



# MarLIN

## Marine Information Network

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

## Bearded stonewort (*Chara canescens*)

MarLIN – Marine Life Information Network  
Marine Evidence-based Sensitivity Assessment (MarESA) 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/54>]. All terms and the MarESA methodology are outlined on the website (<https://www.marlin.ac.uk>)

This review can be cited as:

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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.

<b>Researched by</b>	Morvan Barnes	<b>Refereed by</b>	This information is not refereed.
<b>Authority</b>	J.L.A.Loiseleur-Deslongschamps, 1810		
<b>Other common names</b>	-	<b>Synonyms</b>	-

## Summary

### 🔍 Description

Like all stoneworts, the bearded stonewort does not have true leaves or roots but has leaf-like branchlets in whorls around the stem and a mass of fine rhizoids that anchor the plant in sediment. *Chara canescens* grows up to 30 cm in height and is usually olive green in colour. It has regular whorls of slender cylindrical branchlets, and will often be encrusted with carbonate. The gaps between each whorl of branchlets (internodes) decrease gradually along the stem. It is densely covered in spines, giving it a furry appearance. It is anchored in mud or silt by translucent rhizoids and can often give out an unpleasant odour.

### 📍 Recorded distribution in Britain and Ireland

*Chara canescens* has records in Peterborough, Cambridgeshire, with a few records in and along the coast of East Anglia. There are a few unconfirmed records from the Outer Hebrides.

### 📍 Global distribution

Widely though sporadically distributed around the coast of Europe, Asia, Africa, North America

and Australia, particularly the Baltic. Occasionally recorded inland.

## Habitat

*Chara canescens* usually inhabits clear brackish water up to 2.5 m deep (but may be found at depths of up to 5 m) in lagoons, lakes and pools by the coast. It often grows on calcareous clay, gradually shelving edges of lakes or muddy, sandy, marly calcareous substrata in lakes and lagoons. Although a brackish species its UK habitats tend to be of very low salinity and it is associated with oligotrophic (nutrient poor) waters.

## ↓ Depth range

up to 5 m

## Q Identifying features

- Up to 30 cm in length.
- Densely covered in spines giving it a furry appearance.
- A gradual decrease in internode length throughout the stem.
- Bracts in each whorl are equal in length.
- The number of lines of cortical stem cells equals the number of branchlets.
- Thallus may have a strong unpleasant odour.

## Additional information

*Chara canescens* can be distinguished from other stoneworts, including *Chara pendunculata* and *Chara curta*, by the gradual decrease in internode length throughout the stem and by all the bracts in each whorl being equal in length (Stewart & Church, 1992). Only female plants occur in northern Europe and the species reproduces asexually (Bryant & Stewart, 2002). When growing in shallow water *Chara canescens* behaves as an annual but in deeper water (up to 5m) it can be perennial. Only female plants of *Chara canescens* have been recorded in Northern Europe, the plant reproducing by parthenogenesis without fertilization (gametophyte cells, other than a fertilized egg, develop into the sporophyte).

Reproduction is entirely by spores (this species does not produce vegetative bulbils). Germination occurs in April May, and spores are produced in the summer ripening from mid-July onwards but may remain present throughout autumn and winter. Spores are likely to be spread by wildfowl after ingestion with other food (Casanova & Nicol, 2009). Historical evidence suggests that this species can spread to new sites where suitable conditions occur near to existing populations. Spore viability decreases markedly after a year. The exact growth rate is unknown, but the maximum size is likely to be reached within 3 months. Charophytes have a rapid colonization rate and are a pioneer species, which after disturbance can quickly recolonize from the spore bank of oocytes in the soil. As succession takes place, the stonewort species present change, and may be out-competed by other colonising species and vascular plants such as the common reed *Phragmites australis*. *Chara canescens* has a limited ability to compete with vascular plants and often grows in areas after recent disturbance. Stoneworts enhance water clarity by stabilising sediments and reducing water flow rates. They also provide an important habitat for a variety of fish, molluscs and invertebrates.

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 **Further information sources**

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## Bibliography

- Bryant, J.A & Stewart, N.F., 2002. Order Charales. In: John, D.M., Whitton, B.A. & Brook, A.J. (Eds.) *The Freshwater Algal Flora of the British Isles. An identification guide to freshwater and terrestrial algae*. Cambridge: Cambridge University Press.
- Casanova, M.T. & Nicol, J.M., 2009. *Chara canescens* (Characeae, Charophyceae) in the Southern Hemisphere. *Charophytes*, **1**, 55-60.
- Curry, P., 1991. *Distribution, translocation and monitoring of Chara canescens at the Peterborough Brickpits*. Report by Bedfordshire and Cambridgeshire Wildlife Trust.
- Guiry, M.D. & Guiry, G.M., 2008. AlgaeBase. <http://www.algaebase.org>, 2008-02-21
- Lambert, S., 2009b. Stoneworts: their habitats, ecological requirement and conservation. Using science to create a better place: Integrated catchment science programme, Environment Agency, Bristol, pp. 23. Available from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/290960/scho0309bpsd-e-e.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/290960/scho0309bpsd-e-e.pdf)
- Moore, J.A., 1986. *Charophytes of Great Britain and Ireland*. London: Botanical Society of the British Isles.
- Stewart, N.F. & Church, J.M., 1992. *Red data books of Britain and Ireland: stoneworts*. Peterborough: The Joint Nature Conservation Committee
- Stewart, N.F., 2004. *Important Stonewort Areas. An assessment of the best areas for stoneworts in the United Kingdom*. Plantlife International, Salisbury, UK.

## Datasets

- Botanical Society of Britain & Ireland, 2018. Other BSBI Scottish data up to 2012. Occurrence dataset: <https://doi.org/10.15468/2dohar> accessed via GBIF.org on 2018-09-25.
- Cambridgeshire & Peterborough Environmental Records Centre, 2017. CPERC Combined Dataset. Occurrence dataset: <https://doi.org/10.15468/npthhv> accessed via GBIF.org on 2018-09-25.
- NBN (National Biodiversity Network) Atlas. Available from: <https://www.nbnatlas.org>.
- Norfolk Biodiversity Information Service, 2017. NBIS Records to December 2016. Occurrence dataset: <https://doi.org/10.15468/jca5lo> accessed via GBIF.org on 2018-10-01.
- OBIS (Ocean Biogeographic Information System), 2019. Global map of species distribution using gridded data. Available from: Ocean Biogeographic Information System. [www.iobis.org](http://www.iobis.org). Accessed: 2019-03-12
- Royal Botanic Garden Edinburgh, 2018. Royal Botanic Garden Edinburgh Herbarium (E). Occurrence dataset: <https://doi.org/10.15468/yipoair> accessed via GBIF.org on 2018-10-02.
- Suffolk Biodiversity Information Service., 2017. Suffolk Biodiversity Information Service (SBIS) Dataset. Occurrence dataset: <https://doi.org/10.15468/ab4vwo> accessed via GBIF.org on 2018-10-02.