Ivell's sea anemone (*Edwardsia ivelli*)

MarLIN – Marine Life Information Network
Biology and Sensitivity Key Information Review

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A report from:
The Marine Life Information Network, Marine Biological Association of the United Kingdom.

Please note. This MarESA report is a dated version of the online review. Please refer to the website for the most up-to-date version [https://www.marlin.ac.uk/species/detail/1140]. All terms and the MarESA methodology are outlined on the website (https://www.marlin.ac.uk)

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See online review for distribution map

Distribution data supplied by the Ocean Biogeographic Information System (OBIS). To interrogate UK data visit the NBN Atlas.

Researched by	Angus Jackson	**Refereed by**	Dr Simon K. Davy
Authority	Manuel, 1975		
Other common names	-	**Synonyms**	-

Summary

Description
A very small translucent sea anemone. The disc is buff coloured with orange spots. The tentacles are transparent, spotted with brown and cream.

Recorded distribution in Britain and Ireland
Widewater lagoon, West Sussex.

Global distribution
Widewater lagoon, West Sussex, England.

Habitat
Lives in long burrows in deep, soft lagoon mud.

Depth range
<1

Identifying features

- A very small species, up to 2 cm long and 1.25 mm diameter when fully extended.
- Nemathybomes visible as small tubercles arranged in 8 longitudinal rows.
- Periderm thin and translucent.
- Tentacles 12, arranged in two cycles, 3 + 9.
- Physa without cinclides.

Additional information

No text entered

Listed by

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Further information sources

Search on:

G G NBN WoRMS

Biology review

Taxonomy

Phylum	Cnidaria	Sea anemones, corals, sea firs & jellyfish
Class	Anthozoa	Sea anemones, soft & cup corals, sea pens & sea pansies
Order	Actiniaria	
Family	Edwardsiidae	
Genus	Edwardsia	
Authority	Manuel, 1975	
Recent Synonyms	-	

Biology

Typical abundance	Data deficient
Male size range	20mm
Male size at maturity	
Female size range	Small(1-2cm)
Female size at maturity	
Growth form	
Growth rate	No information found
Body flexibility	
Mobility	
Characteristic feeding method	No information, Predator
Diet/food source	No information
Typically feeds on	
Sociability	
Environmental position	Infaunal
Dependency	No information found.
Supports	No information found
Is the species harmful?	No information

Biology information

-none-

Habitat preferences

Physiographic preferences	Isolated saline water (Lagoon)
Biological zone preferences	Not relevant
Substratum / habitat preferences	Mud
Tidal strength preferences	Very Weak (negligible)
Wave exposure preferences	Not relevant
Salinity preferences	Data deficient
Depth range	<1
Other preferences	No text entered

Migration Pattern	Non-migratory / resident

Habitat Information

This species has not been recorded since 1983. Three surveys have since failed to record this species. It may be that it exists in such low numbers that rediscovery in surveys is unlikely. Additionally, the conditions in the lagoon have varied considerably over the last 20 years. Water levels have fallen as a result of little seawater input, the remaining water is hypersaline. Areas of the lagoon basin have become exposed, subsequently changes in the lagoon community have been recorded. It has been suggested that this species may now be extinct.

Life history

Adult characteristics

Reproductive type	No information
Reproductive frequency	No information
Fecundity (number of eggs)	No information
Generation time	Insufficient information
Age at maturity	Insufficient information
Season	Insufficient information
Life span	Insufficient information

Larval characteristics

Larval/propagule type	-
Larval/juvenile development	No information
Duration of larval stage	No information
Larval dispersal potential	No information
Larval settlement period	Insufficient information

Life history information

No text entered

Sensitivity review

This MarLIN sensitivity assessment has been superseded by the MarESA approach to sensitivity assessment. MarLIN assessments used an approach that has now been modified to reflect the most recent conservation imperatives and terminology and are due to be updated by 2016/17.

Physical Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Substratum Loss	High		High	Low

The species typically lives within the mud substratum, removal of this would cause the anemone to die. No information is available regarding the reproduction of this species.

Smothering	Intermediate		High	Low

The species typically burrows in mud so some individuals would probably be able to move up through the smothering material. However, it is very small and might be damaged by the smothering material. No information is available regarding the reproduction of this species.

Increase in suspended sediment	Low		Moderate	Low

The species inhabits isolated saline lagoons and typically burrows in mud and so siltation is unlikely to be a problem for the feeding mechanism.

Decrease in suspended sediment

Dessication	High		High	Low

The species is found below water level and exposure of the species to desiccating influences through drying of the pools or lagoons would cause the population to die. No information is available regarding the reproduction of this species.

Increase in emergence regime	High		High	Low

The species is found below water level in isolated saline lagoons where there is no tidal regime. If there was modification of the lagoon system creating a tidal influence, causing the population to be emersed then it would die. No information is available regarding the reproduction and therefore recoverability potential of this species.

Decrease in emergence regime

Increase in water flow rate	High		High	Low

The species is only found in lagoons with negligible water flow. If the water flow regime were to change then the population would die.

Decrease in water flow rate

Increase in temperature	Low		Moderate	Very low

Living in a eurythermal environment the species is probably tolerant to quite wide temperature changes outside its usual range.

Decrease in temperature

Increase in turbidity	Tolerant	Not relevant	Not sensitive	Low

The species inhabits shallow isolated lagoons which are subjected to both sea and freshwater inputs, where there is often high levels of near-bottom turbidity. This turbidity is unlikely to affect a non-photosynthetic species, unless it is extreme enough to cause smothering.

Decrease in turbidity

Increase in wave exposure	High	High	Low

Typical habitat of isolated lagoons is not exposed to wave action. Although losses in fine substratum may be problematic in habitat stability. Any change in this would cause the population to die. No information is available regarding the reproduction of this species.

Decrease in wave exposure

Noise	Tolerant	Not relevant	Not sensitive	Very low

The species is likely to show little response to noise vibrations, although other species of anemone are known to contract in response to vibration.

Visual Presence	Tolerant	Not relevant	Not sensitive	Very low

The species has no visual ability.

Abrasion & physical disturbance	High	High	Low

This species is very small and has a very soft body. It would be easily damaged by abrasion or physical disturbance and intolerance is probably high. No information is available regarding the reproduction of this species.

Displacement	Tolerant	Not relevant	Not sensitive	Very low

This is a burrowing species that would probably be able to re-establish itself in the sediment if displaced. The quite similar *Nematostella vectensis* is capable of moving from sediment up on to an algal substratum and back again.

Chemical Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Synthetic compound contamination				Not relevant

Insufficient information

Heavy metal contamination				Not relevant

Insufficient information

Hydrocarbon contamination				Not relevant

Insufficient information

Radionuclide contamination				Not relevant

Insufficient information

Changes in nutrient levels				Not relevant

Direct changes in nutrient levels to this species are unknown, but increased levels of dissolved nutrients may stimulate algal over-growth.

Increase in salinity	Low	Moderate	Very low

The species inhabits shallow, eurythermal lagoons that probably have wide fluctuations in salinity and so is probably quite tolerant to varying levels of salinity. Extrapolation from

Nematostella vectensis.

Decrease in salinity

Changes in oxygenation	Low	Moderate	Very low

The species inhabits shallow, eurythermal lagoons that probably have wide fluctuations in dissolved oxygen concentration and so is probably quite tolerant to low levels of oxygen. Extrapolation from *Nematostella vectensis*.

Biological Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Introduction of microbial pathogens/parasites				Not relevant

Insufficient information

Introduction of non-native species				Not relevant

Insufficient information

Extraction of this species	Not relevant		Not relevant	Very low

No reason for extraction. The species, if still extant is protected by a UK Biodiversity Action Plan and by the Wildlife and Countryside Act (1981).

Extraction of other species	Not relevant		Not relevant	Very low

The anemone has no known obligate relationships.

Additional information

All the above intolerance assessments are made on the assumption that the species is still extant. The species inhabits a very restricted range of conditions and most changes to these will cause the population to die. *%Nematostella vectensis%* has been used as a model for inferring many of the intolerance ranks. No information is available regarding the reproduction of this species so no assessment of recoverability is possible.

Importance review

Policy/legislation

Wildlife & Countryside Act	Schedule 5, section 9
UK Biodiversity Action Plan Priority	☑
Species of principal importance (England)	☑
Features of Conservation Importance (England & Wales)	☑

Status

National (GB) importance	Not rare/scarce	**Global red list (IUCN) category**	-

Non-native

Native	-		
Origin	-	**Date Arrived**	-

Importance information

Possibly extinct.
Further surveys in lagoon habitat are required to establish whether it continues to survive either in Widewater lagoon or elsewhere.

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Datasets

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