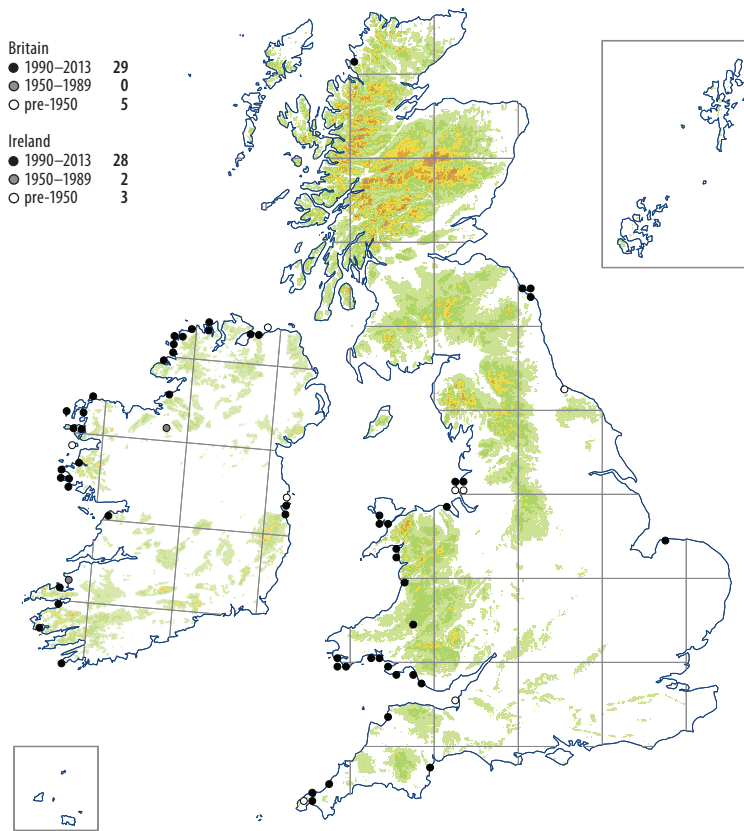


Petalophyllum ralfsii



A coastal species of calcareous sand dunes where it may be locally frequent in and along the margins of slacks. It tends to avoid areas that are deeply flooded in winter, and often occupies slightly peaty, dark brown, sandy soil rather than pure sand. Most conspicuous in winter and spring, it disappears almost completely during periods of drought. Frequent associates include *Aneura pinguis*, *Leiocolea badensis*, *Preissia quadrata*, *Riccardia chamedryfolia*, *R. incurvata*, *Bryum* spp., *Dicranella varia*, *Didymodon acutus*, *D. tophaceus* and the horsetail *Equisetum variegatum*. The largest Irish colonies support millions of thalli and are believed to be the biggest populations in the world (Lockhart *et al.*, 2012). There are only two accurately identified inland colonies, both of them transient: one on dumped sand on a lead mine near Rhandirmwyn in Carmarthenshire and another in a disused

limestone quarry near Lough Arrow in Co. Sligo. Altitudinal range: 0–240 m.

The high profile of this species, which is on Annex II of the Habitats and Species Directive, means that its population has been monitored in detail: the BBS database contains over 1100 records from just 64 sites. Some colonies have increased in recent years, notably in Cornwall and Pembrokeshire, whilst others have been lost as dune slacks have dried out through natural succession. Trampling allows some small populations to survive on paths across largely unsuitable sites.

Dioicous; sporophytes are frequent from December to June. Perennation through periods of drought is by means of tuberous stems packed with lipid.

Rumsey *et al.* (2001) were unable to detect any allozyme variation in 178 individuals from nine British populations.

Mediterranean-Atlantic. Widespread in the Mediterranean region, where inland populations are known, including N Africa and Turkey, extending northwards along the Atlantic seaboard to Britain. The American *Petalophyllum* is now regarded as a distinct species, *P. americanum* C.H. Ford & Grand.-Stotl. (Crandall-Stotler *et al.*, 2002).

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