



# MarLIN

## Marine Information Network

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

## Bloody Henry starfish (*Henricia oculata*)

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

Angus Jackson

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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/1131>]. All terms and the MarESA methodology are outlined on the website (<https://www.marlin.ac.uk>)

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*Henricia oculata*.

Photographer: Keith Hiscock

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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  
**Authority** (Pennant, 1777)

**Refereed by** Dr Andrew C. Campbell

**Other common names** -

**Synonyms** -

## Summary

### 🔍 Description

A stiff rigid starfish with a sandpaper texture to the dorsal surface. This species comes in a wide variety of colour forms, reds, browns, purples and yellows. Sometimes the disc and inner portions of the arms is much darker than the outer part of the arms, as though the animal has been splashed with paint. The dorsal spinelets are more opaque and irregular than in *Henricia sanguinolenta*.

### 📍 Recorded distribution in Britain and Ireland

All round Ireland except perhaps for the east coast. South-east England round to the west coast northwards to northern Scotland.

### 📍 Global distribution

South, West and North coasts of Britain and Ireland. West Channel and Brittany.

### 🏠 Habitat

Found on a variety of substrata on open coasts.

### ↓ Depth range

0 - 100

## Identifying features

- Five tapering stiff arms.
- Sandpaper like texture.
- Dorsal spines blunt and covered with skin.

## Additional information

Sometimes confused with *Henricia sanguinolenta*.

## Listed by

## Further information sources

Search on:

    [NBN](#) [WoRMS](#)

## Biology review

### ☰ Taxonomy

Phylum	Echinodermata	Starfish, brittlestars, sea urchins & sea cucumbers
Class	Asteroidea	Starfish
Order	Spinulosida	
Family	Echinasteridae	
Genus	Henricia	
Authority	(Pennant, 1777)	
Recent Synonyms	-	

### 🌿 Biology

Typical abundance	Data deficient
Male size range	<200mm
Male size at maturity	>18mm
Female size range	>18mm
Female size at maturity	
Growth form	Stellate
Growth rate	0.3 - 1% body wt/day
Body flexibility	
Mobility	
Characteristic feeding method	Not relevant, Passive suspension feeder
Diet/food source	
Typically feeds on	Suspended matter, detritus layer, sponges, hydroids, ectoprocts
Sociability	
Environmental position	Epifaunal
Dependency	Independent.
Supports	Host <i>Asterocheres lillyeborgi</i>
Is the species harmful?	No

### 🏛️ Biology information

Size at maturity refers to radius. Adults typically around 100 mm.  
 Stomach eversion is an important supplement to suspension feeding.  
 The parasitic cyclopoid copepod *Asterocheres lillyeborgi* has more than a 90% occurrence

### 🏞️ Habitat preferences

Physiographic preferences	Open coast
Biological zone preferences	Lower circalittoral, Lower infralittoral, Sublittoral fringe, Upper circalittoral, Upper infralittoral

<b>Substratum / habitat preferences</b>	Bedrock, Cobbles, Gravel / shingle, Large to very large boulders, Pebbles, Small boulders
<b>Tidal strength preferences</b>	
<b>Wave exposure preferences</b>	Exposed, Moderately exposed, Very exposed
<b>Salinity preferences</b>	Full (30-40 psu)
<b>Depth range</b>	0 - 100
<b>Other preferences</b>	No text entered
<b>Migration Pattern</b>	Non-migratory / resident

### Habitat Information

*Henricia oculata* is occasionally found exposed to the air at low spring tides (Campbell pers comm.).

## Life history

### Adult characteristics

<b>Reproductive type</b>	Gonochoristic (dioecious)
<b>Reproductive frequency</b>	Annual protracted
<b>Fecundity (number of eggs)</b>	100-1,000
<b>Generation time</b>	Insufficient information
<b>Age at maturity</b>	Not relevant
<b>Season</b>	March - April
<b>Life span</b>	2-5 years

### Larval characteristics

<b>Larval/propagule type</b>	-
<b>Larval/juvenile development</b>	Direct development
<b>Duration of larval stage</b>	No information
<b>Larval dispersal potential</b>	Greater than 10 km
<b>Larval settlement period</b>	Insufficient information

## Life history information

Females have ripe eggs between March and April, males have mature sperm throughout the year. Maturity dependent on size rather than age.

## 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
<b>Substratum Loss</b>	High	High	Moderate	Low
<p>The species is an epifaunal crawler that occupies a broad range of substrata. Loss of the substratum would result in death. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.</p>				
<b>Smothering</b>	Intermediate	High	Low	Low
<p>The species is able to move by slow crawling. It does not typically live on sediment so smothering by sediment may cause locomotion problems. Crawling back up through the sediment may not be possible. <i>Henricia oculata</i> frequently suspension feeds so changing the substratum for one month would have little effect on the ability to feed. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.</p>				
<b>Increase in suspended sediment</b>	Low	Very high	Very Low	Low
<p><i>Henricia oculata</i> frequently suspension feeds, increased siltation may clog or interfere with this mechanism requiring extra energy expenditure to clear the feeding apparatus. Recovery occurs once feeding is no longer impaired, energy expenditure is returned to normal and condition is restored.</p>				
<b>Decrease in suspended sediment</b>				
<b>Dessication</b>	Intermediate	High	Low	Low
<p><i>Henricia oculata</i> is generally only found subtidally although is occasionally exposed at low spring tides. If it was exposed to the air it would probably not be able to move fast enough to return to the water rapidly. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.</p>				
<b>Increase in emergence regime</b>	Tolerant	Not relevant	Not sensitive	Low
<p><i>Henricia oculata</i> is only found subtidally and if the emergence regime changed, it probably has sufficient mobility to move to a location that is not subject to emergence.</p>				

**Decrease in emergence regime**

**Increase in water flow rate**      **Low**                      **Very high**                      **Very Low**                      **Low**

The species has sufficient mobility to move out of the area of altered water flow. An altered water flow rate may interfere with suspension feeding ability. The species does not rely entirely on passive suspension feeding but is also an active omnivore. Recovery occurs once feeding is no longer impaired and condition is restored.

**Decrease in water flow rate**

**Increase in temperature**                      **High**                      **High**                      **Moderate**                      **Low**

The species has quite a restricted global distribution. Long term temperature changes will cause the population to die (or to move location). Rapid, acute temperature increase will probably also cause death. A short term decrease in temperature will probably just cause inactivity. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

**Decrease in temperature**

**Increase in turbidity**                      **Tolerant**                      **Not relevant**                      **Not sensitive**                      **Low**

Behaviour is not dependent on ambient light. The species is found down to 100 metres where light availability is very limited.

**Decrease in turbidity**

**Increase in wave exposure**                      **Intermediate**                      **High**                      **Low**                      **Low**

Wave action in extremely exposed areas may be too great for the species to maintain position on substrata. A change of two ranks means that the species is likely to be subject to lower wave exposure conditions than its preferred range. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

**Decrease in wave exposure**

**Noise**                      **Tolerant**                      **Not relevant**                      **Not sensitive**                      **Low**

The species is unlikely to respond to noise vibrations

**Visual Presence**                      **Tolerant**                      **Not relevant**                      **Not sensitive**                      **Low**

Starfish have photoreceptors but cannot resolve moving objects so will not respond to visual disturbance.

**Abrasion & physical disturbance**                      **Low**                      **Very high**                      **Very Low**                      **Low**

Physical disturbance or impact by due to a scallop dredge is likely to cause some physical damage to *Henricia oculata* but starfish have well documented regenerative abilities (see [Asterias rubens](#)).



**Displacement** Tolerant Not relevant Not sensitive Low

The species is mobile and displacement would not affect the species.

## 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

Insufficient information

**Increase in salinity** Intermediate Moderate Moderate Low

Species lives only in fully saline habitats. A reduction of one salinity rank would result in the species being exposed to conditions outside its preferred range. Although the adults are mobile they probably don't move long distances so adult immigration is unlikely to play a large role in recovery. The species can live for up to five years and matures at quite small sizes. Up to 500 eggs are broadcast spawned into the water column so larval dispersal potential is considerable. Reproduction occurs over a protracted period so is less likely to be affected by adverse environmental conditions.

**Decrease in salinity**

**Changes in oxygenation** Intermediate Moderate Moderate Low

Cole *et al.* (1999) suggest possible effects on marine species below 4 mg/l and probable effects below 2mg/l. There is no information about *Henricia oculata* tolerance to changes in oxygenation..

## 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 Not relevant Low

It is very unlikely that this species would be extracted.

**Extraction of other species** Not relevant Not relevant Not relevant Low

The species has no known obligate relationships.

## **Additional information**

## Importance review

### Policy/legislation

- no data -

### Status

National (GB)  
importance -

Global red list  
(IUCN) category -

### Non-native

Native -

Origin -

Date Arrived -

### Importance information

-none-

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