NOTES ON NOTHOFAGUS SOLANDRI VAR CLIFFORTIOIDES

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This article does not intend to draw any definite conclusions but rather to point out some observations made on this species.

The work carried out on Mountain Beech was done in the Chateau Tongariro area ranging from 2,800' to 3,800' and covering a wide range of sites.

To enable trees of different sizes to be sampled in the same manner, the crown was divided arbitrarily into four classes, low, mid, upper Crown and leader. Fifty leaves were taken from each crown class and length and width measured. It was found that there was a gradation in leaf size, with a maximum at the Upper Crown, reducing again at the leader. The leaf size throughout the species is extremely variable and trees sampled provided a wide variety of specimens, but in every case this gradation is present.

Poole (Trans. Roy. Soc. N. Z. 1958) states that "...leaves from the upper part of the crown, where there is the maximum degree of exposure are smaller and more coriaceous than those from the lower part." From the results of the Authors' studies, it was found that this statement is not in fact true.
Further study was made on epicormic branches. These are often found on trees which have suffered crown damage, are senile or are growing in low light conditions. Thus it is likely that such branches are produced as a result of a demand for a greater photosynthetic area. Epicormic branches arise from dormant buds in the bark.

In all trees studied which had produced epicormic branches apparently as a result of low light conditions it was found that not only was leaf size markedly smaller but also the dense white tomentum characteristic of Mountain Beech (Allan, Flora of N. Z.) was entirely absent.

It seems possible that this absence is correlated with low light conditions (since the presence of a tomentum is considered by many to be an aid to cutting down transpiration, which is higher under conditions of high light and exposure). This idea is further supported by the fact that one tree studied which had suffered crown damage and then exposure to full light had produced epicormic branches, the leaves of which had a tomentum well developed. It seems evident that the tomentum had been developed due to high light conditions.