

The mulga complex

MOST of us have heard of mulga (*Acacia aneura*), one of Australia's most widespread species of wattle.

It is an extremely variable species, particularly in its growth habit and in the shape of its phyllodes.

The phyllode (a modified leaf stalk that flattens out and functions as a leaf) is a characteristic of most wattles.

Complex group

This species, and its closest relatives which include hop mulga (*A. craspedocarpa*) and bowgada (*A. ramulosa*), form a complex group which is of great interest to botanists.

Some preliminary work is being done to help clarify the genetic races of this group by Dr Peter Brain, honorary lecturer in botany at the University of Natal, in South Africa, and Bruce Maslin, principal research scientist at the Western Australian Herbarium.

Peter visited Perth earlier this year and, with Bruce, examined populations and collected phyllodes from the bush around Kalgoorlie, Meekatharra and Mullewa.

by Suzanne
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Using the electrophoresis laboratory in the Herbarium, Peter examined proteins from phyllode extracts on gel plates which allow genetic patterns between different plants to be seen.

Initial investigations showed that this method could prove useful in sorting out classification problems with complex groups such as the mulga group.

Much more work will be required, however, before any conclusions can be drawn.

A hobby

In his retirement, this work has become a hobby for Peter and already he has done similar studies on two non-Australian acacias - *Acacia karroo* from southern Africa and *A. caven* from central South America.

Here, leaf extracts proved most helpful in revealing variation patterns within the two widespread, adaptable species.

So why do this work on these particular species?

All are variable, widespread species of great economic importance and the more we know about them the more potential uses we can explore and find for them. Mulga has been, and continues to be, used in many ways.

Spears and shields

For example, mulga has been used, traditionally, by Aborigines for making spears and shields.

In rural areas, it is used for fencing and firewood.

It is also of great importance as a soil binder and a source of fodder stock - particularly in times of drought.

More recently, the mulga growing in some areas of WA has been found to be particularly fine-textured and hard, and may be polished to an extraordinarily high lustre.

This is proving of great interest in wood-turning and woodcraft circles.

It is hoped that further investigations, using the electrophoresis technique, will contribute to a better understanding of the economically important mulga group.



Dr Peter Brain (left) and Bruce Maslin at CALM's Herbarium.

Photo by Kevin Kenneally