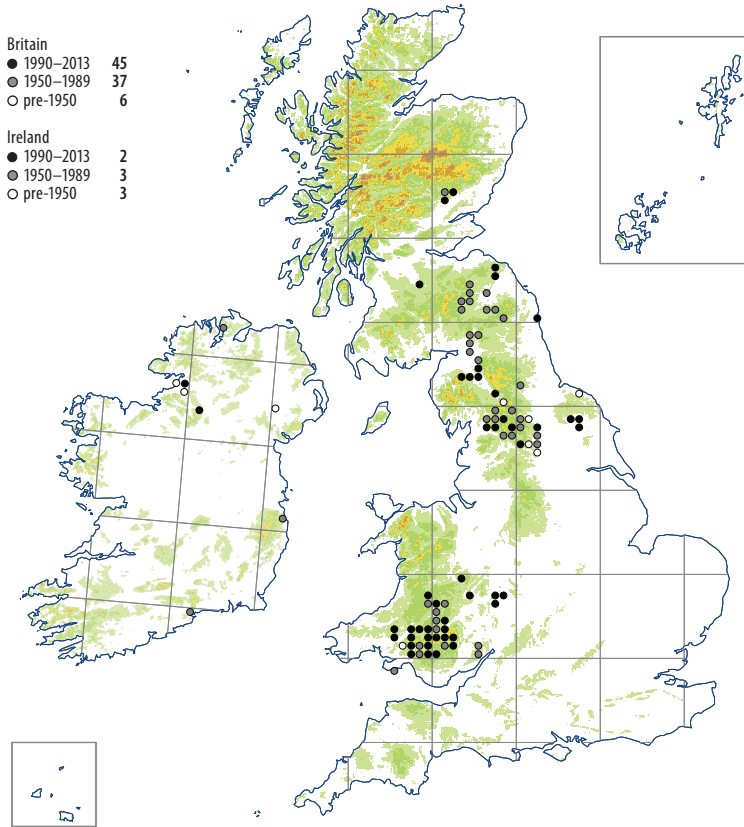


Fissidens rufulus



Very similar to *Fissidens crassipes* and like that species growing in aquatic or subaquatic habitats. It is largely restricted to fast-flowing streams and rivers, especially on limestone and sandstone in the middle reaches of watercourses in upland regions, where it is often associated with *Cinclidotus fontinaloides*, *Hygroamblystegium fluviatile*, and subaquatic *Schistidium* spp., but is generally at lower levels in the water than those species. When growing on slate or other acid rocks, it is usually influenced by calcareous content in the water. Many of its localities are in wooded valleys, gorges and ravines, but it also occurs by streams flowing through open country. In the Craven Pennines, where it is locally abundant, Proctor (1960) found that it grew on stony and rather sandy stream beds, usually where submerged for the greater part of the year. It avoids sluggish and eutrophic waters, and is less

tolerant of pollution than *F. crassipes*. Altitudinal range: 40–300 m.

Its bicentric range in Britain appears to be genuine, rather than an artefact of recorder bias, and its distribution is probably stable; new records from S Wales have offset the lower numbers from N England and Scotland, but it is unlikely to have declined significantly in the latter areas.

Dioicous; capsules are occasional, autumn and winter.

Though usually distinct from *F. crassipes* in its smaller cell size, occasional specimens are difficult to name and there may be a few mapped errors.

European Temperate. Rare and scattered in W, C and S Europe, north to S Sweden (one old locality), also recorded in European Russia. Turkey. Records from N Africa require confirmation.

T.L. Blockeel

