

## EPIPHYTES ON A FIR TREE AT WESTPORT, BULLER

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In February 1996 the following native New Zealand vascular plants were observed growing on an old, tall *Abies* tree (species not determined), in the Westport Domain. This area, within the town, beside the Buller River, has a predominant native forest cover, with a few plantings of exotic species.

<i>Asplenium polyodon</i> F	<i>Griselinia lucida</i> V
<i>Astelia cunninghamii</i> H	<i>Lycopodium varium</i> L
<i>Calystegia tuguriorum</i> V	<i>Metrosideros perforata</i> V
<i>Collospermum hastatum</i> H	<i>Phymatosorus pustulatus</i> F
<i>Coprosma grandifolia</i> S	<i>Pyrrosia eleagnifolia</i> F
<i>Dicksonia squarrosa</i> * F	<i>Ripogonum scandens</i> V
<i>Freycinetia baueriana</i> V	<i>Weinmannia racemosa</i> T

F fern; L lycopod; angiosperms - V vine; S shrub; H herb; T tree; \* on base of tree

The rather unfissured bark of the fir did not seem to be as favourable a location for epiphytes as was the bark of the *Pinus radiata* trees reported by Burrows (1994) in South Westland. However, the old fir tree has broad lower branches and a shaded lower two metres of stem, on which grow mats of mosses and liverworts. The epiphytic vascular plants are rooted in these bryophyte mats. Vines are common among the epiphytes; their positions suggest that they established above ground level.

Bryophyte mats provide good sites for microbes and eventually accumulate spongy humic material which, in turn, provides the water and nutrient supplies needed by seedling and adult vascular plants. Relatively great age of a host tree, thus, creates the appropriate potential for development of suitable physical and chemical conditions for vascular epiphytes. Of the many seeds and spores which must settle on the bryophyte mats, only a very few give rise to adult plants. This is because the habitat is vulnerable to periodic dry spells and also to shedding of top-heavy pieces of the bryophyte substrate.

## REFERENCE

- Burrows, C. 1994. Epiphytes on *Pinus radiata* trees at Weheka, Westland. *Canterbury Botanical Society Journal* 28: 62