

time when food is scarce. Therefore it would be wise to monitor around the planted specimens to make sure they do not naturalise further without being noticed.

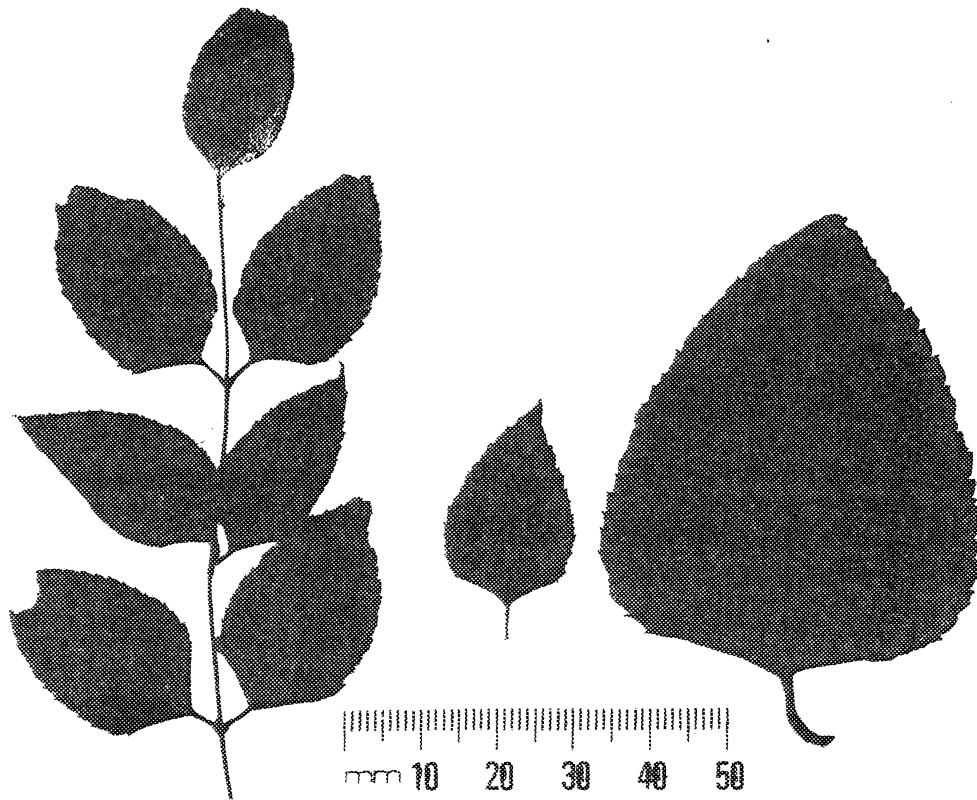


Figure 1. *Halleria lucida* leaves, right-hand leaf from sucker shoot.

References

- Cameron, E.K. 1997: More wild Moreton Bay figs. *NZ Botanical Newsletter* 48: 12-13.
Moll, E.J. (ed.) 1992: Keith Coates Palgrave trees of southern Africa. Struik Publishers, Cape Town.

Lucy Cranwell Award Report

Susan Leitch

This is to, once again, thank you and to bring you up to date with the findings of my thesis. My research investigated the distribution, and the variables that govern that distribution of epiphytic bryophytes on three tree-ferns, (*Cyathea dealbata*, *Cyathea smithii*, and *Dicksonia squarrosa*). I studied the variables both in the field and in laboratory experiments.

My field study was carried out at Spraggs Bush in the Waitakere Ranges. Epiphytic bryophytes on tree-ferns were sampled to determine how the percentage area cover of both species and growth habits, and the total number of species, varied with trunk region, trunk aspect and between tree-fern species. Permanent quadrats were set up in different trunk regions on a number of tree-ferns and growth rates of *Bazzania tayloriana*, *Chiloscyphus lentus*, and *Calomnion complanatum* were measured over a 6 month period.

The laboratory experiments involved determining the water absorption capacity, rate of water loss, pH and dimensions of tree-fern bark. Three bryophyte species, *Symphyogyna subsimplex*, *Calomnion complanatum* and *Racopilum convolutaceum*, were cultured in a

growth chamber for 90 days to determine the effects of different nutrient solutions on their growth.

The results of my study indicated that of all the variables measured (trunk region, aspect and tree-fern species) trunk region was the most important factor in determining epiphytic bryophyte distribution on tree-ferns, although aspect and tree-fern species were also significant. The differences in percentage area cover observed between different regions of tree-fern trunks may be due to differences in growth rate, for at least two species *Chiloscyphus lentus* and *Bazzania tayloriana*, while for *Calomnion complanatum* they may be due to differences in rate of establishment of new plants, between these areas. Significant differences were found in water absorption capacity and rate of water loss, but not pH, between adventive aerial roots and leaf bases. No significant differences in growth based on nutrient solutions was observed for *Calomnion complanatum* or *Symphyogyna subsimplex*. It was found that more parameters need to be investigated in further studies in order to account for the variations in epiphytic bryophyte distribution on tree-ferns.

The financial support of the Lucy Cranwell Grant allowed me to complete the vital field work component of my thesis for which I am grateful. I hope that the findings of my thesis may be used in further studies of bryophytes or, at least, in stimulating future work.

Acknowledgement: Ewen Cameron, Gillian Crowcroft, Peter de Lange and Rhys Gardner assisted with the proof reading of this issue.