

U3A Port Fairy

*Science...naturally!*

**Seaweeds Part 1 Green Seaweeds**

Sue Knudsen August 11, 2020

This is the 21st in a series of guides for U3A members around Port Fairy and district to help us get out and about safely during COVID-19 restrictions. The aim of the guides is to provide enjoyable outdoor activities that can be undertaken either by yourself or others (in accordance with Government directives).

This guide will take you through some of the wonderful examples of the Green seaweeds we observe washed up along the sand at South Beach and sometimes along East Beach here on our own doorstep. These observations have occurred over a period of years. The treasures that have washed up appear to be governed by weather conditions, tide movements and the seasons. Some have been absent from year to year appearing randomly and unpredictably.

The Green seaweeds, are algae belonging to the Phylum Chlorophyta, (from the Greek **chloros** meaning green and **phyton** meaning plant). Chlorophytes are easily recognised by their grass green colour although there can be shadings from yellowish green to dark green and an almost black green. There are fewer species of the green seaweeds than the other species of brown (Paeophyta) and red (Rhodophyta) seaweeds. They can be found in the upper tidal zone of rocky shores, in harbours, on boat hulls, on piers and in estuaries.



***Ulva australis*, commonly known as Sea lettuce.** They form paper thin sheets and their shape depends on surrounding environmental factors sometimes flourishing in polluted waters. *Ulva* are common in most regions of the world and used as a food in many countries. Lovely examples of Sea lettuce can be seen along little East Beach.





This photograph of **Sea lettuce** was taken in late July 2020 at the southern end of East Beach at low tide and shows a perfect habitat near low tide level on a moderately exposed rocky shore. On a walk out along the training wall beside the Moyne river, you will see more healthy examples of Sea lettuce growing on the rock walls.



***Caulerpa cactoides***, named as being like a cactus. The above example belongs to the family **Caulerpaceae**, genus **Caulerpa** which occurs more commonly in tropical regions but in Australia it appears that we have quite a few species occurring in colder waters. The fronds or lateral branches grow in an upright form as the horizontal stem or stolon creeps along the ocean floor. This reminds me of how some ferns grow as they creep along through the garden under the mulch. They are often the dominant plant on reef and sand habitats in southern Australia. Here in Port Fairy Bay, and along the reef out from South Beach are ideal habitats. This example was found on the shore at South Beach, but I have not seen it on a regular basis.





**Another member of the family Caulerpaceae, *Caulerpa flexilis*.** It is the most common fern-like species of *Caulerpa* to be found in southern Australia. It grows profusely in deep water along more exposed sections of the coast, so the outer reef at South Beach would provide an ideal habitat. I have found this along the eastern end of South Beach. It is distinguished by the upright lateral branches and the horizontal stem or stolon. It has a lovely fishbone pattern, is bright green, and soft to touch.



**Adding to the family Caulerpaceae, allow me to introduce *Caulerpa trifaria*.** The fronds or lateral branches grow in an upright form from the horizontal stem or stolon with the feathery-looking ramuli (branches) occurring in three rows along the sides of the erect axes (main stems). This species grows in sheltered areas consisting of sand and rocks and sometimes forms a habitat for fish and invertebrates. I have discovered examples washed up on the shore at South Beach during the warmer months.





**Another member of the family Caulerpaceae, *Caulerpa longifolia*.** The unbranched fronds of this temperate species are quite long with curved branchlets that do not grow in distinct rows. It all looks a bit shaggy to me! These seaweeds grow on the edge of rock platforms of an open coast, so again the outer reef at South Beach will provide a perfect habitat. I have only seen this variety there at certain times of the year.



***Codium fragile* sometimes referred to as *Dead Man's Fingers*. This example belongs to the family Codiaceae, genus *Codium*.** It is distinguished by the cylindrical, forked, dark green fronds which look to be covered in fine hairs giving it a velvety appearance. There are several species of *Codium* from southern Australia. They can grow abundantly in shallow water and will attach and grow on rock material. You can observe this at low tide out on the rocks and in the rock pools at the eastern end of South Beach. It also occurs as a dark green colour.



## Some more Green Things – Sea Grasses



Found on South Beach and sometimes on the southern end of Little East Beach **Amphibolis antarctica** can form extensive beds in shallow, sandy areas. It, and Eelgrass, are two of the few flowering plants to occur in the ocean. There are only two known species of **Amphibolis** and both occur in Australian waters. This example shows the woody stalk with a cluster of flattened and slightly twisted leaves at the end, a characteristic of this type of sea grass. This plant occurs in the cooler parts of the coast from Victoria to Western Australia and around Tasmania. The common name is **Sea Nymph**.



The photographs above show examples of **Zostera muelleri** or as it is more commonly known, **Eelgrass**. It grows on sheltered mud and sand banks along the south-eastern coast and in Tasmania. On a low tide at Little East Beach there is a lovely example of an Eelgrass meadow. This grass provides a habitat for a variety of fish and invertebrates and a feeding ground for many wading birds including swans. I have observed more of this grass washed up along Little East Beach than on South Beach.





In the photograph above you can observe both the **Eelgrass** and the **Sea lettuce** at low tide, growing in their appropriate habitat on the shoreline of Little East Beach.

### Introducing something strange and green!



Commonly known as a **Sea Apple**, **Codium pomoides** has an almost spherical appearance and can be found in different sizes along the eastern end of South Beach often washed up among other seaweeds. It feels smooth and quite firm, but you can squeeze it into different shapes, and it will return to its original shape. Very odd. This species occurs on sloping reefs with strong wave action so the outer reef at South Beach would provide the right conditions for it to inhabit. Interestingly, it is in the same genus as the Dead Man's Fingers.

### Food for Thought.

**Someone once said a weed is just a plant in the wrong place---- so, what about seaweeds?**

Hmm.... I think they are in just the right place. They create a wonderful garden under the ocean, providing habitat, shelter, protection, and a source of food for a myriad of marine life. Whether snorkelling above the water looking down or diving deep below the water looking up the colours, textures, shapes, and sizes of the different seaweed species are awesome.

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So, what next? **Brown Seaweeds!!**

As always, there are lots of other good stuff to discover as you wander around. If you find something you want to know more about, email a photo and a short description to John Miller: [jmiller3350@gmail.com](mailto:jmiller3350@gmail.com) and he will endeavour to work it out for you.

Please feel free to share this with anyone else who might enjoy a walk along the beach looking at seaweed.