



ISSN 1035-4638
ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS
ACACIA STUDY GROUP NEWSLETTER No. 69
JULY 1993

Dear Members,

Firstly I wish to correct errors in the comments I made about Terry Tame's book in the last newsletter. Terry's book does completely cover the acacias of the South East Region. In trying to make a very quick assessment of it I attempted to look up a couple of rare species in the index and apparently the two back pages stuck together - the same thing happened when I had the opportunity to have a better look at a copy in a local bookshop. The only reference to "Racosperma" is in notes on classification. My apologies to Terry.

This newsletter has been much easier to prepare thanks to contributions from Terry Tame and Bruce Maslin. Contributions from other members for future newsletters would be most welcome.

We have some new members who I will name in the next letter, but welcome to them anyway.

Spring will soon be with us, so could members requesting seed from the seedbank make their requests in time for them to be sent out about the end of August. Packing seed takes time and it is easier to do a number of requests together.

This letter is again later than I had planned due to school holidays making my access to the duplicator unavailable for a few weeks. I must remember next year.

A number of members have written about their acacias when sending in their subscription. I will use this material next time.

Bruce Clark.

A.S.G.A.P. ACACIA STUDY GROUP - FINANCIAL BALANCE 1992-93

<u>Income</u>	
Balance 1/7/92	508.60
Membership fees and donations	386.62
Interest on Account	14.24
Cash and Stamps on hand	32.57
TOTAL	<u>\$942.03</u>
<u>Expenses</u>	
Purchase of seeds	5.00
Newsletters (printing)	93.55
Postage, post bags & envelopes	105.05
Petty cash & stamps (on hand)	29.20
Staples	1.00
Gov'ment bank charges	0.13
Vic. SGAP Membership for overseas member	21.50
Balance 30/6/93	686.60
TOTAL	<u>\$942.03</u>

N.B. Now we are dealing only in 5¢ I "donated" in a few coppers to even out the odd cents in "cash on hand" and overseas memberships have come to other odd cents when banking.

TERRY TAME'S METHOD OF PROPAGATION:

Terry Tame has forwarded a list of Acacias he has/had growing in the Hunter Region Botanic Garden where the soil is slightly acid with excellent drainage. Some of the many interesting species include: A. tindaleae, A. nano-dealbata, A. leucoclada ssp. argentifolia, A. aulacocarpa, and A. phasmoides. Included in species which they has not been able to grow are: A. alpina, A. mitchelli, A. notabalis, A. microcarpa and A. peuce. Terry has propagated all these himself and writes:

"There seems to be a few misconceptions about germination. Firstly, after experimenting with several methods, I have settled on the following. For most seed I pour boiling water over the seed and let it stand for one or two days, (depending on how busy I am) and then place the seed between two pieces of blotting paper in the recesses of a plastic ice cube tray, place the tray in a plastic bag, turning the ends over and putting all in a warm - even partly sunny position. I let the radicle of the germinated seed grow to about 10 mm long before transferring to a 2" pot with a sandy, free draining mix.

This method allows me to control the germination process somewhat better. I found the following generally apply.

- * seed that floats when the boiling water is poured over it - after trying to sink it - is either eaten, empty or infertile and should be removed.
- * it is not necessary for the seed to swell. Some seed will swell markedly whilst some will soften and other remain hard.
- * Seed that only softens and swells very little is just as likely to germinate as seed which swells considerably.
- * Some seed will germinate quickly while others will remain dormant for sometime, but will eventually germinate.
- * seed that becomes mouldy in non viable - it appears to deteriorate from the inside and is apparently damaged in some way - spore on the outside would normally be killed by the boiling water treatment.
- * There appears to be a correct? oxygen - moisture gradient which initiates germination as most seed batches will simultaneously germinate, particularly as the seed and blotting paper starts to dry out. A certain wet period is required before this happens and this period maybe indeterminable and may vary for a single batch of seed as more than one germination episode may occur.

My success rate is variable, from 100% - 0%, but generally I think that I get better than 75% germination.

Old seed does not seem to germinate as well as relatively fresh seed. I say "relatively fresh" since seed taken straight from the pods which have just matured does not respond very well at all. I find a couple of months dormancy time is required. This would suggest that species flowering in the spring and setting seed - late November, December does not respond to early summer rains, since any subsequent hot, dry weather would kill the seedling, but rather delays germination to late summer rains (or even to late winter) thus allowing the seedling to become established before the onset of the following summer.

The seed that remains hard or softens and does not germinate readily may be induced to do so by subsequently nicking the side of the testa sometime after the boiling water treatment. This frequently works, but occasionally the nicked seed will only swell and does not germinate.

Finally when planting the germinated seed, I very carefully remove the testa from the cotyledons as I find that many losses occur through drying out of the testa. Seed which is buried prior to germination does not generally suffer from this as moist soil keeps the seedcoat soft. The seed of a few species (A. pendula, A. suaveolens etc. should not be treated with hot water. #

A COMMENT ON THE PROPOSED DIVISION OF ACACIA:

By Bruce Maslin and Richard Cowan.

(W.A. Herbarium, George Street, Kensington, W.A.)

Bruce Clark's criticism of the potential changes to the names of Australian species of Acacia raises many practical problems with which we are equally concerned. However, we may begin by explaining what may not be altogether clear to non-taxonomists, that is, what taxonomists do and why.

Taxonomists have from the beginning sought to provide schemes of classification which sort organisms into logical groups. The names which are applied to these groups are a by-product of the grouping process and simply provide the means for all of us to communicate about organisms in those groups. The implication of a name for a group is that members of the group are more akin to each other than to entities outside the group. However, group membership is dependent upon the characteristics used to construct the group in the first place. For example, the Herbalists grouped plants on the basis of their presumed medicinal or other properties and Linnaeus grouped organisms on the basis of their sexual attributes. These earlier groupings were based on superficial resemblances but since the work of Mendel and Darwin, biologists have used attributes which are assumed to have a genetic basis to produce "natural" classifications in an attempt to reflect the evolutionary history of the group. At best classifications are merely the best possible hypothesis of relationships that can be constructed at a particular time, based on the available evidence and the methodology employed.

Contrary to much popular belief, taxonomists rarely change names capriciously or for their own glory. Basically, there are two kinds of name changes: those required for nomenclatural reasons and those resulting from the acquisition of new data and its interpretation. In the case of Acacia the changes proposed by Pedley (1986) fall into the second of these categories. Pedley arrived at his conclusions on the basis of many years of practical field and laboratory experience with species of this genus. Simply because this proposal has been made it does not necessarily follow that others are obliged to adopt it. Indeed it is customary that such proposals are treated to peer group evaluation to ascertain whether the evidence is adequate to adopt it formally. Since 1986 there has been a lively international debate with respect to the division of Acacia.

A view contrary to Pedley has been expressed by Maslin (1969) in which it was argued that it is premature to split Acacia because; (1) the data used to effect the change is incomplete and/or inconclusive; (2) the number of subgeneric groups within Acacia is uncertain; and (3) the relationship of the known major subgeneric groups to related genera is not clear. Furthermore, should a split occur, it is questionable whether or not *Racosperma* is correct nomenclaturally for the bulk of the Australian species currently placed in Acacia. Until these matters have been adequately addressed, Maslin considered it inadvisable to accept Pedley's division of the genus and it is this view which will prevail in the treatment of Acacia for the Flora of Australia. Research specifically aimed at assessing generic limits for Acacia is currently under way both in Australia and abroad. Some of these studies suggest that future changes may be required to express the true relationships of the several subgeneric groups currently comprising the genus and consequently affect the names for the bulk of the Australian species. In any event, it is our firm position that any changes must be based on the best interpretation possible of sound scientific evidence.

References on next page.

References:

Maslin, B.R. (1989). Wattle become of Acacia? Austral. Syst. Bot. Soc Newsletter 58: 1-13.

Pedley, L. (1986). Derivation and dispersal of Acacia (Leguminosae), with particular reference to Australia, and the recognition of Sengalia and Racosperma. Bot. J. Linn. Soc. 92: 219-254. #

* Terry Tame has sent about 100 slides for the Acacia slide sets and I hope to*
start sorting all the slides I have out into various "sets" soon. This will
*enable me to make requests in the next newsletter for slides of particular *
species etc. Would members look through their slides and note any particularly
interesting slides of any aspect of acacias. I hope to get access to a camera
* microscope to get some slides showing flower details etc. Terry has also *
* offered to makes any necessary copies of slides at cost. A big thank you to*
*Terry for this offer, his slides and his item for this newsletter. *

Acacia Study Group Newsletter
"The Elms" PANMURE VIC 3265

