

but from that of the entire group, each genus, and usually several species of each genus, having been studied.

As the conclusion of these researches an analytical exposition of the whole organisation of each genus might be expected, but this would have extended the present Report beyond reasonable dimensions, and would have occasioned much repetition, since several of the genera of Pteropods are very closely related, and the number of distinct types is far from large. Besides, as I have already remarked, the limited time at my disposal did not permit me to enter upon an anatomical monograph, and indeed, even if a longer period had been available, the following considerations would have deterred me from such a course :—

1. We already possess a very considerable acquaintance with numerous points in the organisation of the Pteropoda, thanks to the general works, based upon several different genera, of van Beneden,¹ Souleyet,² and Gegenbaur,³ and to the special memoirs, treating only of a single form, of Eschricht⁴ and Wagner.⁵ In many respects an anatomical monograph would simply be a reprint of what has been published by these authors.

2. The systematic position of the Pteropods is the subject of much discussion, and their phylogenetic relationships have been very variously interpreted.

For several years⁶ I have followed Spengel,⁷ along with Grobben⁸ and Boas,⁹ in the opinion, not shared by most zoologists, that the Pteropoda do not constitute a distinct class among the Mollusca, comparable with the Cephalopoda, Gastropoda, Scaphopoda, and Pelecypoda. Further, I am, like Boas, of opinion that even within the Gastropoda they do not constitute a primary division, but only a group of much lower rank among the Opisthobranchiate division of the Tectibranchiate Euthyneura.

This opinion, it must be added, is not new; it was expressed during the first half of this century by de Blainville.¹⁰ Souleyet¹¹ was the first, and indeed the only, investigator who has attempted to give any proof of it, and he was not very successful,

¹ Exercices Zootomiques, *Mém. Acad. Sci. Bruxelles*, t. xii., 1839; Mémoire sur la Limacina arctica, *op. cit.*, t. xiv., 1841.

² Voyage de la Bonite, Zoologie, t. ii. pp. 37–288, 1852.

³ Untersuchungen über Pteropoden und Heteropoden, 1855.

⁴ Anatomische untersuchungen über die Clione borealis, 1838; in Danish, Anatomiske Undersøgelser over Clione borealis, *K. dansk. Vidensk. Selsk. Afhandl.*, 7 Deel, p. 327.

⁵ Die Wirbellosen des weissen Meeres, Bd. i. pp. 89–120, 1885.

⁶ Die Geruchsorgane und das Nervensystem der Mollusken, *Zeitschr. f. wiss. Zool.*, Bd. xxxv. p. 373, 1880.

⁷ The cephalic appendages of the Gymnosomatous Pteropoda, *Quart. Journ. Micr. Sci.*, N.S., vol. xxv. p. 506, 1885. Description d'un Nouveau genre de Ptéropode Gymnosome, *Bull. Sci. Dép. Nord*, p. 226, 1886. Recherches sur le Système Nerveux des Ptéropodes, *Arch. de Biol.*, t. vii. p. 127, 1886.

⁸ Morphologische Studien über den Harn- und Geschlechtsapparaten sowie die Leibeshöhle der Cephalopoden, *Arb. Zool. Inst. Wien*, Bd. v. p. 245, 1884.

⁹ Spolia atlantica, Bidrag til Pteropodernes Morfologi og Systematik, &c., *K. dansk. Vidensk. Selsk. Skriv.*, Række 6, Bd. iv. p. 12.

¹⁰ Manuel de Malacologie, p. 480.

¹¹ Voyage de la Bonite, Zoologie, t. ii.