

Family VII. NEPHTHYIDÆ.

Nephtyidæ, Verrill, Proc. Essex Inst., vol. vi., 1869, p. 46.

Siphonogorgiaceæ, Kölliker, Festschr. phya-med. Ges. Würzburg, 1874, p. 22.

Spoggodinæ, Dana, U.S. Explor. Exped., Synopsis of Report of Zoophytes, p. 126.

Spoggodidæ, *Nephthyadæ*, and *Lemnaliadæ* (*pars*), Gray, Ann. and Mag. Nat. Hist., ser. 4, vol. iii. pp. 128-130.

Alcyoniens armés, Milne-Edwards, Hist. Nat. des Coralliaires, t. i. p. 127 (*pars*).

Alcyoninæ capituliferæ and *Siphonogorgiaceæ*, Klunzinger, Korall. des rothen Meeres, pt. i., 1877, pp. 30, 48.

In this family the polyps form upright branched colonies, which consist of a more or less elevated sterile trunk, and of branches ramifying in the most varied fashion and bearing terminal polyps. The latter do not exhibit separate calyx and tentacle bearing regions, so that there can be no complete invagination of the upper tentacle-bearing polyp portion into the lower gastral region. The tentacles when at rest are simply folded over the oral disc. The polyp bodies are continued into long gastral cavities, which do not, for the most part, directly communicate with one another, but are separated by thin walls. Each gastral cavity narrows below, and terminates in a *cul de sac*. A few, however, are occasionally continued directly into the canals of the stem. The main axis and the larger branches are penetrated by wide canals, which are only separated from one another by thin partitions, sometimes with, sometimes without, spicules. A thicker external sheath, furnished with spicules, surrounds the stems externally, and the large canals are connected with the elongated polyps by tubes which take their origin from the bottom of the polyps. In the walls which separate the polyps there is a system of small capillary sap-canals. From these the young buds arise between the older polyps; these have longer or shorter digestive cavities according to their age. In the branches four wide canals may be usually distinguished, the walls of which come into contact in the axis of the branch. Fresh polyps, the small tubes of which are visible on cross sections, arise externally from these four principal canals in the interspaces between the pairs. Their partition walls do not, however, extend to the axis. Towards the end of the branch or of the twigs the new buds with their smaller digestive cavities become more abundant. The Nephtyidæ appear to have had their origin from among the lower Alcyonids, such as *Bellonella*, which exhibit analogous relations in their polyps.

The family may be divided into two subfamilies:—(a) those in which the walls between the stem-canals include very few or no spicules—the Spongodinæ; and (b) those in which spicules are abundantly present in the walls of the canals—the Siphonogorginæ.