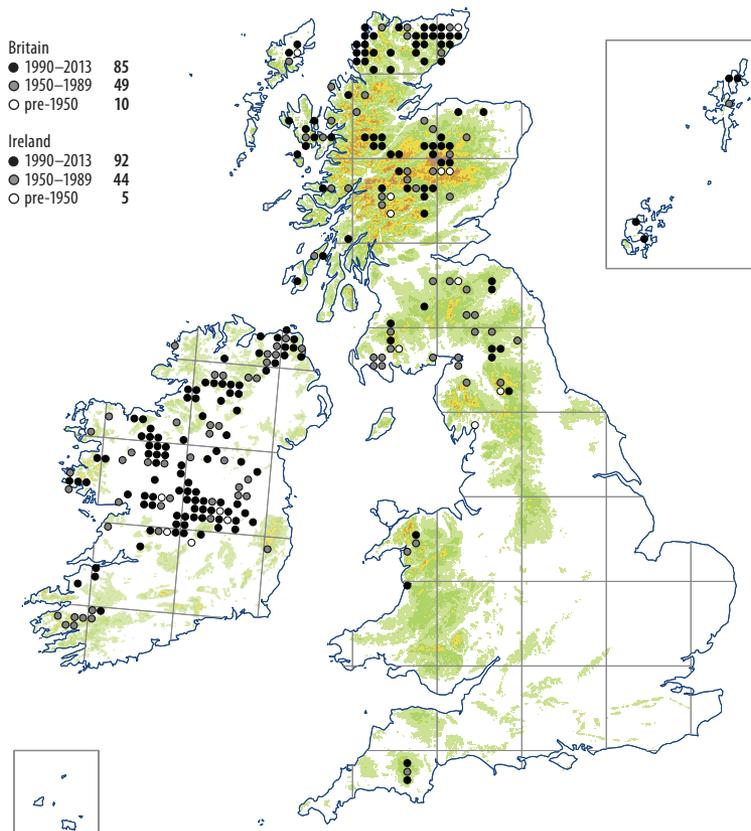


Sphagnum austinii

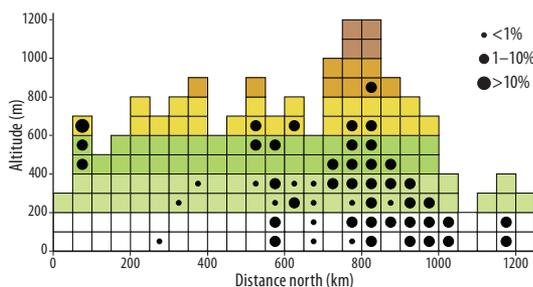


Found on ombrotrophic bogs, mainly raised bogs and saddle bogs, where the peat is deep and wet, sometimes forming large hummocks among *Calluna vulgaris*, *Eriophorum vaginatum* and *Trichophorum cespitosum*, associated with other bog *Sphagnum* species, notably *S. capillifolium*, *S. fuscum*, *S. magellanicum* and *S. papillosum*. The dense tussocks of *S. austinii* are characteristically interwoven with abundant bog liverworts. *Odontoschisma sphagni* is an almost constant associate. Altitudinal range: 0–595 m.

Many bogs even in the core of its range, for example in the Irish midlands and the Scottish Flow Country, support only a few hummocks. The Quaternary history of *S. austinii* has long puzzled ecologists. Up to the Middle Ages, it was a major peat former in both Britain and Ireland, and dense layers of

S. austinii peat are found in cores in many British and Irish bogs. It then disappeared, but not synchronously and not in response to any obvious change in the climate. On Butterburn Flow in Northumberland it disappeared over a few decades about 1300 (McClymont *et al.*, 2008). At Kentra Moss in NW Scotland, it disappeared about 550 AD (Ellis & Tallis, 2000). At Carbury Bog in eastern Ireland, it was abundant during the period 1280–1420 and then sharply declined at a time of increased human activity near the bog (van Geel & Middelorp, 1988). Hughes *et al.* (2008) implicate aerial deposition of soil dust as an important cause of decline, and suggest that the species has survived up the present time only where annual deposition of atmospheric nitrogen is less than 10 kg/ha.

Diocious; capsules are rare, mature in summer, found three times in Ireland and twice in Britain.



Sphagnum austinii and *S. affine* are the European members of the *S. imbricatum* complex. Before the revision by Flatberg (1984) they were treated as synonyms of *S. imbricatum*, which is found in eastern Asia.

Hyperoceanic Temperate. Frequent in western Norway, rare round the west shores of the Baltic; isolated occurrences in C Europe. Colchic region, Atlantic and Pacific coasts of N America.

M.O. Hill