

Order VII. LEUCOSPONGIÆ (Syconidæ, Leuconidæ, and Tichonidæ).—Calcisponges without spongin-skeleton, with vesicular canal-system.

Order VIII. PHAROSPONGIÆ (Pharetronidæ).—Calcisponges with a fibrous spongin-skeleton, with vesicular canal-system.

POSITION OF THE SPONGES IN THE ANIMAL KINGDOM.

The important question of the natural affinities of the sponges and of their position in the animal kingdom has been fully discussed in the former Reports of this series already quoted, and especially in the excellent Report of Sollas on the Tetractinellida.¹ Agreeing in general with the deductions of Sollas, as well as with his general conceptions of the sponge organisation, it seems to me not necessary to separate the Spongiæ from the other Metazoa. The fact that the sponges develop from a true Gastrula, and their tissues from two primary germ-layers, as in all other Metazoa, seems to prove the validity of their position within this kingdom. This position is mainly maintained by Lendenfeld in his works above quoted (1886). The same opinion is confirmed afresh if we look upon the flagellated chamber as the primitive individual, and as homologous with a Gastræa on the one hand and with a simple Hydroid on the other. I agree with Sollas that the sponges form a separate phylum within the sub-kingdom Cœlenterata, but the distance between them and the Cnidaria (especially the Hydroida) is not greater than that between the Cnidaria and the Platoda. The general results of this Report on the Deep-sea Keratosa seem to confirm this opinion.

The position of the sponges in the animal kingdom (as a separate phylum of the Cœlenterata), which in the present state of our daily increasing knowledge seems to be the most natural, will be best understood from the following synopsis of the Metazoa, which I have employed in my lectures during recent years :—

Systematical Synopsis of the Main Branches, Phyla, and Classes of the Metazoa.

A. First main branch of the Metazoa.

Cœlenteria (Cœlenterata vel Zoophyta).

Phylum I. GASTRÆADA.

Classes : 1. Physemaria ; 2. Cyemaria (Orthonectidæ, Dicyemidæ).

¹ Zool. Chall. Exp., pt. lxiii. vol. xxv. p. cxii.