

Lazarus: a pictorial biography of a seafan

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An isolated colony of Eunicella verrucosa, one of only four known in Poole Bay, has recovered well after being crushed under a boulder and significantly damaged.

On 20 August 2000 a pink seafan was found on one of the many patch reefs in Poole Bay. It was the first to be seen in the area and extended the current known range in the English Channel of this protected species by over 20 km eastwards from its previous limit near Kimmeridge (Tinsley 2006)¹. The colony was examined, photographed, measured and freed from the bonds of an old fishing line that was wrapped around it near the base. A local commercial pot fisherman who regularly fished the area was advised of its presence.



Figure 1
As found in August 2000

The colony was on the west side of an irregular pyrite reef on a sloping bedrock face, close to the edge of the reef and rather less than 1m above the adjacent silty sand seabed at 16 m bsl. The

current in this part of the bay is not particularly strong: the flood current runs approximately north along the side of the reef with a maximum speed that is probably never much more than half a knot, whilst the ebb runs in a south westerly direction across the reef at speeds up to 1.5 kt. The seafan is shielded from some of the ebb current by the body of the reef. The plane of the fan was approximately perpendicular to the edge of the reef, i.e. at right angles to the flood current but angled at 45° to the direction of the ebb. The reef itself is covered with silty sponge and bryozoan turf and provides shelter for a variety of crustaceans and fish. Although the presence of the seafan had been made known to the authorities through the Finding Sanctuary programme the reef was not included in the Poole Rocks MCZ that was designated in December 2012.



Figure 2
The seafan in 2003

When first found the colony had a rather unusual two lobed shape, with two equal main stems arising from a common base: this division has persisted up to the present with the two parts developing more or less equally, though it is now much less obvious unless viewed from the edge of the colony as the two lobes have overlapped. One side of the seafan was bundled up into an un-natural shape by fishing line, hidden

underneath the fouling around the base of the colony (Figure 1). On a follow-up visit eight days later the colony was measured and photographed as found, the width being reported as 18 cm and the height 25 cm, and then the fishing line was removed. After the removal of the fishing line the fan did not immediately spring back into a more natural form. Apart from its misshapen form, although there was some light fouling around the base of the colony (on the fishing line rather than the structure itself) the fan appeared to be healthy.

Occasional visits were made in subsequent years to check on the health and wellbeing of the seafan: no problems were found, though it retained a rather untidy bifurcated appearance (Figure 2).



Figure 3
One of the large and magnificently healthy seafans from further east in Poole Bay

Meanwhile three further fans were discovered in the bay at widely scattered locations ranging from 170 m to 4.3 km east of the original one. Two of these three were large specimens with very dense branching and are likely to be several decades old (Figure 3): no juvenile seafans have ever been seen in Poole Bay.

On one of these visits, on 22 August 2006, it seemed initially as if the seafan was missing, until a few tips of branches were found poking out from underneath a large flat boulder (Figure 4). From the nature of the life on the upper surface it was clear that the boulder must have been flipped over onto the seafan: it is most likely that the boulder had been snagged by the back-line on a string of lobster pots. The

protruding branch tips that were the only visible parts of the colony still bore living soft tissue and extended polyps. Two divers working together managed to roll the stone away and hence to free the seafan, which was found to be in very poor condition. It was squashed into an almost unrecognisable shape and soft tissue had died back in many places, leaving skeleton completely exposed at the tips of some branches and in several places along the stems. Some of this damage can be seen in figure 5.

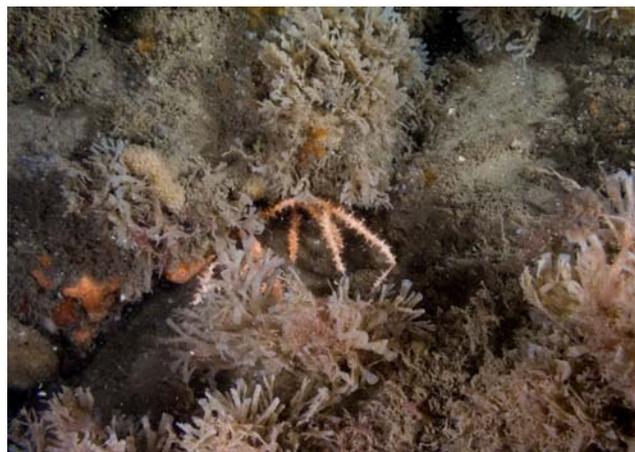


Figure 4
August 2006: trapped under a boulder . . .

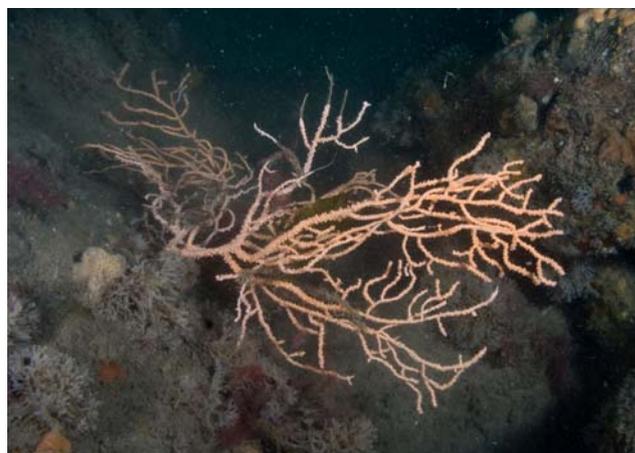


Figure 5
. . . and released

The framework was still quite springy and the base still securely attached to the reef; on release one of the two main stems did immediately recover somewhat from its horizontal position under the boulder; the other one, however, remained splayed out away from its partner and almost parallel with the surface of the bedrock (Figure 5), so that the separation between the two main sections of the fan that had been obvious previously was exaggerated further.



Figure 6
August 2007: recovery under way, but still a straggly mess

A year later the seafan received another visit to see whether it had survived. The two main stems were still widely spread, though the more squashed of the two had regained some of its reach into the water column (Figure 6); the colony was clean and polyps were extended, and there were clear signs that soft tissue was growing back over previously bare parts of the skeleton (Figures 7, 8). Some of the tips that had lost their soft tissue under the boulder had a complete new covering and were detectable only by the slightly paler colour of the new growth, which was a little more pink than orange as the original had been. There seemed to have been further growth in the soft tissue of the base too (Figure 9), though this could not be assessed objectively as no measurements of the base had ever been taken.



Figure 7
August 2007: some branch tips recovered, a few still bare

It was around this point that the seafan came to



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Figure 8
August 2008: new soft tissue creeping back over previously bare skeleton



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Figure 9
Possible new growth around the base: a response to being damaged?

be called Lazarus, since it was clear that rolling the stone away had given it a new lease of life. Whilst seafans occur as separate male and female colonies it is not known whether Lazarus is actually a male.



Figure 10
A healthy-looking Lazarus in 2010 - but threatened with fishing line again

A further visit in October 2010 found Lazarus to be in the pink of condition, despite being draped once again in fishing line (Figure 10). Both main branches were standing up and both sections had filled in considerably with many new side branches. The separation between the two main sections that had been visible even before Lazarus was damaged under the boulder had become much less obvious and the profile of the whole was much more like a 'normal' seafan.



Figure 11
Lazarus in June 2014

The most recent visit in this ongoing watch over Lazarus took place on 22 June 2014. The good condition of the seafan that had been reported four years previously appeared to have been maintained (Figure 11). One hydroid was seen attached to a branch on the lobe of the fan that was most flattened under the boulder in 2006, though its presence does not seem to be related to any damage caused then since the hydroid was not present on the same clearly healthy branch in 2010; very light drifting weed was the only other

fouling that was noted. Most noticeably the fan as a whole had filled in with side branches to the sort of density shown by its counterparts further east: see figures 3 and 11. Both lobes of the fan had continued to develop well and they had overlapped to a great extent; there was a clear 'sub-fan' on a branch a short way up one of the original main stems. As a result the whole colony had a clear multi-layered structure (Figure 12), a feature shared with two other large seafans in Poole Bay. Lazarus was measured as 33 cm wide x 22 cm high, much wider and slightly less high than it was when first found fourteen years before. It is possible that both of these changes are due to some extent to the re-shaping of the colony, initially following the removal of fishing line that had bound the fan into an un-naturally tall narrow shape and later through damage caused by the boulder incident, though lateral growth also can be detected in the images taken during this fourteen year period. Measurements being taken by different people at different times with no effort made to establish any consistency or objectivity may also have introduced discrepancies, so it is hoped to develop a 'seafan gauge' before the next visit.



Figure 12
Three fans in one colony

It is clear that given appropriate conditions even quite badly damaged seafans can survive, and prosper (See *Abrasion and physical disturbance* in Hiscock 2007). The roughness of the pyrite reef probably helped by giving Lazarus a very firm foothold, allowing the seafan to bend but not become detached from the rock, and the very healthy condition of the few other seafans in Poole Bay points to a favourable environment despite being at the eastern limit of the species' current distribution. Lazarus could easily be over thirty years old, but is clearly not ready to give up yet.

Notes

1. Two records indicate the possible presence of *Eunicella verrucosa* in the southern North Sea:

- (i) Manuel (1981) says "Older records suggest that this species occurred in the English Channel almost to the Thames Estuary (Margate) but its present eastward limits are unknown": the basis for this 'older records' claim is unclear.
- (ii) A specimen was found during a survey carried out by CEFAS on 16 December 1992, offshore from the Schelde Estuary (<http://wswww.gbif.org/occurrence/324332551/verbatim>)

The record is held by the Marine Biological Association.

References

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