

# SOUTHERN AUSTRALIAN TEMPERATE REEFS

# SESSILE INVERTEBRATES

Sessile invertebrates are those animals without backbones that are attached to the reef.

The most common groups encountered are barnacles, anemones, hydroids, bryozoans, sponges, tubeworms, and sea squirts. The rocky reefs and jetties of South Australia have particularly abundant and diverse communities of sponges, bryozoans, and ascidians.



## Sponges

Sponges come in many colours, sizes and shapes including balls, mats, fans and tubes. They are one of the oldest and simplest of animal life forms and are found in every marine ecosystem from the tropics to the poles to the deepest parts of the ocean. They are literally a bunch of cells living together, some of which are specialised (e.g. for feeding or reproduction) but most of which are the body with no organs. They feed by pushing water through the sponge body and filtering out bacteria and suspended food particles.

Sponges are amazing chemical factories and pharmaceutical companies investigate sponges to find new medicines. Many animals are not able to eat sponges due to the sponges ability to produce chemicals that may taste bad or may even be toxic to other animals. Due to their incredible simplicity

sponges are also remarkable in their ability to be broken up and regenerate entire new sponge colonies. Some crabs exploit this ability by cutting off a piece of sponge, sticking it to their carapace and letting it grow over them for camouflage.

## Tubeworms

Tubeworms have special retractable gills that are extended to filter feed and breathe. Some can build short, hard, solid tubes and others build long, soft, flexible tubes.





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### Ascidians

Also known as 'sea squirts', these animals are related to humans because in their larval stages they have many of the features that we also have as fetuses such as a notochord, gill slits and a hollow neural tube (which in vertebrates turns into the spine). However, ascidians are unusual in that upon metamorphosis into the adult form, these features are lost and the adult becomes a more simple body form than the larvae.

Nonetheless, sea squirts are complex creatures with a nervous system, blood, muscles, pharynx, heart, intestines and many of the other features associated with vertebrates.

Ascidians often resemble sponges and even experts have difficulty telling them apart sometimes. Sea squirts are found in three main forms: colonial species, solitary species and stalked ascidians.

