

PHYSALIA SPECIES

PHYSALIA UTRICULUS - THE "BLUEBOTTLE"

Physalia is not actually a jellyfish, it is a type of hydroid - a siphonophore colony (see Chapter *). The general public usually regards it as a jellyfish as it appears on our beaches at the same time, and causes sting, similar to jellyfish. There are two main types: -

1. The most common Australian species having just one single long, retractable tentacle hanging underneath. This is commonly known as the Bluebottle .
2. The other main Australian species has many long retractable tentacles and has been named the Pacific man-o-war after its big brother the Portuguese man-o-war . As this species causes a much more severe skin sting and has unpleasant systemic effects too, it is discussed separately

Appearance

Float

Instead of the usually jellyfish bell, Physalia have an gas-filled sac which floats on the surface of the water. The gas is produced by a specialised gas gland present in the float. The gas it produces is similar to air, but has a greater percentage of Carbon monoxide). In the single-tentacled Bluebottle the float may be just a couple of centimeters in length, or occasionally may be up to 15cms in length. The majority of specimens caught in have a float length of about 4-8cms.

The float is usually a fairly deep blue colour, but on occasions the colour may be a light blue, or even have a hint of mauve in it, especially when reflecting in the sunshine. It often has wrinkles on the crest of the float, giving a characteristic appearance.

It is a common sight to see many of these floats lying on the beaches, after an onshore wind. Bluebottle floats are usually 3-6cms in length, but specimens between 10-15cm do occur. Portuguese man-o-war specimens are much larger and have floats up to 25cm in length, whereas the smaller Pacific man-o-war specimens usually have floats about 10-15cm in length.

Similar to a jellyfish bell, the float does have muscular fibres, but it does not contract to propel Physalia through the water. However contraction of the muscle fibres of the float can cause the float to be raised and even shaped, or 'set' - almost like setting a ship's sail. This sail then enables Physalia to be blown across the water. The weight of the tentacles beneath then acts like a keel, making the whole animal well adapted to its sailing role across the high seas. To prevent the whole race being blown up on to the one beach and ending the species, Physalia come in right-handed and left handed varieties, although these can usually only be identified by an expert.

Tentacles

In the Bluebottle, a single large deep blue fishing tentacle hangs beneath the bell. This is highly retractile and may be curled up and just a few centimetres long, or extended many metres in length. Surrounding it may be a number of smaller and shorter, fine pale-blue tentacles, which are often not seen when the specimen is seen on the beach. It is this tentacle that is responsible for stinging and killing the Bluebottle's prey, which is usually small fish, and also causes stings to swimmers on contact with the skin.

In the Pacific man-o-war there are many (up to 7-8) retractile large fishing tentacles. Similar to the Bluebottle, there are many smaller and shorter, fine, pale-blue tentacles hanging beneath the bell next to these main fishing tentacles. In the largest (25-30cm float length) specimens of Portuguese man-o-war in the Atlantic Ocean, the fishing tentacles may reach extended lengths of 30 metres! Pacific man-o-war specimens may have tentacles up to 10 metres in length.

Nematocysts

Stinging cells are contained in rows of batteries along the tentacle. Because of their location on the tentacle in batteries, and because of the frequently retracted, curled tentacle, Physalia stings have a characteristic beaded appearance.

Ecology

Distribution

The life cycle of both species is unknown. The Bluebottle is found in vast numbers on the eastern Australian coast every year. It also occurs in South Australia and West Australian, often in large numbers. The Pacific man-o-war does not seem to occur every year, although this may be due to under-reporting. Approximately 10,000 stings occur each year on the east coast of Australia, according to Surf Life Saving figures, about 500 in West Australia and a few hundred in other States except the Northern Territory where Physalia species seem not to occur.

The Atlantic Portuguese man-o-war are a problem to bathers on the United States southern Atlantic coast. In the winter when an onshore wind blows on the east coast of Florida, vast armadas appear and are blown onshore. Many bathers are stung, the beaches are closed and large numbers of these jellyfish are stranded. Over one hundred thousand human stings were estimated during Christmas week 1989 in south eastern Florida and experts believe that nearly a million stings occur annually in that State.

Initial envenomation

Bluebottle stings are usually somewhat painful, but bearable and not too severe. Pain is also often felt in the draining lymph glands, in the groin if the legs are stung, and the armpit if the upper limbs are stung. Most pain passes with cold pack treatment (see below). The sting usually has a characteristic appearance, with a long line of beads of white wheals, which match the appearance of the curled-up, elasticised tentacle with its buttons of nematocysts. Occasionally some nausea and muscle pains may occur, but this is usually due to the Pacific man-o-war.

Pacific man-o-war (and Portuguese) stings are more painful with the victim somewhat distressed with the skin pain, which is only slowly relieved by cold packs. There is usually pain in the draining lymph glands and often nausea. Some cases, especially those of the Portuguese man-o-war have symptoms of a moderate Irukandji-like syndrome (see Chapter *), with back pain, muscle cramps in the limbs, abdomen and the chest, which cause painful breathing. This painful breathing is from muscle pain in the chest wall with the movement of breathing, and it should be noted that the patient is not breathless but suffering from painful breathing.