

National Museum ; Professor Pagenstecher and Dr. George Pfeffer, by whose kindness I was enabled to study those in the Hamburg Museum ; and the Zoological Commission of the "Vettor Pisani," who sent to me for examination the Pteropods collected by this ship.

I have also to thank, for information and other assistance, Dr. John D. M'Donald, R.N., Dr. J. E. V. Boas of Copenhagen,¹ Dr. W. Giesbrecht of Naples, and Professor Ed. Perrier of Paris. In short, my best thanks are due to all those who, in any way, have assisted me.

I have described with much care all the species that I have been able to study, and I have figured them whenever there was not a sufficiently exact representation of them in existence.

But in spite of all the material employed for the elaboration of this Report, it is impossible to give here a complete monograph of all the living Gymnosomata. For, besides the forms which are now well known, there are many others which are insufficiently described by the naturalists who made them known, of which the types have been lost, and which have not again been found since their discovery. Thus, we have only a few indications of the existence of some species still nearly unknown. I have drawn attention to these forms, hoping that it may facilitate their recognition by future explorers.

After the description of the different species I shall examine :—

1. Their geographical distribution.
2. Their mutual phylogenetic relations.

2. THE GYMNOSOMATA AND THEIR DISTINCTION FROM THE THECOSOMATA.

The adult Gymnosomata are chiefly characterised as follows :—By the absence of a mantle-skirt, pallial cavity and shell ; by the presence of a well-developed head, bearing two pairs of tentacles, of which the two posterior bear rudimentary eyes ; by two fins of which the anterior edges are not joined together backwards, above the mouth ; and by the anus being situated at the right side of the body.

Every Pteropod possessing these characters belongs to the Gymnosomatous group, and every Pteropod which does not possess these characters is a Thecosomatous form, so clearly and well-marked is the separation between these two divisions. As I before said, the anatomical characters of the Pteropoda entirely agree with their division into Gymnosomata and Thecosomata. If these names are not strictly exact (because

¹ The text and the plates of this Report were already far advanced when Boas' work appeared (*Spolia atlantica. Bidrag til Pteropodernes Morphologi og Systematik, K. dansk. Vidensk. Selsk. Skriv.*, 1886). As Boas and I are agreed on many points relative to the Gymnosomata, it must be said that our results have been quite independently obtained. But I have taken advantage of Boas' special discoveries to render this monograph more complete.