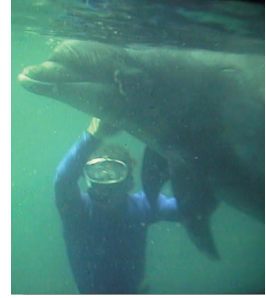


# Penzance B.S.A.C.

## Conservation Officer's Report

### August 2012



Brittle stars and people have something in common: they move in fundamentally similar ways. Though not bilaterally symmetrical like humans and many other animals, brittle stars have come up with a mechanism to choose any of its five limbs to direct its movement on the sea bed. In a series of experiments researchers discovered that brittle stars, despite having no brain, move in a very coordinated fashion, choosing a central arm to chart direction and then designating other limbs to propel it along. When the brittle star wants to change direction, it designates a new front, meaning that it chooses a new central arm and two other limbs to move. Why bother with turns or pivots? The brittle star doesn't turn as most animals do, it simply designates another of its five limbs as a new front and continues moving forward.



Brittle Star

Marine scientists studying life around deep-sea vents have discovered that some hardy species can survive the extreme change in pressure that occurs when a research submersible rises to the surface. The team's findings reveal how a species can inadvertently be carried by submersibles to new areas with potentially damaging effects on marine ecosystems. After using the manned submersible Alvin to collect samples of species from the Juan de Fuca Ridge under the north eastern Pacific Ocean, the team discovered 38 deep sea limpets (*Lepetodrilus gordensis*) among their samples. Intriguingly this species is believed to occur only in the vents of the Gorda Ridge, which are 634 km south of the dive site. The big question was, how did they get over 600 km from their habitat? They realised that the individuals must have been transported from the Gorda Ridge by the submersible, even though the submersible is cleaned after sampling and had assumed that the extreme pressure change would kill any species that were missed. The introduction of new species to an ecosystem is a big challenge to conservation. How a new species will react to new surroundings, and the effect it can have, is unpredictable. Increases in deep sea drilling and submersible activity can increase the probability of introductions, but until now hydrothermal vents had been considered too extreme and too isolated to be a source of introduced species.



*Lepetodrilus gordensis*

A team of researchers fitted a South American Seabird, called an Imperial Cormorant, with a small camera, then watched stunned as it became "superbird".—diving to 150ft depth in 40 seconds, feeding on the ocean floor for 80 seconds where it eventually caught a snakelike fish, before returning to the surface. This is the first time researchers have been able to watch first-hand the amazing feeding techniques of these fascinating birds. The footage shows the bird briefly on the surface before diving. The camera is attached to the birds back, so the view is of its head as it pumps its feet to swim deeper. When it reaches the sea floor it explores a vast area searching for food, eventually finding the elongated fish, which it brings to the surface to eat.



There were only 5 reported sightings of Bottlenose Dolphins during July, from Rumps Point near Padstow on the north coast all the way round to Rame Head near Plymouth on the south, pod sizes 4 to 8. Common Dolphins were reported 30 times from Polzeath to the Lizard with much larger pods of mainly from 6 to 40, but one sighting was of 150 or more off Pendeen. on the 28th. Two sightings of Risso's Dolphins on the same day in different areas were probably of the same pod. 21 sightings of Harbour Porpoises were all around West Penwith from Mounts Bay to The Brisons off Cape Cornwall. Some reports were of quite large numbers, like "four pods in Mounts Bay totalling over 40" on a couple of days. There were 2 reports of Minke Whales, one off Lamorna on the 4th and the other off Gribben Head on the 19th. 5 Leatherback Turtles were seen, 2 in Mounts Bay, one off Porthcurno and 2 off Newquay on the same day. Ocean Sunfish turned up in large numbers also with 28 reported sightings with reports like "Lots of Sunfish all over Mounts Bay today"