



Osmundea pinnatifida

Common name: Pepper dulse.

Irish names: Máthair an duillise, Derida, Griabhán.

Phylum: Rhodophyta
Class: Florideophyceae
Order: Ceramiales
Family: Rhodomelaceae
Genus: *Osmundea*
Species: *O. pinnatifida*



Fig 1. *Osmundea pinnatifida* plants.

Morphology

- Red alga with dark purple to brownish-red tufted thallus, with flattened fronds and robust main axes. The holdfast is tangled and creeping.
- Branching is irregular with an overall shape that is approximately triangular/pyramidal.
- The texture is softly cartilaginous and thick.
- The plant can reach up to 10 cm length, with fronds being 2-8 mm wide.
- The two most similar species, *O. osmunda* and the rare *O. oederi* have discoid holdfasts and are found on the lower shore or in pools and in the shallow subtidal. *O. osmunda* is a larger species (up to 20 cm long) and *O. oederi* is attached to other algae. Also present in Ireland are *O. hybrida*, *O. truncata* and *O. ramosissima*.



Fig 2. Morphology.

Reproduction

- *Osmundea pinnatifida* has two macroscopic phases in the life-cycle (see LC1*). Male and female structures occur on different individuals. The reproductive structures occur laterally on the last branchlets.

♀ Fertile female: Oval structures (~ 1 mm in diameter).

♂ Fertile male: Urn-shaped structures (~ 1 mm).

⊕ Tetrasporophyte: Tetrasporangia appear as dark dots at or near the apices of the fronds.

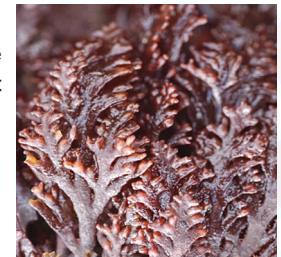


Fig 3. Fertile female fronds.

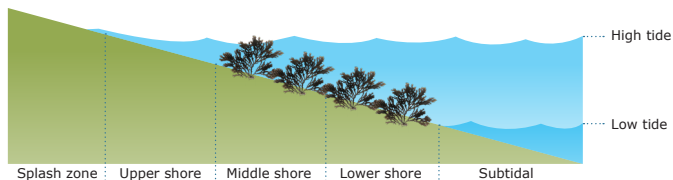
*Note: Life-cycle 1 (LC1) on page 3.



Osmundea pinnatifida

Distribution and habitat

- This species has been reported in the NE Atlantic, NW Africa and W Indian Ocean (India and Pakistan).
- It grows on open rock surfaces, often covering damp slopes.



Seasonality



Note: These seasonal characteristics may vary slightly from year to year.

Wild resource and cultivation



interesting facts

- It has a peppery flavour and can be used as a condiment. This flavour comes from molecules called halogenated terpenes (a large and diverse class of aromatic organic compounds). However, *Osmundea* should be consumed in moderation, as its terpenes and phenols may be associated with health risks.



- In the wild, the alga produces terpenes and phenols often as a protective function to deter grazing by molluscs and fish.
- Terpenes have a strong smell. If you get familiar with the smell of *Osmundea*, you can tell where it is on the shore by its strong scent.

© Pictures: Figs 1 & 3 by Michael D. Guiry and Fig 2 by Anna Soler-Vila.

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