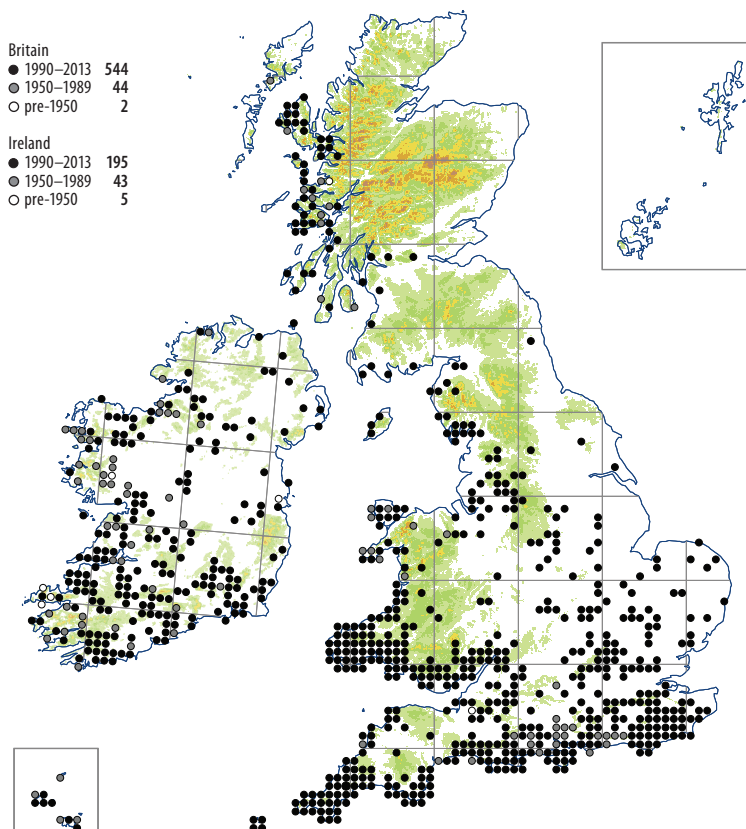


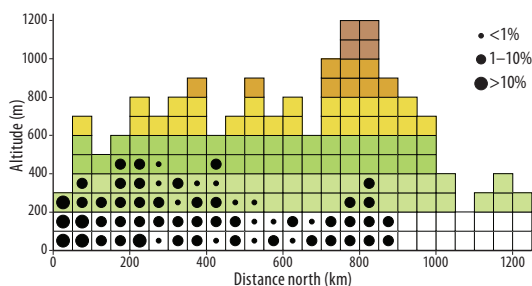
Cololejeunea minutissima



Epiphytic on the trunks, lower branches and upper twigs of willow, poplar, hazel, elder, ash, holly, oak, beech, sycamore, elm, blackthorn, and ivy in wind exposed coastal scrub, in woods near the sea and, to a lesser degree and in reduced abundance, inland. It also grows on gorse and tall *Calluna* stems, often on steep slopes near the sea, and on conifer trunks in the Isles of Scilly. It occurs more rarely on shaded mildly basic rocks and in ravines near the sea, and on Scillonian dry-stone walls. Common epiphytic associates include *Frullania dilatata*, *Metzgeria furcata*, *M. violacea* and *Ulota phyllantha*. Away from the coast, it tends to be much less abundant than *Microlejeunea ulicina* in western Britain, although they are occurring together more often as *Cololejeunea minutissima* is spreading. Altitudinal range: 0–325 m.

The spread of *C. minutissima* since the 1990s has been one of the most dramatic of any bryophyte. At the time of the 1991–1994 Atlas, its north-easternmost British colonies were in Denbighshire, Oxfordshire and Kent. It remains most abundant within 15 km of the sea, but there are strong inland colonies in parts of Ireland, S Wales and SW England and populations with numerous plants are now being found with increasing frequency in East Anglia. Bates & Preston (2011) suggest that recent climate change appears to be the most likely explanation for this range expansion, but that the reduction in SO₂ pollution may have been a necessary precondition for spread. In the Netherlands it was unknown until 1987 but is now widespread, although many populations are small (BLWG, 2013).

Autoicous; usually fertile, capsules are common, March to October. Gemmae are common.



Hyperoceanic Southern-temperate when classified by Hill & Preston (1998), but since its recent spread it may be better regarded as Mediterranean-Atlantic. Mediterranean and southern Europe; Macaronesia; Africa, Madagascar, Réunion; Yemen, Himalaya, Japan, Taiwan; Australia; N America; Mexico; Caribbean; Venezuela, Brazil, Andean S America, Paraguay.

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