

I. ORGANISATION OF THE PTEROPODA.

I propose to study the Thecosomata and the Gymnosomata separately, and as I have enumerated the differential characters of these two divisions in the Systematic Report on Gymnosomata,¹ there is no need to repeat them here. The phylogenetic origin of the two groups will be examined in the sequel.

I. THECOSOMATA.

We shall now proceed to examine in succession each of the genera recognised in the Systematic Report on the Thecosomata.²

Family I. LIMACINIDÆ.

The knowledge of the organisation of the Limacinidæ is of the utmost consequence in the morphological study of the Pteropoda, because the true phylogenetic relations of the typical Thecosomata (Cavoliniidæ) are entirely concealed by an adventitious modification upon which we shall enlarge hereafter. This masks their true relationship, and if the Limacinidæ did not exist at the present time it would probably be impossible to explain this modification, and consequently very difficult to establish the real affinities of the Thecosomata.

The only information we possess regarding the organisation of the Limacinidæ is to be found in the memoir of van Beneden on *Limacina arctica* (= *helicina*),³ and in the rather brief anatomical study of the "genus" *Spirialis*, published by Souleyet in the Voyage of the "Bonite."⁴ These two works, however, in addition to being brief, include numerous gaps and several inaccuracies, which defects I shall endeavour to remedy.

Limacina helicina (*Limacina arctica*), the species studied by van Beneden, is of large

¹ Zool. Chall. Exp., part lviii. pp. 4-6.

² Mém. Acad. Sci. Bruxelles, t. xiv.

³ Zool. Chall. Exp., partlxv.

⁴ Voyage de la Bonite, Zoologie, t. ii. pp. 208-215.