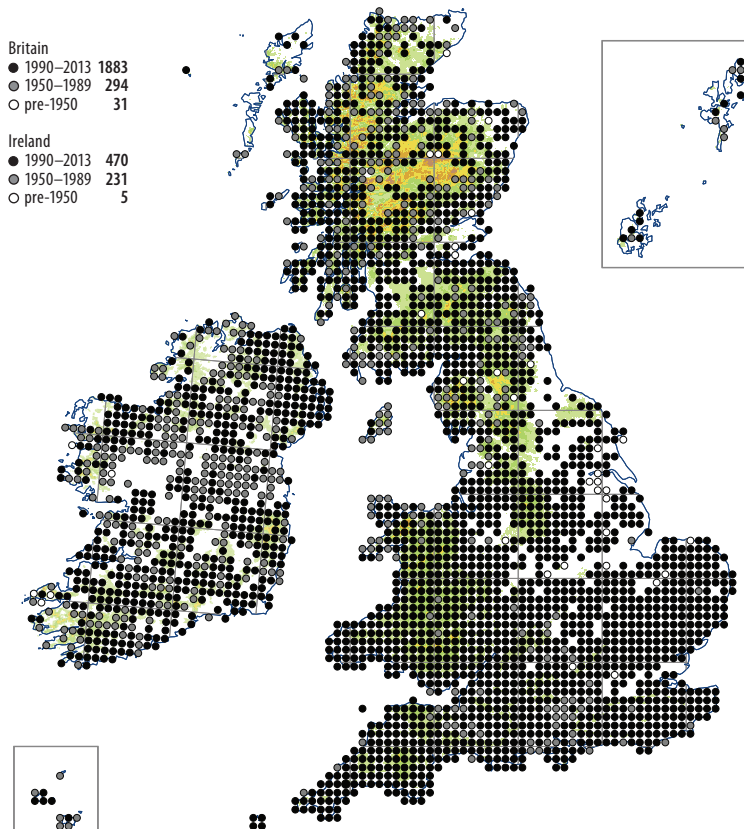


Frullania dilatata



Most frequent as an epiphyte on the lower branches and trunks of ash, elm, hazel, willow, elder, oak, and, more rarely, rowan, alder, blackthorn, sycamore, beech, and birch in open woods, plantations and hedgerows, growing with *Metzgeria furcata*, *Radula complanata*, *Homalothecium sericeum*, *Hypnum cupressiforme* and Orthotrichaceae. It also occurs on gorse and heather stems in the west. Sites are usually sheltered and rather dry. It also grows occasionally on rocks in woods and wooded ravines, stone walls, roadside rocks, tombstones, buildings, rocks near the sea, and on fallen logs. Altitudinal range: 0–480 m.

This epiphyte has increased rapidly in areas with formerly high atmospheric pollution, particularly in the northern English Midlands and around London. The increase was not detected in the BBS epiphyte survey of 1992-95 (Bates *et al.*,

1997) but it became very marked from the start of the 21st century. It has spread similarly in the Netherlands (BLWG, 2013).

Dioicous; often fertile, capsules are fairly common, found throughout the year.

Eurasian Southern-temperate. Widespread throughout Europe, except in the extreme north. N Africa; Macaronesia; Siberia, Russian Far East, Caucasus, Middle East, China, Mongolia, Korea, Japan, Himalaya. The *Frullania dilatata* complex also occurs in N America but does not include *F. dilatata* s.s. (Bombosch *et al.*, 2010).

H.J.B. Birks

