2, p. 74; Zoophytes, pl. ii. fig. 2), is certainly attached to a smooth underlying substance, but is, nevertheless, greatly elongated in one direction, so that, if we may judge from the drawing of it, even the corona of tentacles is divided into a right and a left half. On the other hand, *Gephyra dohrnii*, our knowledge of which we owe to G. v. Koch (Zur Phylogenie der Antipatharia. Morphol. Jahrb., Bd. iv., Suppl., p. 78, 1878), settles like a true Amphianthid on the axis of *Isis elongata*. The animals either live singly or are united by basal processes into a colony; they are fastened to the axis by a cuticular mass secreted by the pedal disk. The author has unfortunately given no details as to the position of the oral fissure with respect to the axis of the *Isis* and the constitution of the septa and œsophageal grooves.

G. v. Koch considers the *Gephyræ* as transition forms between the Actiniaria and the Antipatharia; he assumes that Actiniæ settled upon cylindrical bodies and secreted a horny mass by which they attached themselves, that later, from want of a foreign axis, they originated a proper axial skeleton by richer secretion of the adhesive mass, and moreover became branched by forming colonies. The correctness of this view is confirmed by the few remarks made by v. Koch on the structure of *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. This I conclude from the position of the mouth and the septa; the former is either circular or fissure-shaped; if fissure-shaped, it crosses the longitudinal axis of the animal. The different direction of the longitudinal axis of the body, and the oral fissure is very striking, but can be easily understood if we assume that the oral fissure has maintained its original extension in a sagittal direction whilst the body is prolonged in a transverse direction. We must therefore look for the directive septa on the long sides of the body. In fact, we find there 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.

It is therefore most probable that the Amphianthidæ bring about the transformation of the Actiniaria to the Antipatharia. A more detailed study of the Antipatharia is however necessary before this view can be fully accepted; above all, it must be determined whether the paired arrangement of the septa and the presence of the directive septa can be demonstrated in the Antipatharia, and whether the sagittal and the transverse axes are directed in the same manner as in the Amphianthidæ.

Stephanactis, n. gen.

Amphiantidæ with firm wall, divided by a circular swelling into an upper and a lower section; tentacles numerous, arranged in several rows, decreasing in size from within outwards.