



MarLIN

Marine Information Network

Information on the species and habitats around the coasts and sea of the British Isles

An encrusting bryozoan (*Oshurkovia littoralis*)

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/1347>]. 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 Dr Keith Hiscock
Authority (Hastings, 1944)
Other common names -

Refereed by Dr Peter J. Hayward
Synonyms *Umbonula littoralis*

Summary

Description

Colonies form large orange crusts that spread irregularly and are often fringed with green.

Recorded distribution in Britain and Ireland

Present all around the British Isles.

Global distribution

Present from Bergen, Norway south along the western Atlantic coast to at least the Channel Isles and western Brittany. Not present in the Mediterranean.

Habitat

A characteristic species of the sublittoral fringe and underboulder habitats. Occurs on rock and on *Laminaria* spp. holdfasts and *Himantalia elongata* buttons.

Depth range

Intertidal to 6 m

Identifying features

- Sheet-like encrusting form orange in colour.
- Zooids 0.6 to 0.8 mm x 0.46 x 0.6 mm, oval to hexagonal bordered by raised lines.
- Aperture of zooid elliptical.
- Frontal wall finely granular with 14-20 large and conspicuous areolae.

Additional information

No text entered

Listed by

Further information sources

Search on:

    NBN WoRMS

Biology review

Taxonomy

Phylum	Bryozoa	Sea mats, horn wrack & lace corals
Class	Gymnolaemata	
Order	Cheilostomatida	
Family	Umbonulidae	
Genus	Oshurkovia	
Authority	(Hastings, 1944)	
Recent Synonyms	Umbonula littoralis	

Biology

Typical abundance	Moderate density
Male size range	
Male size at maturity	
Female size range	Very small(<1cm)
Female size at maturity	
Growth form	Crustose hard
Growth rate	Data deficient
Body flexibility	
Mobility	
Characteristic feeding method	Active suspension feeder, No information
Diet/food source	
Typically feeds on	Suspended material
Sociability	
Environmental position	Epifaunal
Dependency	Independent.
Supports	None
Is the species harmful?	No information

Biology information

Umbonula littoralis is a hermaphrodite. The size range given above is for individual zooids.

Habitat preferences

Physiographic preferences	Open coast, Strait / sound, Ria / Voe, Enclosed coast / Embayment
Biological zone preferences	Sublittoral fringe, Upper infralittoral
Substratum / habitat preferences	Bedrock, Cobbles, Large to very large boulders, Small boulders
Tidal strength preferences	Moderately Strong 1 to 3 knots (0.5-1.5 m/sec.), Strong 3 to 6 knots (1.5-3 m/sec.), Very Strong > 6 knots (>3 m/sec.), Weak < 1 knot (<0.5 m/sec.)

Wave exposure preferences	Exposed, Extremely exposed, Moderately exposed, Sheltered, Very exposed
Salinity preferences	Full (30-40 psu)
Depth range	Intertidal to 6 m
Other preferences	None
Migration Pattern	Non-migratory / resident

Habitat Information

No text entered

Life history

Adult characteristics

Reproductive type	Permanent (synchronous) hermaphrodite
Reproductive frequency	Annual protracted
Fecundity (number of eggs)	No information
Generation time	Insufficient information
Age at maturity	Insufficient information
Season	June - November
Life span	Insufficient information

Larval characteristics

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

Life history information

- The dispersal phase is probably brief and larvae probably do not travel far.
- Embryos were recorded as present in the Plymouth area in June and August (Marine Biological Association, 1957), from October and November on the north-east coast of England (Hastings, 1944) and from September to February in Manx waters (Eggleston, 1969).

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.

A Physical Pressures

	Intolerance	Recoverability	Sensitivity	Confidence
Substratum Loss	High	High	Moderate	Moderate
Removal of substratum will remove the attached species. However, larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.				
Smothering	Intermediate	High	Low	Moderate
Smothering by overgrowth of competing encrusting ascidians may not kill <i>Umbonula</i> sp. (see Turner, 1988). Smothering by silt may however have an adverse effect. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.				
Increase in suspended sediment	Intermediate	High	Low	Low
<i>Umbonula</i> lives in habitats that are generally clear of silt (exposed coasts and downward facing surfaces) but is likely to have at least limited ability to clear silt. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.				
Decrease in suspended sediment				
Dessication	Intermediate	High	Low	Low
<i>Umbonula</i> lives in habitats that are in damp situations where it occurs on the lower shore suggesting that it would not survive desiccating conditions for very long. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.				
Increase in emergence regime	Intermediate	High	Low	Low
<i>Umbonula</i> lives in habitats that are in damp situations where it occurs on the lower shore suggesting that it usually requires submerged conditions. Increased amounts of emergence in desiccating situations are likely to lead to mortality. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.				
Decrease in emergence regime				
Increase in water flow rate	Intermediate	High	Low	Low
<i>Umbonula</i> thrives in habitats that are in areas of strong water movement and is not generally found in sheltered areas suggesting that a decrease in water flow rates where wave action is also weak would be likely to result in mortality most likely as a secondary effect from siltation but possibly reduction in food source. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.				
Decrease in water flow rate				
Increase in temperature	Low	High	Low	Low
The British Isles are at the centre of geographical range for <i>Umbonula littoralis</i> suggesting that colonies are likely to tolerate both warmer and colder conditions than those existing in Britain				

and Ireland. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.

Decrease in temperature

Increase in turbidity

Low

High

Low

Increased turbidity may reduce phytoplankton production and therefore reduce food availability except where increased turbidity results from a plankton bloom.

Decrease in turbidity

Increase in wave exposure

Intermediate

High

Low

Low

Umbonula thrives in habitats that are in areas of strong water movement and is not generally found in sheltered areas suggesting that a decrease in wave exposure where tidal streams are also weak would be likely to result in mortality most likely as a secondary effect from siltation but possibly reduction in food source. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.

Decrease in wave exposure

Noise

Tolerant

Not relevant

Not sensitive

Moderate

Umbonula is unlikely to sense noise but may be sensitive to vibration.

Visual Presence

Tolerant

Not relevant

Not sensitive

High

Umbonula may sense changes in light (shadowing) but has no visual organs.

Abrasion & physical disturbance

Intermediate

High

Low

Moderate

Umbonula has a hard calcareous skeleton which is likely to be broken through contact with hard surfaces such as cobbles moving around during storms. However, small portions of the colony might survive in irregularities of the substratum and spread after abrasion has ceased. Encrusting bryozoans occupy the zone above bare rock on abraded surfaces where there is a zonation from bare to dense erect growths (authors observations). Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize and so recoverability is recorded as high.

Displacement

High

High

Moderate

Low

Displacement of colonies off the substratum will result in mortality. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.

Chemical Pressures

Intolerance

Recoverability

Sensitivity

Confidence

Synthetic compound contamination

Not relevant

Not relevant

Insufficient information.

Heavy metal contamination

Not relevant

Not relevant

Insufficient information.

Hydrocarbon contamination

Intermediate

High

Low

Low

Ryland & DePutron (1998) observed no detectable damage to underboulder faunas affected by oil pollution in Watwick Bay, Pembrokeshire. These communities most likely included encrusting Bryozoa. However, it seems likely in the case of heavy pollution or pollution by light

oils, damage may occur to encrusting bryozoans. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.

Radionuclide contamination Not relevant Not relevant

Insufficient information.

Changes in nutrient levels Not relevant Not relevant

Insufficient information.

Increase in salinity High High Moderate Low

Umbonula littoralis appears to be restricted in distribution to areas that are continuously in full salinity conditions. It seems likely that variable or low salinity conditions will have an adverse effect. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.

Decrease in salinity

Changes in oxygenation Low High Low

Umbonula littoralis probably survives overgrowth by encrusting ascidians as described by Turner (1988) suggesting that it can survive isolation from easily obtained oxygen. Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.

Biological Pressures

Intolerance Recoverability Sensitivity Confidence

Introduction of microbial pathogens/parasites Not relevant Not relevant

Insufficient information.

Introduction of non-native species Not relevant Not relevant

Insufficient information.

Extraction of this species Not relevant Not relevant Not relevant Not relevant

Insufficient information.

Extraction of other species High High Moderate Low

Kelp harvesting is removal of substratum (see above). Larvae are produced annually and are likely to disperse from nearby unaffected substrata to recolonize.

Additional information

Importance review

Policy/legislation

- no data -

★ Status

National (GB)
importance -

Global red list
(IUCN) category -

Non-native

Native -

Origin -

Date Arrived

Not relevant

Importance information

Umbonula littoralis is a characteristic species of the sublittoral fringe and of some biotopes.

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