Intertidal Algae of New South Wales

Algae, also called seaweeds, come in three major groups. These are Green Algae, Brown Algae and Red Algae. Algae differ from land plants in a number of ways. Firstly, they do not take up their nutrients through a root system, but absorb them through their leaf-like fronds from the sea water that swirls around them. The structure that anchors them to the surface is called a holdfast. Algae do not have seeds like land plants. They have spores that are similar to those in ferns, mosses and lichens. It is believed that land plants evolved from green algae.

Phylum Chlorophyta: Green Algae

Green algae get their colour from photosynthetic chlorophyl pigments. They have many shapes, some being hair-like, flat-sheets, cylinders, strings or beads. They prefer shallow water where light is plentiful.

Sea Lettuce, *Ulva spp.*

Broad, bright green, thin, transparent single frond that comes from a small holdfast. Likes low areas constantly washed by waves. Once it was thought that there was one species found around the world.

Now, researchers have divided the genus into many species, with six related forms found in southern Australian waters.

Green Sea Velvet, *Codium fragile*

Erect, much branched, black-green to bottle-green algae. Has rounded, finely branched, cylindrical fronds packed close together. When seen underwater, fine hairs can be seen all over the branches.

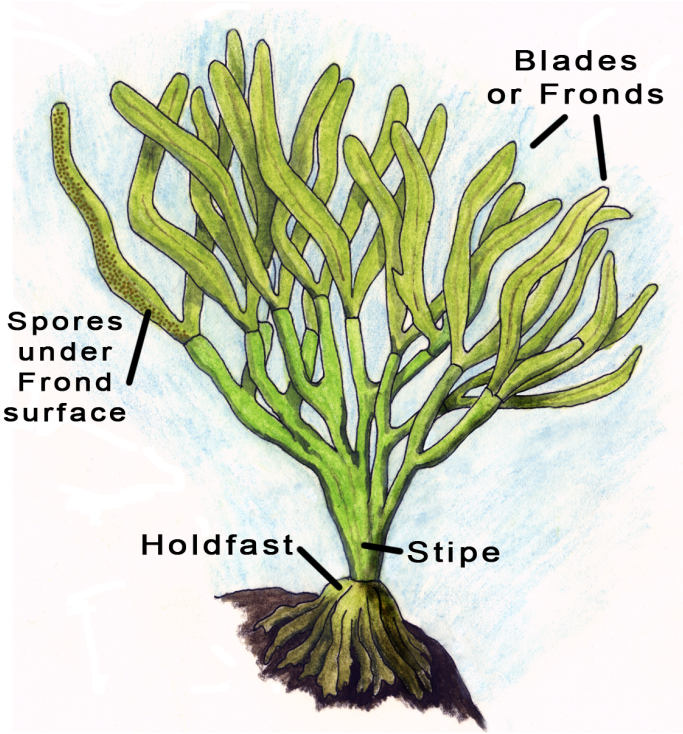
Occurs at lowest tide levels and below.

Strap Weed, *Caulerpa filiformis*

Forms a dense mass of bright green, small strap-like ramuli. A flat stem grows across the rock and from this stem grow five rows of photosynthetic blades or fronds. It seems to be overtaking many other algae species over-crowding them from many shores.

Found at low tide levels along the edge of rock platforms on medium to high-energy shores.

Algae Parts



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Phylum Phaeophyta: Brown Algae

In brown algae, other pigments mask the green chlorophylls. Many are called kelps. The brown algae groups contains the largest, longest and most conspicuous seaweeds found on rocky shores. Many brown algae have bubbles or floats to lift their fronds up in the water towards the sun so they can capture its energy. Brown algae prefer the low shore fringe and shallow subtidal zones.

Neptune's Necklace, *Hormosira banksii*

Sometimes called 'sea-grapes'. Made up of strings of water-filled oval-shaped beads joined together by short stalks. The fronds may be 100 - 300 mm long. Neptune's Necklace forms vast colonies covering most of the rock surface at mid-tide levels and below.

Globe Algae, *Colpomenia sinuosa*

A globe-shaped, crinkled algae. Its skin is a thin membrane that is filled with water and air. It is often attached to other algae, seagrasses or rock by a small, crusty base. It is various browns in colour.

It is found all around Australia. Occurs at mid-tide levels and below in rock pools and estuaries.

Padina, *Padina parvonea*

This distinctive algae has thin, fan-shaped fronds with concentric markings and rolled edges that become broken with age. Is light-olive brown in colour.

Found at the low water fringe and below on rocky ocean shores in moderately exposed situations.

Leather Kelp, *Eklonia radiata*

This is the most common large kelp found along southern Australian shores. The fronds have a rough, crinkled surface covered with short spines. Occurs at the lowest tide levels to below on shores affected by moderate to rough wave action.

Phylum Rhodophyta: Red Algae

Red algae contain additional red protein pigments. They can grow at far greater depth than other algae. Shapes include encrusting, string-like, tube-like, filamentous and flat sheets. Their colour is not uniform and may include purple, mauve, orange and yellow. They are usually found below the brown algae.

Coralline Algae, *Corallina officinalis*

Feather-like, with very small, fine, neatly jointed branches. Occurs commonly in rock pools and moist surfaces at low tide level. The name "officinalis" indicates that this algae was taken as a antacid medicine, settling down your stomach after over-eating. There is calcium in its fronds.

Geniculate Coralline Algae, *Amphiroa anceps*

The branched, segmented stems of this coralline algae are hardened by lime (calcium carbonate). Pink coloured while alive, when it dies it become bleached by the sun to white. Occurs on moderately exposed reef and flat platforms from low tide level down to 12 metres. This is the most common branched coralline algae in south-eastern Australia.

Iridescent Algae, *Champia compressa*

This small, red algae has tiny, flat, ragged fronds. It doesn't appear to be red at all - as water swirls around in a rock pool or gutter, a sudden flash of brilliant blue-green iridescence will catch the eye.

This is caused by light diffraction, because if you lift the algae from the water, this colour disappears. Found at extreme low-tide levels and in pools.

Encrusting Corallines, *Corallinaceae species.*

The stony, calcified, pink crusts of many coralline species form flat expanses over rocks, or on other plants or mollusc shells. Although very common, most kinds cannot be identified without knowing their microscopic structure.

They prefer to grow in shady locations and can form a continuous cover over the floor and wall of tidal pools.