

DESCRIPTION OF SPECIES.

ACTINIARIA OR MALACODERMATA.

Polyps with simple unpinnated tentacles and with septa, the number of which is usually a multiple of six ; without skeleton. Body moving freely or adhering to supporting substances by means of suction of the pedal disk, rarely firmly fixed. Animals usually solitary, rarely forming colonies.

In the foregoing diagnosis I have placed the nature of the tentacles first as the only thoroughly positive characteristic of the group ; it is by this that the Actiniæ are distinguished from the Anthozoa with pinnated tentacles, the Alcyonaria or Octactiniæ. I have been obliged to place second, and to limit the value of the hexamerous arrangement of the septa, to which the chief importance was formerly attached, as the number of the forms in which no settled number or even another number than six is the foundation of the distribution of the septa is continually increasing. I have included the want of the skeleton in the diagnosis, and therefore separated the Actiniæ from the Corals, for practical reasons ; the division is not a natural one. There can, however, be no doubt, and this has been settled for some forms by observations, *e.g.*, for *Caryophyllia cyathus* and *Madrepora variabilis* by G. v. Koch (Morphol. Jahrb., Bd. v., p. 316, 1880), that many Corals have the septal arrangement of the Hexactiniæ, and therefore approach this first section of the Actiniaria more closely than the remaining sections, the Paractiniæ, Edwardsiæ, Zoantheæ, and Ceriantheæ.

Tribe I. HEXACTINIÆ.

Actiniaria with paired septa. The septa of each pair are usually provided with transverse muscular fibres on those faces which are turned from one another and longitudinal muscular fibres on those faces which are turned towards one another, with the exception of two pairs of directive septa, which are placed opposite one another, and have longitudinal muscles on the faces turned from one another, and transverse muscles on the faces turned towards one another. The number of the pairs of septa is at least six, usually more, and then increasing in multiples of six. Mouth fissure-shaped ; œsophagus with two œsophageal grooves and two œsophageal lappets.

Ehrenberg had the Hexactiniæ and the Corals connected with them in view when he separated his *Zoocorallia polyactinia* with more than twelve radii from the eight-rayed Octactiniæ. In the same way only they can lay claim to the name Hexacorallia bestowed on them by Hæckel (Generelle Morphologie, Bd. ii., 1866). As they form the principal part of the Actiniæ, they have long been taken as types for the remainder. After Hæckel had detached *Cerianthus* by reason of the observations on its development made by Jules Haime, my brother and I pointed out the varying position of the Zoantheæ and