the former possess a shell at the beginning of their larval life), the groups that they represent are quite natural ones.

The following table shows the principal differences between the adult Gymnosomata and Thecosomata (the two groups also present considerable differences in their embryonic development):—

Gymnosomata.	Thecosomata.
No mantle-skirt nor shell.	A mantle-skirt and a shell.
No pallial cavity.	A pallial cavity.
A well-developed head.	No distinct head.
Two pairs of tentacles.[1]	Only one pair of tentacles.
Fins not joining in front, above the mouth.	Fins joined at the anterior edge, above the mouth.
Stomach without horny plates.	Stomach provided with horny plates.
Anus on the right side.	Anus on the left side.
Cerebral ganglia connected together above the œsophagus.	Cerebral ganglia separated by a long commissure and situated laterally to the œsophagus.

Among the other differences which exist between the two groups, the following may be noticed.

1. The foot in the Gymnosomatous Pteropods is quite distinct from the fins; it is formed of a posterior lobe and two antero-lateral ones, joined in front, in the form of two longitudinal lips. Between these two lobes a small tubercle is generally found behind, formed by folds of the skin. The foot and fins in the Thecosomatous Pteropods form a single and continuous mass.

2. The penis of the Gymnosomata is latero-ventral and situated on the right side of the foot. The penis of the Thecosomata is anterior and cephalo-dorsal.

3. In the Gymnosomata there is an evaginable proboscis (the anterior protrusible portion of the digestive tract) of the acrembolic type,[2] generally bearing buccal appendages, which may be completely protruded. In the Thecosomata there is no proboscis at all.

4. Besides the jaw and the radula, the buccal cavity of the Gymnosomata contains hook-sacs,[3] a pair of evaginable sacs opening at each side of the radula. No Thecosomatous Pteropod is provided with such hook-sacs.

5. The jaw of the Gymnosomata, composed of a great number of horny plates or spines, forms only one piece, in which two halves are, indeed, visible, but these

[1] Paul Pelseneer, The Cephalic Appendages of the Gymnosomatous Pteropoda, *Quart. Journ. Micr. Sci.*, 1885, p. 505.

[2] Ray-Lankester, Mollusca, Encyclopædia Britannica, ed. 9, vol. xvi. p. 653.

[3] Coecums buccaux, van Beneden; spinose tentacular organs, Huxley; Hakensäcken, Gegenbaur; cheek pouches, buccal pouches, MacDonald; cylindres rétractiles, Fischer; hook-bearing processes of the mouth, Ray Lankester.