7. FLORA AND VEGETATION OF LOCHNAGAR – PAST, PRESENT, AND FUTURE

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Introduction

The granite massifs of Lochnagar and the Cairngorms in the Eastern Highlands of Scotland are areas of considerable scientific, ecological, and conservation importance nationally and internationally (Curry-Lindahl 1974; Nethersole-Thompson and Watson 1974; Ratcliffe 1977; World Wilderness Congress 1983; Gimingham 2002a; Shaw and Thompson 2006a). The large granite mass of the Cairngorms rising to 1309 m on Ben Macdui lies on the junction of the former counties of Inverness-shire, Banffshire, and Aberdeenshire and forms the watershed between the River Spey and the River Dee. The smaller granite massif of Lochnagar (1155 m altitude) lies south of the River Dee and is the only area in the British Isles that is ecologically comparable to the Cairngorms (Ratcliffe 1977). In a recent conservation plan, Gimingham (2002b) defines the ‘Cairngorms area’ for National Park designation to include the Cairngorms, Lochnagar, and the upper parts of the glens of Angus and Glenshee. This emphasises the close ecological links between the Cairngorm massif and the Lochnagar massif. As Gimingham (2002b) notes, the Cairngorms and its surroundings “merit description as the jewel in the crown of Scotland’s natural heritage”. In 2003, almost 60% of the...
Cairngorm area was designated as Scotland’s second National Park, making it the largest National Park in the United Kingdom (D.B.A. Thompson et al. 2006). Substantial parts of the area have also been designated as Special Protection Areas, Special Areas of Conservation, and Sites of Special Scientific Interest (see D.B.A. Thompson et al. 2006).

The extensive high plateaux of the Cairngorms and Lochnagar, dissected by steep-sided valleys such as the Lairig Ghru, Glen Avon, Gleann Einich, and Glen Muick, support some of the finest areas of near-natural or semi-natural vegetation in Britain (Ratcliffe 1977; Horsfield 2006). These high mountain areas, with their many rivers, streams, and lochs, gradually merge towards the surrounding valleys where remnants of native semi-natural woodland occur within a cultural landscape of moorland and heath (Ratcliffe 1977; Hall 2006). The lower ground is a diverse cultural landscape of farmland, meadows, alluvial grasslands, plantation forests, small areas of semi-natural woodland, and thriving human settlements (Gimingham 2002b; Rowse 2006). The Cairngorm area as a whole is, without doubt, a magnificent region, with its outstanding mountain scenery, its extensive plateaux, its rocky corries and boulder fields, its sense of ‘remoteness’, ‘wilderness’, and ‘naturalness’, and its tundra-like or arctic-alpine plant and animal communities occupying a larger continuous area than anywhere else in Britain (Gimingham 2002b; Campbell and Anderson 2006; D.B.A. Thompson et al. 2006). It provides important refuges for many rare and scarce species of plant and animal (Shaw and Thompson 2006a, 2006b). At lower altitudes, the foothills and the straths contain some of the finest and most important remnants of native ‘Caledonian’ Scots pine forest in Scotland and also stands of native deciduous woodlands of birch, alder, oak, aspen, and rowan (Ratcliffe 1974), as well as extensive areas of heathland, both dry and wet, and a range of mires and other wetlands, forming a distinctive and attractive mosaic of habitats (Ratcliffe 1974; Gimingham 2002b; Hall 2006; Bean 2006; Rowse 2006). The Cairngorms is one of the few places in Britain where a natural tree-line is still present at about 640 m (McConnell and Legg 1995; Gimingham 2002c).

The Cairngorm area including Lochnagar is very important from a conservation viewpoint not only nationally and as part of Scotland’s ‘natural heritage’ (Ratcliffe 1977; Gimingham 2002b) but also internationally. It is unique as a very large area of high acid ground above 1000 m in a transitional oceanic-continental climate (Green 1974; McClatchey 1996) at a latitude of about 57°N and formed largely of granite (Johnstone 1974) with small outcrops of base-rich rocks in some corries and around the edge of the granite massifs (Gimingham 2002b). The spectacular landscape of deeply dissected plateaux with rocky summit tors, massive boulder fields, cliffs, deeply cut steep corries, and high-altitude lochs is a result of the interaction between bedrock geology and glaciation (Sugden 1974; Brazier et al. 1996; Brown and Clapperton 2002; Gordon and Wignall 2006; Hall: Chapter 4 this volume). Although glaciers have long gone, there is clear evidence of their erosional and depositional activities everywhere in the area (Sissons and Grant 1972; Sugden 1977; Sissons 1979; Rapson 1985; Hall: Chapter 4 this volume). In late summer the high areas are largely free from snow, apart from a few more-or-less permanent snow-patches on north-facing slopes, in sheltered hollows on the plateau, and in shaded gullies in the Cairngorms (Watt and Jones 1948). Snow only occasionally survives through the summer on Lochnagar itself in shaded gullies (Watson 2005). Since 1996 the catchment of the Lochnagar loch has been snow-free by the end of June (Neil Rose, UCL pers. commun.) in contrast to the situation in