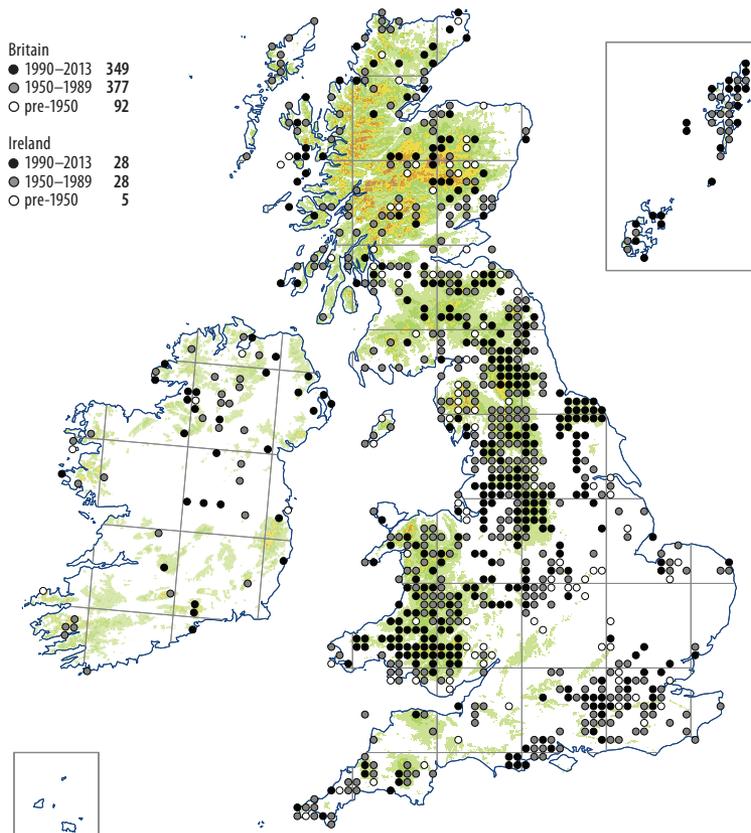


## Warnstorfia fluitans



This species grows in shallow acid pools on wet heaths and ombrogenous peats, especially in upland blanket bogs but also in valley mires, often with *Polytrichum commune*, *Sphagnum cuspidatum*, *S. denticulatum* and *Cladopodiella fluitans*, and almost always in base-poor water with less than 5 ppm calcium and pH less than 5.0. It favours sites with little movement of water, but may occur in sluggish seepages. It is widespread on moorland that has been degraded by burning, grazing and erosion, occurring for example in erosion gullies on blanket peat, and it sometimes trails over wet rocks at the edges of streams and in gullies. Along with various *Sphagnum* species, it is an occasional colonist of marshes with *Juncus* and *Molinia* in old gravel pits and in hollows among spoil heaps. Altitudinal range: 0–950 m.

There has been a declining trend in records since 1990, especially in polluted area, and this may be a response to reduced levels of SO<sub>2</sub> and increased nutrient deposition. It tolerates extremely acid conditions, as at Dersingham Fen, where the pH may fall below 3.0 in summer, and it persisted on the South Pennine moorlands when there were severe levels of acid pollution.

Autoicous; capsules are occasional, mature in summer and autumn.

Circumpolar Boreo-temperate. In Europe from Iceland and Svalbard south to the mountains of the Mediterranean region. Macaronesia, N Africa (Algeria). Turkey, Caucasus. Across northern and temperate Asia, including Himalaya, to Japan. America south to Colorado and Virginia. On mountains in the tropics in C Africa, the Andes and New Guinea. Southern S America, southern Africa, Australia, New Zealand, Kerguelen Island.

M.C.F. Proctor, rev. T.L. Blockeel

