

Metridium (Sea Anemone)

The representative of class Anthozoa are commonly referred to as sea anemones because of their flower-like appearance. The sea anemone are either solitary or colonial polyps.

Sea anemones such as *Metridium* and *Tealia* are common in all seas being specially abundant in warmer climates in shallow and coastal water. They exhibit beautiful color patterns, they are solitary sessile animals found attached to rocks where many individuals are fixed close together. Anemones form remarkable symbiotic relationship with other animals, particularly with hermit crabs.

Structure

External features

Metridium has a short, cylindrical body about 8 cm in length. The body is radially symmetrical and divisible into three distinct region:-

1. Oral disc. The upper free end is the flat, circular oral disc having a large oval mouth on a slight elevation. Around the mouth are numerous short, conical and hollow tentacles in five circles or cycles, generally each cycle has tentacles in multiples of six, the number of tentacles increase with age.
2. Column. The column may be cylindrical, but in some genera, including *Metridium*, it is differentiated into an upper short, thin-walled **Capitulum** and a lower main thick-walled **scapus**.
3. Pedal disc. The pedal basal disc is expanded and is used for fixing the animal to rocks or shells, it adheres by mucus secretion and by muscles of the basal disc, but the animal is not sedentary because it can creep by gliding motion of the basal disc.

Internal Anatomy

The internal anatomy of *Metridium* can be studied with the help of its longitudinal and transverse sections.

1. Stomodaeum. The mouth leads downwards into a long stout tube called pharynx or stomodaeum which extends about two-third of the length of the column.
2. Gastrovascular cavity. The stomodaeum extends up to about two-third of gastrovascular cavity. The gastrovascular cavity of *Metridium* is partitioned by vertical septa called **mesenteries** into radial chamber.
3. Mesenteries. From the body wall thick longitudinal septa or mesenteries run radially inwards, they divide the coelenteron into compartments.

Food consists of animals or pieces of animals of suitable size. The food may be living or dead; it is carnivorous. Respiration and excretion are performed by the process of diffusion as the epidermis and gastrodermis remain in contact with water.

Reproduction, *Metridium* reproduces both asexually and sexually. Asexual reproduction occurred by longitudinal fission in some genera and by fragmentation or by bud formation in several other genera.

Sexual reproduction. Sexes are separated, endodermal gonads from thick longitudinal bands on the large mesenteries, but some anemones are hermaphrodite. In dioecious form only sperms are expelled from the male into sea water, the females retain their eggs. Sperms enter the gastrovascular cavity of the female through the mouth and fertilize the eggs. The fertilized eggs forms an oval ciliated planula larva which is free swimming. The planula undergoes metamorphosis to new *Metridium*.