an exception; v. Heider states (Sitzungsber. der Wiener Akad., Math. Naturw. Cl., Bd. lxxv. Abth. 1, p. 367, 1877) that in it forty-eight pairs of septa reach the œsophagus, and at the same time describes formations in it, which undeniably are acontia, though the author does not distinguish them from the mesenteric filaments. However, as I have already specially remarked, I am doubtful whether v. Heider has not confused sections through the oral disk with sections through the œsophagus, and consequently over-estimated the number of the perfect septa. Such a mistake might easily occur in highly contracted animals like those which he examined.

As far as we can judge at present, the family of the Sagartidæ, as I have now defined it, would coincide on the whole with Gosse's Sagartidæ. The most essential difference is that I have included the genus *Bunodes* in it. In so doing I relied upon the examination of a single species, which showed externally the arrangement of papillæ characteristic of the *Bunodes*, but which must be placed among the Sagartidæ, from its anatomical constitution. It remains for future observers to determine whether the structure is the same in the other species as in our *Bunodes minuta*; at present it is quite possible that perfectly heterogeneous species have been included under the same generic name. It must, however, be borne in mind that Verrill (Transact. Connect. Acad., vol. i. p. 467) and Jourdan do not attribute any acontia to the genus *Bunodes*, and Gosse (Actinologia Britannica, p. 204) only to a single species.

Verrill has separated the sub-family of the Phellinæ from the Sagartidæ, an innovation of which I do not approve, as there are transition forms between *Sagartia* and *Phellia*. The cuticular secretion, the "epidermis" of the said authors, which covers the wall of *Phellia* as far as a ring close under the tentacles, is present, though less highly