

**DOLIOLIDÆ.** It is clearly distinguished from the second suborder, the Hemimyaria, by the condition of the muscle bands and of the branchial sac, and by the life-history. The muscle bands are complete rings, while in the Hemimyaria they are always more or less incomplete. The branchial sac in the Cyclomyaria has always a distinct cavity, and communicates with the peribranchial cavity only by small slits or stigmata. The life-history is also very characteristic, as the sexual generation in the Cyclomyaria is always polymorphous, while in the Hemimyaria it consists of one form only.

#### Family DOLIOLIDÆ.

*Body* free, more or less barrel-shaped; branchial and atrial apertures terminal, lobed.

*Test* rather slightly developed.

*Mantle* containing transverse muscle bands, which form hoops surrounding the body.

*Branchial Sac* well developed. Stigmata not numerous, generally placed far back.

*Dorsal Lamina* and *Tentacles* absent.

*Alimentary Canal* at the posterior end of the branchial sac.

*Reproductive Organs* hermaphrodite..

*Gemmation* takes place.

*Life-History* complicated by alternation of generations and polymorphism.

This family contains two genera: *Doliolum*, Quoy and Gaimard, and *Anchinia*, Eschscholtz (and later, C. Vogt). It was first formed as a family by Keferstein<sup>1</sup> in 1862, and since then it has always been placed in its present position along with the Salpidæ in the group Thaliacea.

The genus *Doliolum* is well represented in the Challenger collection, but no specimens referable to the genus *Anchinia* were obtained.

#### Genus *Doliolum*, Quoy and Gaimard.

*Body* always more or less barrel-shaped, not attached, and never forming a colony. Branchial aperture at the anterior end, atrial at the posterior, both surrounded by lobes.

*Test* very thin, containing no test cells.

*Mantle* containing well-developed, transversely-arranged muscle bands, which in the fully-developed sexual animal are always eight in number. They surround the body like hoops.

<sup>1</sup> Bronn's Klass. u. Ord. d. Thierreichs, Bd. iii. p. 216.