

ANATOMY OF THE ELASIPODA.

EXTERNAL CHARACTERS.

The order Elasipoda is distinguished from all hitherto known Holothurioidea by a great number of external characters. In most cases the general appearance makes confusion between the forms of this order and those of the Apoda and the Pedata impossible. The Apoda are either of a strongly-marked worm-like, usually long, narrow, cylindrical shape, or of a fusiform one, with the posterior extremity more or less elongated and strikingly tapered. As an example of the former may be cited *Synapta*, Eschsch., *Chirodota*, Eschsch., *Haplodactyla mediterranea*, Grube, &c., and of the latter *Caudina*, Stimps., *Molpadia*, Cuv., *Haplodactyla molpadioides*, Semp., &c. In addition, the lack of any traces of pedicels, and of any external demarcation between the dorsal and ventral surfaces characterises the order Apoda. In the Pedata the external appearance is characteristic on account of its more or less distinctly traceable bilateral symmetry, but it is to be remembered that also in this order many forms are known especially in the genera *Thyone*, Oken, *Thyonidium*, Düb and Kor., *Cucumaria*, Blainv., *Ocnus*, Forbes and Goodsir, &c., in which the body is cylindrical or tapered at each end, or even pentangular, the dorsal and ventral surfaces thus being not clearly marked out. In the Aspidochirotae, especially in the genera *Stichopus*, Brandt, and *Mülleria*, Yäger, but above all in *Psolus*, Oken, and *Colochirus*, Troschel, amongst the Dendrochirotae, the ventral surface becomes flat, sole-like, and most evidently distinct from the highly convex dorsal surface.

In the Elasipoda the shape of the body is bilaterally symmetrical, the ventral surface being flat or slightly concave, or sometimes insignificantly convex, and as a rule clearly distinguishable from the usually strongly convex dorsal surface. A transverse section of the body (Pl. XXXVI. fig. 4) generally shows a segment, the arc of which is represented by the back, and the straight line by the ventral surface. The body is in some forms rounded or oval, and in others more or less elongated, thus bearing some resemblance to the Aspidochirotae; sometimes, however, as, for instance, in the genus *Parelpidia*, it has the shape of a more or less narrow cylinder, thus becoming almost synapta-like, in which case there is no marked distinction between the dorsal and ventral surfaces, which can only be determined by the position of the processes and the pedicels. Accordingly, the body of the Elasipoda is generally to be considered as psolus-like, the ventral surface being with few exceptions flat and shorter than the dorsal one. Only in the genus *Parelpidia* do the ventral and dorsal surfaces seem to be of about equal size. Not a single species is found in which the dorsal surface is shorter than the ventral one, as is known to be the case in several of the Dendrochirotae. Sometimes the breadth exceeds the height, and this occurs most conspicuously in the genera *Scotoanassa*, *Euphronides*, and *Psycheotrepes*, which