

# Penzance B.S.A.C. Conservation Officer's Report July 2010

Marine organisms that fastens to the bottom of ships have always been a scourge to seafarers. Acorn barnacles are among the most notorious stowaways at sea. A vessel with its hull covered by their hard calcium shells moves more slowly and uses more fuel. The most common method to prevent surface fouling is to apply toxic hull paint. The most effective substance has been tributyltin (TBT) which is now totally banned, and until now no really good alternatives to toxic paints have been found. By monitoring how the larvae of acorn barnacles go about finding suitable spots to attach themselves, researchers in Sweden have managed to design surfaces that prevent growth without using poisonous chemicals. Their strategy, instead, is to design surfaces that the barnacle glue doesn't stick to. The idea is for the larvae to swim off and find another place to fasten themselves. Layers containing the polymer polyethylene glycol (PEG) have been shown to yield excellent results.



Acorn barnacles

Nanotech Centre scientists have used a red dye made from Pokeberries to coat efficient and inexpensive fibre-based solar cells. The dye acts as an absorber, helping the tiny cell's fibres trap more sunlight to convert to power. The fibre cells can then produce as much as twice the power that current flat-cell technology can produce. That's because they are composed of millions of tiny plastic "cans" that trap light until most of it is absorbed. Since the fibres create much more surface area, the fibre solar cells can collect light at any angle—from the time the sun rises until it sets.

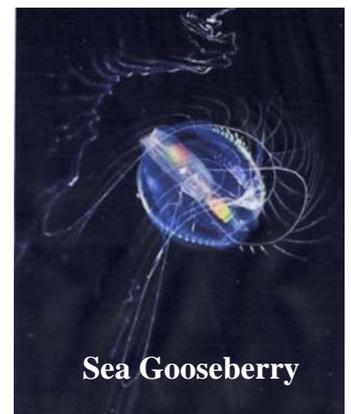


Pokeberries

Pokeberries are a weed that grows in every continent except Antarctica, and proliferate even during drought and in rocky, infertile soils. That means that residents of rural Africa, for instance, could raise the plants for pennies. They could then make the dye for the extremely efficient fibre cells and provide energy where power lines do not exist, to power a medical clinic, for instance.

There were 81 reported sighting of Basking Sharks around Cornwall during June, all around the coast from Padstow on the north coast to Cawsands on the south. Largest number together was 20 at the Longships. Bottlenose Dolphins were reported 7 times and 6 other reports of unidentified dolphins were probably also Bottlenose. Largest pod 15 off Towan Head. The largest pod of 8 reports of Common Dolphin was of 80 off Padstow.

3 reports of Risso's Dolphins were of a small pod all around Penwith. 6 reports of Harbour Porpoise were from The Brisons to Fal Bay. One report of Killer Whales was of 3 off Nanjizal. Minke Whales were seen 3 times and there were 2 other unidentified Whales. Ocean Sunfish were reported 4 times off Padstow, Newquay and Porthgwarra. A Leatherback Turtle was seen from the Scillonian on her way to the Isles. and 4 reports of Grey Seals were from the Padstow and Newquay area. Vast numbers of Moon Jellyfish were seen and hundreds of *Cyanea lamarckii* the blue jellyfish. over a wide area off Newquay One Lions Mane Jellyfish was also seen off Newquay as were about 25 Sea Gooseberries.



Sea Gooseberry