

U3A Port Fairy

Science...naturally!

Bluebottle or Portuguese man-of-war

Sue Knudsen October 6, 2020

This part of 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 information on many of the interesting things you can see or do around Port Fairy either by yourself or your family (with appropriate separation and other precautions).

This guide will provide you with an insight into a couple of the blue creatures we regularly encounter washed ashore along the beaches in Port Fairy. Although beautiful to observe, you are well advised to avoid any contact with them because of their ability to administer a nasty painful sting. During the late September there have been a considerable number washed up along the shore at South Beach.

Bluebottles *Physalia physalis*, also known as **Portuguese man-o-war**, are to be found all around Australia and Tasmania and are widespread throughout the globe generally living in warm tropical and sub-tropical waters.

The southern Australian bluebottle ***Physalia utriculus***, which is more prominent around our southern shores and is a bit less venomous than ***P. physalis***, has a single prominent fishing tentacle which is usually a darker blue than the thinner and smaller tentacles nearby.



Each **Bluebottle** is composed of a colony of animals with a specialised job to do, thus it falls into the class of a floating **hydrozoan**. A colony consists of animals specialised in food capture located in the tentacles (dactylozooids), some to produce a gas filled float (a pneumatophore), some for feeding and digestion (gastrozooids) and some for reproduction (gonozooids). The gastrozooids are located along the underside of the float and digest the prey by secreting enzymes that break it down.

The tentacles are the main mechanism for trapping food and contain stinging cells (nematocysts), which paralyse the prey and are the characteristic food getting mechanisms of jellyfish and their close relatives. Nearly 70-90% of the prey are small fish but it also eats shrimp, other crustaceans, and small animals in the plankton. Stinging cells retain their potency long after a bluebottle has been washed ashore. Tentacles can reach up to 10 metres in length and a couple of the ones found at South Beach have had tentacles that looked to be almost a meter long just stretched out on the sand.



Bluebottles cannot swim but float on the surface of the ocean, driven along by wind and current. The examples found at South Beach will have been washed ashore by those strong prevailing onshore winds we have been experiencing, generally known as the Equinoxial Gales.

The float can vary in size up to 30cm and appears to be directional with some being aligned at 45 degrees to the left of the wind direction and others being at 45 degrees to the right. This prevents colonies from all drifting in the same direction and ensures colonies are more evenly dispersed around the ocean.

The **Bluebottle** has a colony of sex organs either male or female. Each gonozooid contains little sacs containing either ovaries or testes. Gonozooids are released into the open water where fertilization occurs just below the surface. This process is dictated by the right climatic conditions and time of year.



FIRST AID

Bluebottles can cause a nasty sting. Previous practice has been to apply vinegar to the area of the sting and to flush with water, but this can cause remaining nematocysts to discharge and so continue the stinging process. Current practise recommends the application of a cold pack to relieve the pain and to seek medical advice if the pain persists.

By-the-wind-sailor



These are another blue visitor to the shore at South Beach and lots of examples ranging in size were washed up with the Bluebottles. Sometimes it looks like they form a blue tide line. Over time the colour bleaches out of them and you will find them to be almost clear and they simply disintegrate.

By-the wind-sailor *Velella velella* is another floating **hydrozoan** consisting of an oval shaped disc with a float protruding into the air, like a sail on the upper side which allows the individual to sail at an angle to the wind, and represents the direction it will travel and determine what shore it will end up on. It is found on the ocean surface all around Australia and Tasmania and is widespread overseas. It occurs seasonally and often together with the Bluebottle. Their size can vary from as large as 4 cm or as small as a pencil top.

An individual **By-the-wind-sailor** consists of a colony of either male or female polyps. These polyps have specialised functions for feeding, reproduction, and protection. The tentacles, about 1 cm. long form a fringe around the outer edge of the disc and contain small nematocysts to sting and capture the prey. They hang down in the water and assist in stabilising the body allowing the sail to maintain its function. It feeds on small prey, plankton and fish that are found just below the surface of the water.



Here is an interesting “Did You Know?”

The 45 degree angle of the By-the-wind-sailor’s sail aligns closely with the angle which is fastest for a sailing yacht.

This is also the maximum angle in which yachts can sail up into the wind.

Acknowledgements:

Australian Marine Life -Revised Edition. The Plants and Animals of Temperate Waters by Graham J. Edgar

Marine Biology – Sixth Edition by Peter Castro and Michael E. Huber

Invertebrates – Second Edition by Richard C. Brusca and Gary J. Brusca

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 and he will endeavour to work it out for you.