

11. Pink sea fan (*Eunicella verrucosa*)



Figure 1: Pink sea fan, *Eunicella verrucosa*. © Dr Keith Hiscock (marlin.ac.uk)

Background

Eunicella verrucosa is an erect colonial gorgonian that varies from white to deep pink in colour. Colonies may be up to 50 cm high but more often up to 25 cm and they are found mainly on upward facing bedrock in areas where water movement is moderately strong from depths of 4 metres to over 50m. Recruitment in gorgonians is reported to be sporadic and/or low (Yoshioka 1996; Lasker *et al.* 1998; Coma *et al.* 2006). The growth rate can be highly variable. An increase in branch length of up to 6 cm was reported in some branches in one year but virtually none in others in Lyme Bay populations over a year. In the morphologically similar *Paramuricea clavata* in the Mediterranean, Coma *et al.* (1995) described reproduction and the cycle of gonad development. Spawning occurred 3-6 days after the full or new moon in summer. Spawned eggs adhered to a mucus coating on female colonies; a feature that would be expected to have been readily observed if it occurred in *Eunicella verrucosa*. Maturation of planulae took place among the polyps of the parent colony and, on leaving the colony, planulae immediately settled on surrounding substrata. It seems more likely that planulae of *Eunicella verrucosa* are released immediately from the polyps and are likely to drift (Readman & Hiscock, 2017).

Rationale for spatial protection in the western Irish Sea

Eunicella verrucosa was nominated for inclusion on the features list with reference to its listing on IUCN. The species is listed as globally vulnerable on the IUCN red list. Limited information is available on the distribution of *E. verrucosa* in the western Irish Sea and further data is required. There are however records in the southeast of Ireland and around the Isle of Man.

Sensitivity assessment

***Eunicella verrucosa* is highly sensitive to three of the pressures from the sensitivity analysis carried out.** The three pressures are associated with the construction and operation of offshore wind farms and each of the four fishing related activities.

All marine habitats and benthic species are considered to have a resistance of ‘None’ to physical loss (to land or freshwater habitat) and to be unable to recover from a permanent loss of habitat (resilience is ‘Very Low’)(high confidence) (Tyler-Walters et al., 2018). Physical change to another seabed type was assessed as highly sensitive (high confidence). A change to an artificial hard substratum does not automatically result in loss of suitable habitat for *Eunicella verrucosa*. However, artificial substratum may differ in character from natural habitats and may be associated with other pressures such as the presence of oil leaking from fuel tanks or the presence of antifoulant. However, a change to sedimentary substrata would result in the loss of suitable substratum for *Eunicella verrucosa*. Based on the loss of suitable habitat for the species, resistance to this pressure is assessed as ‘none’. Resilience is assessed as ‘very low’ as the pressure benchmark refers to a permanent change (Readman & Hiscock, 2017). *E. verrucosa* is also highly sensitive to removal of target species and would have no resistance to harvesting (low confidence).

***Eunicella verrucosa* is moderately sensitive to pressures associated with the shipping sector (medium confidence).** The species was assessed to have a medium sensitivity to the introduction or spread of invasive non-indigenous species (medium confidence). *Solidobalanus fallax* is an invasive southern species barnacle only recently recorded in south west England (Southward *et al.*, 2004) and, along with hydroids and bryozoans, have been observed fouling (primarily damaged or diseased) gorgonians (Hall-Spencer *et al.*, 2007). Fouling smothers the sea fan polyps and the membrane that covers the skeleton thus killing the live tissue of the sea fan. Eventually this can weaken the fan structure to the extent that fragmentation occurs. Therefore, resistance is assessed as ‘**Medium**’, resilience as ‘**Medium**’ and sensitivity as ‘**Medium**’. Due to the constant risk of new invasive species, the literature for this pressure should be revisited (Readman & Hiscock, 2017).

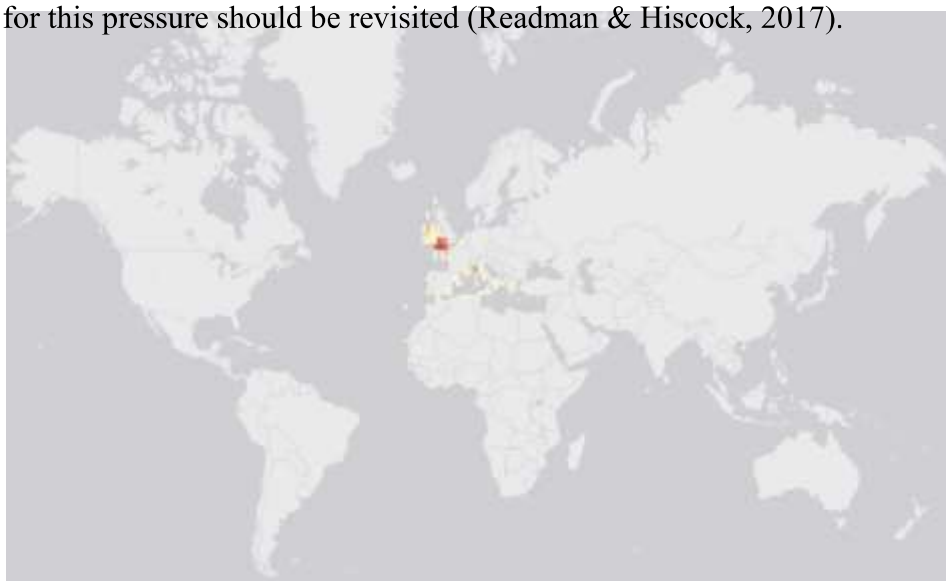


Figure 2. Global distribution of *Eunicella verrucosa*, Source:
<https://mapper.obis.org/?taxonid=125366>

Further research needs

Further research is required on the distribution of *E. verrucosa* in the western Irish Sea. Information on the life history of the species is also needed to fully understand reproduction and recruitment. Additionally, the chemical pressure (transition elements and organo-metal contamination, hydrocarbon and PAH contamination, synthetic compound contamination and introduction of other substances) were not assessed for this species due to a lack of evidence.

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