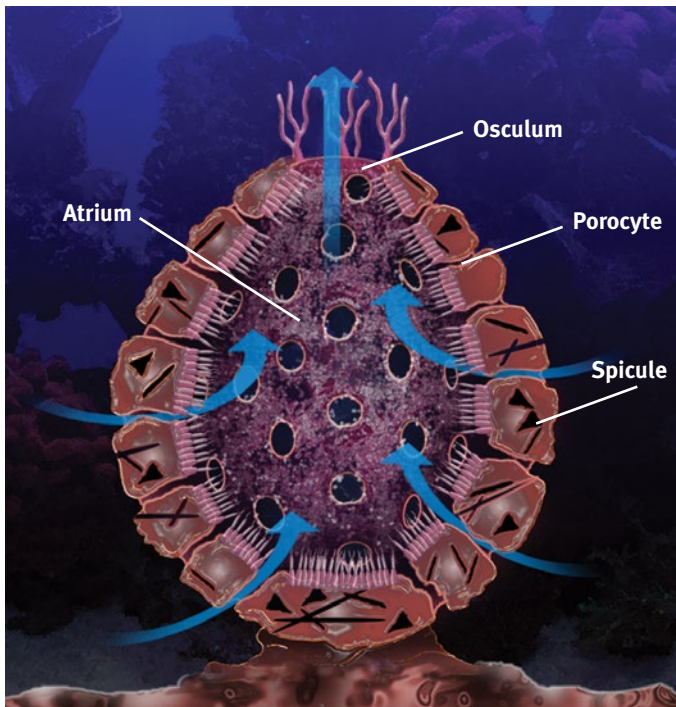


Sponges belong to the phylum of animals called Porifera, meaning 'pore-bearer'. They are characterised by a body that is punctured with microscopic holes or pores, as well as one or more larger round openings or vents.

Because they are sedentary (fixed in one place), colourful and simple in structure, sponges are often mistaken for plants. Sponges are in fact the simplest form of multicellular animal. They have no mouth, internal organs or nerves. Their outer layer of cells is covered with microscopic pores that lead to an inner network of canals and chambers. Microscopic structures called spicules provide a support or 'skeleton' for the animal.



Spicules vary in size and shape – many are needle-like rods with pointed ends that can severely irritate the tissues of other animals, so they can be used to deter predators. One family of sponges is quite unusual as they use their spicules to stick to small crustaceans when they come in contact. Cells then migrate around the captured prey and the crustacean is digested.

Most sponges are filter feeders, pumping water through their bodies at a surprisingly high rate to acquire the oxygen and food they need. Plankton (tiny plants and animals), bacteria and oxygen are strained out of the water before it is pumped

out of the sponge. Many sponges can filter their body's volume in less than one minute, so even a small sponge can filter hundreds of litres of water a day.

Sponges come in a wide variety of colours, including red, pink, purple, orange, blue, yellow and white. Their textures range from soft and readily compressible to rubbery or as hard as stone. The smallest sponges are microscopic. The largest sponges are found in the Antarctic, the deep sea, and pristine regions (including the Western Australian coast). Some can be up to two metres tall, one and a half metres across and can be a variety of shapes such as fans, cups or branched.

Sponges are divided into three groups (classes):

Demospongiae

Demosponges account for approximately 85 per cent of the world's sponges. Some demosponge bodies contain a fibrous protein called spongin. This class includes the bath sponges which in the past were used for washing, but are now used in the cosmetics and medical industries.

Calcarea

Calcarea or calcareous sponges have spicules made from calcium carbonate (limestone). They are mainly found in shallow waters and are small, cryptic species.

Hexactinellida

Hexactinellida or glass sponges have spicules made from glassy silica. They occur in deep water and have a specialised body organisation, different from all other sponges.

