

## II. AFFINITIES AND PHYLOGENETIC RELATIONSHIPS OF THE PTEROPODA.

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### I. HISTORICAL.

Although the Pteropoda have been known for a considerable period,<sup>1</sup> it is only during the present century that their systematic position has been seriously studied.

The opinions on this head may be divided into two principal groups:—

1. The Pteropoda form a distinct class among the Mollusca, of the same value as the Cephalopoda, Gastropoda, Scaphopoda, and Pelecypoda.

2. They may be placed within one of two out of these four classes of Mollusca (Cephalopoda or Gastropoda).

1. Since the time of Cuvier,<sup>2</sup> who established the “classe des Ptéropodes,” the former view has always been the more in credit, and it is still the most widely spread at the present day. Indeed, we find it adopted in the general text-books of zoology which now serve for the elementary education of naturalists, thanks to the numerous translations which have been made.<sup>3</sup>

Further, the “class” Pteropoda is generally placed, in the systematic arrangement, beside the Cephalopoda, and stress is generally laid upon the affinity which these two groups bear to each other; and when it happens that the author who emphasises these “affinities” has himself studied the Pteropoda (as in the case of Gegenbaur), the opinion acquires by this means additional weight.

The view, then, that the Pteropods and Cephalopods are intimately related is a very deep-rooted one, and there is scarcely a general zoological text-book or a special treatise on the Mollusca in which it is not stated.

Von Jhering, who was formerly an active supporter of this theory,<sup>4</sup> has since abandoned it,<sup>5</sup> but he still considers the Pteropoda as constituting a distinct class.<sup>6</sup>

<sup>1</sup> So early as 1676 Martens described and figured a Pteropod which was no other than *Olions limacina* (Spitzbergische oder grönlandische Reisebeschreibung, p. 169, pl. P, fig. f).

<sup>2</sup> Mémoire sur l'Hyale et le Pneumoderme, *Ann. Mus. Hist. Nat. Paris*, t. iv. p. 232.

<sup>3</sup> Huxley, *A Manual of the Anatomy of Invertebrated Animals*, 1877, p. 434; Gegenbaur, *Grundriss der vergleichenden Anatomie*, 2 ed., 1878, p. 335; Claus, *Grundzüge der Zoologie*, 4 ed., 1882, t. ii. p. 68.

<sup>4</sup> *Vergleichende anatomie des Nervensystemes und Phylogenie der Mollusken*, p. 272, &c., 1876.

<sup>5</sup> Ueber die Verwandtschaftsbeziehungen der Cephalopoden, *Zeitschr. f. wiss. Zool.*, Bd. xxxv. p. 4, 1880.

<sup>6</sup> Gibt es Orthoneuren?, *Zeitschr. f. wiss. Zool.*, Bd. xlv. p. 525, 1887.