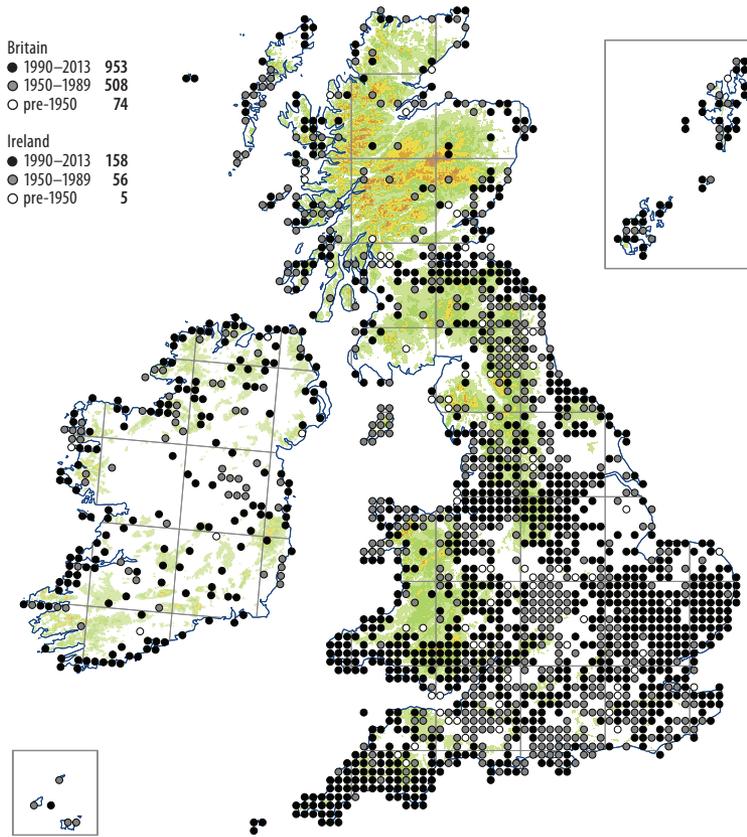
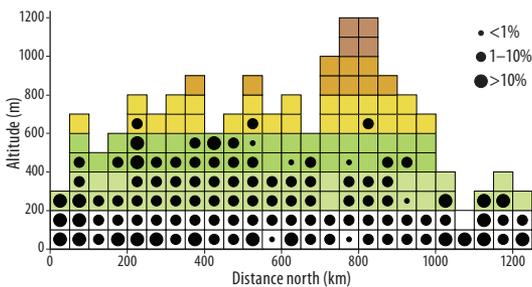


Didymodon tophaceus



This species occurs in a wide range of base-rich habitats. These include tufa and wet calcareous rocks on stream banks in woodland, in ravines and on cliffs and coastal banks. On tufa it is often associated with *Eucladium verticillatum*. It also occurs in base-rich flushes and seepages, and on moist walls and wall mortar. It often grows on a thin layer of soil, but also directly on rock where this is sufficiently soft or porous. It frequently colonises tracks, bare clay and soil, bare ground and spoil heaps in quarries and pits, and dune slacks. It is especially plentiful on the coast, forming extensive sheets in association with *Dicranella varia* on wet undercliffs and by streams. Altitudinal range: 0–500 m.

Coverage of most *Didymodon* species is greatly improved since the 1991–1994 Atlas, and this is also true of



D. tophaceus. However it is unlikely that there has been an actual increase in its frequency.

Dioicous. Capsules are frequent, maturing in winter and spring. Rhizoidal tubers were reported in material from Kent and Hampshire by Side (1983) and have also been reported from South Africa (Arts, 1998). However Werner *et al.* (2009) did not observe tubers in any of the material of *D. tophaceus* examined by them.

Didymodon tophaceus is a very variable species that belongs to a complex of taxa that include the southern European *D. sicculus* M.J. Cano and the recently described *D. erosus* J.A. Jiménez & J. Guerra. Some plants may be difficult to separate from *D. spadiceus*, others from *D. erosus*; the latter commonly produces rhizoidal tubers and is currently known from S and C Europe but might occur further west (Werner *et al.*, 2009; J. Kučera, *pers. comm.*). Therefore there may be some errors in the mapped distribution.

European Southern-temperate. Almost throughout Europe, but rare in Scandinavia, north to Iceland and NW Norway, east to the Ural mountains, and frequent in the Mediterranean region. Macaronesia, N Africa. SW Asia, including the Arabian Peninsula. C and E Asia, Japan. N America, Mexico, S America. C and S Africa. Australia.

T.L. Blockeel