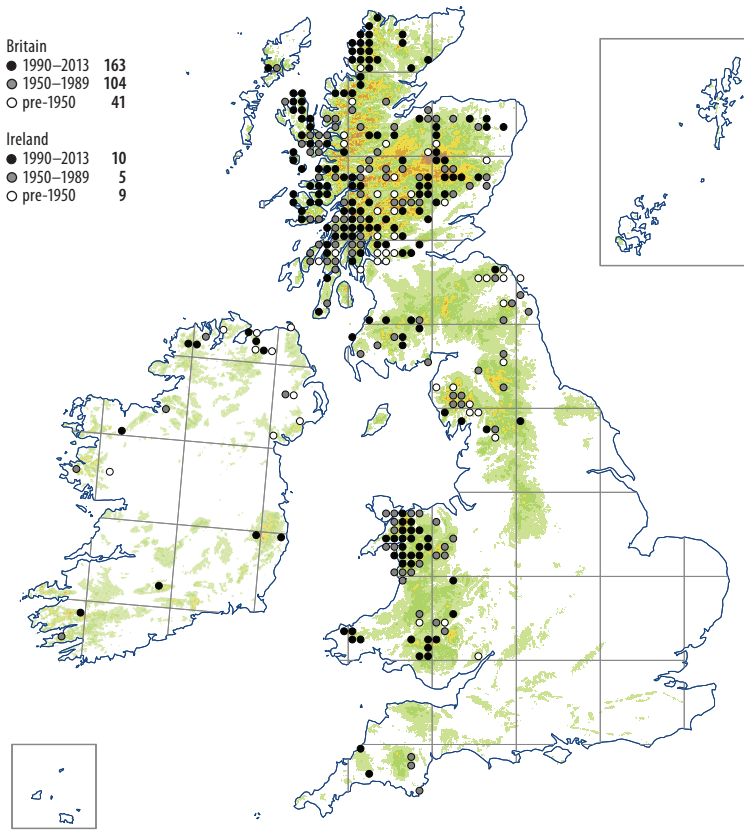


Grimmia hartmanii



This species forms tufts or patches on periodically moist or occasionally flooded basic to mildly acid rock (e.g. granite, sandstone and gneiss), more rarely growing on tree trunks. It is chiefly a plant of boulders in humid broadleaved woodland, including birch and hazel woods in NW Scotland, and in shady wooded ravines and burns. It is also characteristic of sheltered lakeside boulders, sometimes subject to periodic submergence. It is less commonly found in boulder scree, at the base of crags and on flushed cliff faces, and rarely on walls and stonework. Associates include *Frullania tamarisci*, *Grimmia anomala* (rare), *G. lisae*, *Heterocladium heteropterum*, *Hypnum cupressiforme*, *Hycomium armoricum*, *Pterigynandrum filiforme*, *Racomitrium aciculare* and *Trichostomum tenuirostre*. Altitudinal range: 10–915 m.

Dioicous; capsules are unknown in Britain and Ireland. Clusters of reddish multicellular gemmae are often present on the apices of upper leaves. The presence of such gemmae is a feature shared with the overlooked but rare *G. anomala* (Lönnell *et al.*, 2012).

European Boreal-montane. Widespread in the uplands of Europe, characteristically in the forest zone and generally not ascending to the highest altitudes, from Fennoscandia to the Iberian Peninsula and the Mediterranean countries, east to Greece and Bulgaria. N Africa (Algeria, Morocco). Cyprus, Turkey, Caucasus, Georgia, Armenia, eastern Asia, Japan. N America (rare).

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