

Branchial Sac usually of moderate size, occupying the anterior half or three-quarters of the body. Its wall contains transverse and fine longitudinal vessels, separated by stigmata, but no internal longitudinal bars, and it is never folded. The stigmata are placed transversely, and vary in number from five to fifty or more on each side of the sac.

Dorsal Lamina and *Tentacles* absent.

Nerve Ganglion placed in the median dorsal line, a little anterior to the middle of the body, and between the third and fourth muscle bands.

Dorsal Tubercle placed some distance in front of the nerve ganglion, and surrounded by the spirally-coiled dorsal ends of the peripharyngeal bands.

Alimentary Canal placed ventrally, behind the branchial sac.

Reproductive Organs ventral, opening into peribranchial cavity near to anus.

A tailed larva is formed.

This genus was formed in 1835 by Quoy and Gaimard¹ for the reception of two species of pelagic Tunicates which were found near the islands Amboina and Vanikoro, in the Banda Sea, during the voyage of the "Astrolabe" round the world, under Dumont d'Urville. The name *Doliolum* had, however, been applied twelve years before by Otto² to the gelatinous "Haus" of the crustacean *Phronima sedentaria*. But as that object is merely a part of the test of a dead Tunicate, the specific names employed by Otto and Delle Chiaje, and the generic name *Doliolum* as applied to the *Phronima* covering, must lapse, and therefore there need be no difficulty in retaining that name in the sense in which it was used by Quoy and Gaimard.

Quoy and Gaimard described and figured little more than the external appearance of their two forms of *Doliolum*. They placed the genus correctly enough near *Salpa* amongst the pelagic Tunicata, and they characterised it by its barrel-like form, its terminal apertures, its encircling muscle bands (which, however, they mistook for vessels), and its internal branchia (the anatomy of which they seem to have quite misunderstood). The two species they describe are *Doliolum denticulatum* and *Doliolum caudatum*, the latter being undoubtedly a "nurse" form or blastozoid. They add nothing further in regard to the internal structure of the animals, and the short descriptions and the figures are scarcely sufficient to determine the species, beyond showing that their *Doliolum denticulatum* is one of the species with a long branchial sac and numerous stigmata.

The first detailed account of the structure of the genus *Doliolum* was given by Huxley³ in 1851, when he described under the name of *Doliolum denticulatum*, Quoy

¹ Voyage de l'Astrolabe, Zool. tom. iii. p. 599.

² Besch. ein. neu. Moll. u. Zooph., Acad. Cæs. Leop., Nova Acta, Bd. xi. pt. 2, p. 318.

³ Remarks upon Appendicularia and Doliolum, Phil. Trans. 1851, part ii. p. 599.