

SPONGES – DO YOU KNOW THE DIFFERENCE

... Peter Crowcroft, *Eco-Logic Education and Environment Services*

... Drawings by Kaye Traynor



Cup Sponge

Sponges (phylum Porifera) are the simplest multicellular animal, positioned on a taxonomic level between the single celled animals called protozoa, and the metazoa which have cells organised into tissues and organs. Sponges gain nutrients by filtering the water for organic particles, such as zooplankton. Hundreds of pores, known as ostia, cover the sponge structure, and cells, with whip-like flagella, beat in time to draw the water in. Water passes into chambers inside the sponge, where filtration takes place, and is then funnelled out through the osculum, a much larger opening at the top of the chamber. Within ten seconds, a sponge will filter its own volume of water, resulting in hundreds of litres filtered each day.

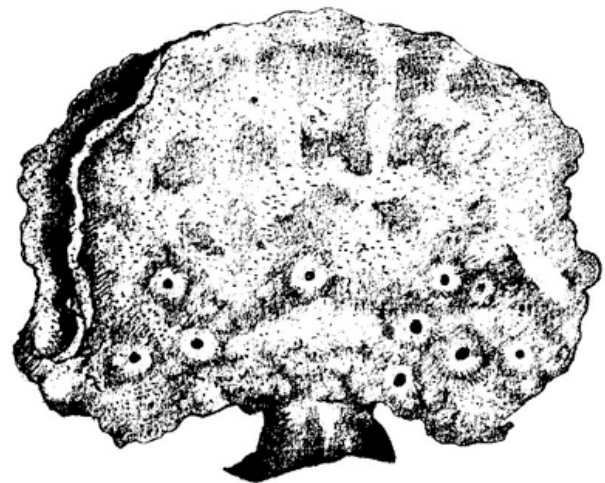
The best way to see a live sponge is by snorkelling or scuba diving, deep into underwater caves, where a shock of vivid colour can be extremely beautiful. For those naturalists not so keen to jump in the water, the lowest tides of the year on a calm day are your best chance to see a sponge in a rock pool. A more common way in which people come into contact with sea-sponge is walking

along the beach, where sponges wash up, especially after heavy seas and storms. Most likely, these specimens are a good example of the 'skeleton' of the sponge, but occasionally, a live specimen will wash ashore, and the amazing colour of the sponge will be visible for a short time before the animal dies.

Identification of sponges can be very tricky, as physical shape is not always a good indicator of sponge species. Within a single species, the shape can vary from encrusting over a rock or mollusc, to a variety of massive and impressive shapes, such as vase, fan, ball, cup, or finger-like. This variability is

due to the character of the environment where the sponge grows, e.g. tidal factors, depth, and strength of water flow.

Various support structures protect the sponge cells. They are made of fibrous proteins known as spongin, and spicules, which can be made of either silica or calcium carbonate. It is the structural configuration and shapes of these supportive elements that are the main defining character of a particular species. However to further confound the issue, sponges will often incorporate grains of sand, and the spicules of other sponge species into their own structure.



Elephant Ear Sponge



Finger Sponge

One common species in our area is the Prickly Rose Sponge *Dendrilla cactos*, which does vary in physical shape, but is usually bright pink, with bumps covering the surface, giving it a spiky cactus-like appearance.

Reference:

Dakin, W.J. 1976, *Australian Seashores*, Angus and Robertson, London.

Edgar, G.J. 2008, *Australian Marine Life*. 2nd edn, Reed New Holland, Sydney.

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