

to belong to the same family. R. Hertwig points out that v. Koch's researches on *Antipathes larix*, Esper, already referred to, show an interesting connection between the form of the polyp in that species and the peculiar elongation of the body in the Amphianthidæ. In *Antipathes larix* "the body is elongated in the direction of the skeletal axis, and the transverse axis of the animal thereby appears lengthened, whilst the sagittal axis is shortened. . . . Two pairs of septa, which correspond to the oral angles, are sterile, and consequently comport themselves like directive septa, whilst the two remaining pairs, lying in the prolonged transverse axis, bear reproductive organs, and are therefore best termed accessory septa." In conclusion he thinks it probable that the Amphianthidæ bring about the transformation of the Actinaria to the Antipatharia. It is, however, necessary to determine whether the paired arrangement of the septa and the presence of the directive septa can be demonstrated in Antipatharia, and whether the sagittal and transverse axes have the same direction in both groups. The evidence which I have been enabled to obtain on these points will be found in the chapter devoted to morphology.

Andres, in his work on the Actinaria of the Gulf of Naples (73), discusses the position of *Gephyra dohrnii*, v. Koch, which he places in his genus *Sagartia*, as modified in the monograph in question. G. v. Koch saw in the sclerenchymatous membrane of the base of this species a mode by which the axial skeleton of Antipatharia could be produced, and suggested *Gephyra* as a bridge from the Actinaria to the Antipatharia. Andres points out that the relation is, so to speak, physiological and not phylogenetic. He calls attention to the similarity in this respect of two deep-sea Actinians described by Moseley, viz.:—*Actinia abyssicola*, found on the stems of *Mopsea*, and *Actinia gelatinosa* on those of *Gorgonia*. At present data are wanting to enable us to decide whether in such cases there is a true morphological affinity or only a parallelism of function. With regard to the systematic value of the power of the "base" to secrete a basal membrane, the following quotation is of interest:—"Forse non lontana parente è la *Phellia nummus* che abita pure acque profonde, secerne abbondante muco solidificabile, ed ha macchie marginali alterne chiare e scure. Il carattere abbracciante (amplectens) della base ha poca importanza; perchè gli animali talora aderiscono a corpi piatti con la base allargata come un'altra attinia qualsiasi."

In 1886 Koch (76) described a new species of *Antipathes* from the Gulf of Guinea (*Antipathes squamosa*), which is allied to *Antipathes spinescens*, Gray, if not identical with it. A new species in the Challenger collection (*Antipathes cylindrica*) has also a similar "bottle-brush" type of corallum.

In a recent review of the results of the cruises of the "Blake," Agassiz (78) refers to the species of Antipatharia described by Pourtalès, calling attention to the frequency and wide bathymetric range of certain forms, such as *Stichopathes pourtalesi* (= *Antipathes spiralis*, Pourtalès) and *Antipathes columnaris*. With reference to the latter species,