

Grasslands and Heath: a Review and hypothesis to Explain the Distribution of Burren Plant Communities

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Abstract

The purpose of this review is to explore ideas that may explain the pattern of distribution of grassland and heath communities in Europe and apply them to the special case of the Burren, with its suites of rare plant species.

The vegetation of the Burren is a complex of woodland, wetland, grassland and heath communities. It is distributed over a landscape of glaciated, deeply weathered karst limestone. This landscape has generated a variety of soil-forming parent materials, which are an important element in governing the distribution of vegetation. A testable hypothesis is developed that explains the relationship between parent materials and vegetation distribution in terms of community dynamics. Critical environmental factors include the probability of regular drought, soil fertility and base status. It is suggested that these three adverse factors inhibit the development of scrub and lowland grassland. This model may assist future management both of particular sites of nature conservation interest and of whole landscapes.