

My remaining hope for the climate theory, apart from the withdrawal of William Bond from this area of study, is that the microclimate within the shrub may enhance photosynthesis by providing a slightly warmer and more humid climate that allows stomatal opening and enhances photosynthesis. Time, and William Bond, will tell.

'Pixie-cup' lichen, *Cladonia pyxidata* (fig 53)



## Supernatural beings in forests

**J. Bastow Wilson, Associate Professor, Botany Department, University of Otago**

The February issue of the Botanical Society of Otago Newsletter contains a reference to 'gremlin forest'. If the report could be confirmed, this type of forest would be new to science.

Elves, goblins and gremlins are all supernatural beings, of a dwarf kind, with the ability to intervene in the world of humans for good or for ill. Elves have been known the longest. They appear in *Beowulf* about 1000 AD, but the Anglo-Saxons knew them in ancient times as 'ælf' (Simpson 1989).

How do elves get into the BSO Newsletter? Towards the upper altitudinal limit of trees, in the montane or subalpine zone where romantic mists swirl, there is often a forest of dwarfed and gnarled trees. This is sometimes called 'krummholz' (German for 'twisted wood'), but another name is 'elfin wood'. Presumably elves feel comfortable with trees that are more their size. We might imagine that the more romantic 'elfin wood' was coined by some English personage in a flopsy moment after lunch. Not so. It first appeared as the "subalpine elfin-wood" of the Alps, in a translation of a German book (Andreas Franz Wilhelm Schimper 1903). This implies that the German equivalent, "Elfenwald", would occur in the German original of Schimper's book (1898), but it does not. Elfin-wood seems to have been invented by the translator, going rather beyond the traditional translator's rôle. However, the translation is billed as 'authorised', so Schimper cannot escape responsibility. Shortly after, another German, Warming (1908), also used 'elfin-wood'.

More recently, due to a misunderstanding of the meaning of 'forest' (which is really a place for the King and nobles to go hunting, and nothing specially to do with trees), 'elfin forest' has been preferred. There have been constant references to elfin forest in the literature. There is a tendency to use 'elfin forest' in the tropics and the synonym 'krummholz' in temperate regions, but only at the whim of ecologists, there is no formal reason for this. The term 'elfin forest' is recognised in the dictionaries of ecology (e.g. Lincoln et al. 1982; Allaby 1994).

Goblins are a related species, first recorded in the year of Our Lord 1327 (Simpson & Weiner 1989). They are uglier and more mischievous, and perhaps with fewer magical powers. They live in private houses or hollow trees (Evans 1989), so they are quite likely to be found in forest. However, ecology knows no 'goblin forest'. There are a few localities around the world called 'Goblin Forest': one in Colorado USA, one in Tasmania, and one on Mt Egmont, Taranaki (Cockayne 1928 knows this locality name). These are place names, not forest types.

However, Dr John Dawson (1988) wrote of high-altitude beech forests: "forests of a similar character elsewhere in the world are often referred to as cloud or mossy forest, or more romantically 'goblin forest' or 'elfin woodland'". The latter term is indeed used, but Dawson was wrong about 'goblin forest'. Perhaps he misunderstood, and thought that 'Goblin Forest' in Taranaki referred to a forest type, not the place. However, there is no beech on Mt Egmont, as Dr Dawson should have known, so according to Dr Dawson his 'goblin forest' is not present in New Zealand's only 'Goblin Forest'. Perhaps Dr Dawson thought it was unfair that elves had a forest type named after them, and thought Goblins should too, albeit the same one. Life is not fair like that. Goblins are as common in forest as elves, but the elves got in first. Dr Dawson may not be alone in his hope: there is a computer message board on 'goblin forest', but no one has ever posted to it. This is not surprising: there is no such forest type.

Gremlins are a subspecies of goblin. They were first identified about 1920. The OED gives the first use as 1941 (Simpson & Weiner 1989), but Brewer's (Evans, 1989) says they were discovered by members of the British Royal Air Force during World War I, or just after, and were first described in print in *The Aeroplane* of 10 April 1929. They seem to have originated as an ecotype of goblins, evolved in adaptation to the new habitat of aeroplanes. They caused mysterious aeroplane crashes, or at least they were blamed for them. As aeroplanes became more reliable, and wonky computers appeared, gremlins seem to have migrated *en masse* into computers. We can see this as a 'niche shift' (Pianka 1976). However, no gremlin has ever been reported from a forest. 'Gremlin forest' does not exist, either as a place or as a forest type, at least not outside the alternative universe of computer games.

There remains the problem of how the term 'gremlin forest' weaseled its way into the February issue of the BSO newsletter, in spite of efforts at the border control-points to keep it out. I suspect that gremlins are, like some computer viruses, self-replicating. They reproduce and then infiltrate previously innocent pages, like those of the BSO newsletter.

## References

- Allaby, M. (1994) *The concise Oxford dictionary of ecology*. Oxford University Press, Oxford, UK.  
Cockayne, L. (1928) *The vegetation of New Zealand*, edn 2. Engleman. Leipzig, Germany.  
Dawson, J. (1988) *Forest vines to snow tussocks: the story of New Zealand plants*. Victoria University Press, Wellington, NZ.  
Evans, I.H. (1989) *Brewer's dictionary of phrase and fable*, edn 14. Cassell, London. UK.