ISSN 1035-4638

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

ACACIA STUDY GROUP NEWSLETTER No. 82 February 2002

Dear members

Happy New Year to everyone. I can only hope that the climate this year is more moderate so parts of the country are not again subjected to the threat of bushfires with their attendant tragic losses for both people and wildlife. With so many fires deliberately lit perhaps attention to would be firelighters would go a long way towards solving the problem.

Does anyone have information on fire retardant acacias? I am able to find lists of recommended species but not the mechanism which makes them slow to burn. Nothing could resist the intense heat of a major fire but I'm sure I have seen articles indicating that some acacias eg *A. baileyana* have high salt levels which raise their flash point. I'm even sure flash points were given for different species. This could be very useful in some situations and I would appreciate any information on the subject.

In the next newsletter I will include subscription renewal notices and as this will complete my first year as leader I would appreciate comments from members about any changes they would like to see. One point which I must raise is the continued inclusion of coloured plates in the newsletter. To me it is very important that this should continue but it will involve a rise in subscription fees. At present we are not covering costs but as we had a good bank account it seemed reasonable to give the plates a trial. The cheapest method of producing coloured plates that I can find is to print them out on the computer and then photocopy the print. This works out at 65c per page. (Does any one have a cheaper method?) The coloured plates then cost $2.60 per year of four newsletters without adding any additional costs eg postage, paper, new seed. Increasing the fee to $8 would cover costs and increasing it to $10 would allow additional coloured prints. Being conservative I would like to take the middle course and increase the fee to $8 but I really need input from members. Please let me know how you feel particularly if you are happy with the $5 fee and no coloured plates or if you would like additional coloured plates.

My thanks again to Warren and Gloria Sheather and also to Rob Potter for contributions to the newsletter.

Letters from members

As mentioned in the previous newsletter I was labouring under the misapprehension
that I needed to have permission to publish extracts from members' letters. Now that I know this is not the case I am including some ideas from letters received up to almost a year ago.

Bob Christie – East Ringwood

As far as ideas go, you may consider guides to wattle watching. That is to say, lists of places, as convenient to the big cities as practical, where city folk could most readily find the different species in flower. There could also be guides, for people on interstate (intrastate) road trips, describing, with mileages, what they might encounter on the way. The same would be useful for eucalypts.

There seems to be a bit of a gulf between botanical name purists and those who feel more comfortable with common names. I think it needs narrowing.

Both these are excellent ideas and I'm sorry I haven't aired them before. Mapping the different species for a tour around Brisbane would be a big job but I am thinking of doing it for the Kingaroy SGAP this year as a start (a much smaller job). The use of scientific as opposed to common names is an interesting one. I hail

from the era when we learnt Latin at school and I am quite comfortable with botanical names. However with birds I am strictly a common name person and I can't explain why.

Members' comments would be greatly appreciated.

Jean Merson - Bairnsdale

The last property we sold has a self sown wattle which appears to be a hybrid between *A. obtusata* and *A. pycnantha*. It grows exceedingly quickly and seems to flower for a good part of the year. I still have access to that garden as well, so keep an eye on it. As yet I have no slides of it but I must in the future.

Hazel Kelly – Moombi

I'm a fairly new grower – only have about 20 species – but keen to have an Acacia flowering in my garden all the year.

This is an aim that most of us have. Warren and Gloria Sheather mentioned some out of season flowering wattles in the August newsletter and contributions from other members would enable us to make lists for different areas.

Email Articles:

Kitchen Paper Sandwiches

From Warren & Gloria Sheather

We have heard of other native plant propagators using this method (with some variations) of seed germination. We have been using this system, with great success, for a couple of months (starting November 2001). Acacia seeds are soaked in boiling water and left to soak for a couple of hours. We cut strips of kitchen paper 10 cm by 6 cm (4 in by 2 in). The strips are moistened and seeds (usually between 6 to 8) are placed on the strip. The strip is then folded in half so a sandwich is formed with the seeds as the filling. The sandwich is placed in a margarine container and other sandwiches are stacked on top. About six sandwiches are placed in each container. A plastic plant label is placed in each container so that we know the contents of each sandwich. The top is placed on the container, which is left in a warm place.

Some acacia seeds germinate rapidly. Roots are produced in three to four days in some cases. When the roots are one to two cm long they are potted on into native tubes, filled with reasonable quality potting mix. Sometimes germinated seeds are awkward to handle. We use a pair of forceps or tweezers to hold the seedlings in position as the potting mix is poured around it.

Striking a balance with the sandwich moisture level is the only problem. Too dry and the seeds will not germinate and too wet and they will rot. We find that having the paper just moist to the touch is satisfactory. This method also works well with Banksias, Hakeas and seeds of the Fabaceae family.

It is very pleasing to be able to see exactly what is happening to your seeds.

Acacia pycnostachya

Acacia pycnostachya is a rare wattle from the Bolivia Range area, north of Glen Innes in the Northern Tablelands of NSW. It is a magnificent wattle. Our specimen is about seven years old and is now about 4m tall by 3m wide. The large sickle-shaped phyllodes are grey-green in colour. In spring the plant is covered with dark yellow, dense rod-shaped flower heads. Both foliage and flowers are attractive features. *Acacia pycnostachya* could be cultivated as a stand alone, eye catching specimen plant.

Propagate from seed. We have yet to try cuttings.

Acacia diphylla

Acacia diphylla in some quarters is considered to be a subspecies of *Acacia blakei*. Regardless of its botanical identity, this tall wattle has great horticultural potential. *Acacia diphylla* inhabits the gorge country east of Armidale. There are also scattered populations near Gloucester on the North Coast of NSW. *Acacia diphylla* will grow into a tall shrub or small tree. Our specimens are about 11 years old and are about 7m tall. *Acacia diphylla* has both juvenile and adult phyllodes. Juveniles are elliptic in shape, light green in colour and soft to the touch. Mature phyllodes are sickle-shaped, grey-green in colour and rather leathery to the touch. This is another wattle with rod-shaped flower heads. The pale yellow flowers put on a stunning show in late spring and early summer.

Acacia diphylla is another wattle with attractive foliage and flowers. The species could be cultivated as a specimen tree. The foliage is very dense and could also be grown as a screening plant.

Propagate from seed and perhaps cuttings.

Acacia bulgaensis is a similar species, with limited distribution from the Hunter Valley of NSW.

Acacia eborensis

Acacia eborensis, as the name implies, occurs near the village of Ebor on the Northern Tablelands of NSW. The species was only named a few years ago. The foliage is similar to Acacia rubida. Plants carry both adult phyllodes and juvenile bipinnate leaves. *Acacia eborensis* has a semi-prostrate growth habit and pale yellow spring flowers. The species grows along roadsides and in these situations, because of the harsh conditions, develops into a rather straggly plant. In cultivation, with a dose of TLC, it should develop into a dense semi-prostrate shrub. We have some seedlings almost ready to plant. We will be reporting on their progress.

Testing the Acacia Group Seedbank

From Rob Potter

In March 2001, the leader of our recently re-started Acacia Group, Thais Eisen, after an exchange of email, asked if I would be prepared to undertake some seed viability testing for the Group seedbank. The seedbank extends back to collections made as early as 1969, and no seed viability test records have apparently survived. It seemed a nice little project for the winter so I agreed enthusiastically. I didn't know the statistics in the beginning, but as it turned out I tested 288 lots of 276 species and subspecies.

At this stage I must point out that the testing I've done is really Phase I of the task. Although I have declared 179 lots viable, there's the question of what to do with the other non-viable lots, which of course aren't necessarily non-viable, maybe just hard to germinate, about which there will be more discussion later in this note.

In deciding how to undertake the testing, I reasoned that for the first pass at least, I should (a) duplicate what most of the seedbank users do and will do to break dormancy, and (b) keep conditions reasonably controlled so the Group might have some chance of duplicating my results, or at least consistently test the seedbank again some time in the future. I appreciate that this may miss many of the methods that work with individual species, particularly those from difficult locations, and more on this later in this note too.

The technique I adopted was very similar to that described by Warren Sheather in this Newsletter. To break dormancy I used a boiling water soak and re-soak, and the seeds were germinated between wet paper towel.

Boiling water was applied to the seed sample (normally 10 seeds, although scarcity of some types forced the use of as few as 3 seeds in some cases), the sample soaked for 24 hours, and the obviously affected seeds (swollen, colour change or seed coat texture change) removed to wet paper towel. The unaffected seeds were re-treated and soaked for 48 hours and removed to wet paper towel. (In hindsight, I probably should have differentiated the affected and non-affected seeds from the 48 hour soak, but I didn't – next time maybe). Seeds were placed between wet paper towel (recycled of course), and stored in sealed plastic containers near a room heater – a local ambient temperature of about 22°C was maintained. Also in hindsight, this might have been a little higher, although losses to fungus and rot might have increased. The samples were inspected weekly, and germinated seeds removed.

Observations were abandoned after 6 weeks, and in most instances un-germinated seeds had rotted or been subject to gross fungal attack by that time. Most species had completed their observed germination by week 4. Only rarely was germination observed in week 6.

Rather than attaching voluminous tables of numbers, I've summarised my results into a few lists of lots and species. Table 1 lists the lots found to be viable, defined somewhat arbitrarily as a 40% germination rate. Table 2 lists lots where some germination was seen, but did not reach the 40% viability level. Table 3 lists the lots where no germination activity was observed.

Besides the gross viability figures, the detailed records allow certain interpretations to be made, such as "This is a slow-germinating species", "This is a rapid-germinating species", "This species germinates well after a second boiling water soak" and "This species does not germinate well after a second boiling water soak" and so on. Tables 4, 5, 6 and 7 list species for which these statements appear true (but much more testing would be required to reach statistically valid conclusions of course).

Table 2 raises interesting questions. Is the seed losing viability with age? Is the germination method adequate? Did the observer run out of patience? Should the seed be distributed? I suggest the answers are "probably", "no", "almost certainly, although seed rot and fungal attack limited this testing", and "yes".

Table 3 raises even more interesting questions. Some lots rotted or were killed by fungus, pointing to causes as diverse as pre-collection insect attack, age induced non-viability coupled with seed-coat breakdown, species susceptibility to the boiling water method, and an over-wet germination medium. Other lots maintained their integrity to the end of the test period which suggests that non-viability due to age, an inability of the boiling water method to break dormancy, or simply a long germination period are factors in germinating these lots.

I will be repeating/elaborating some testing on the "non-viable" classified lots for two reasons, (a) the seedbank should not be distributing non-viable seed, and (b) the pursuit of knowledge about species-specific germination techniques and characteristics. I'd really like to hear from anyone who's had success with any of the species in Table 3. You can mail to me at 21 Mingara Avenue, Stonyfell. SA 5066, or email to me at rpotter@senet.com.au

I'm sure Group members have a wealth of knowledge about species-specific techniques and susceptibilities. Besides a seedbank, we should have a knowledge bank about each species. There is a form that Thais sends out with each seedbank lot requesting feedback from growers – yes its complicated, and yes we're going to simplify it, because we want the feedback about viability and knowledge to make growing Acacias easier and even more enjoyable than it already is.

Now, on to Phase II.

Table 1 Viable Lots

acinacea	conetes	enterocarpa	inoploia	meulleriana	saligna
aculeatissima	conferta	eremophila	ixiophylla	microcarpa	semilunata
acuminata	cowleana	ericifolia aff	jamesiana	microcarpa, aff sp	semirigida
adsurgens	craspedocarpa	extensa	jibberdingensis	moirii, var dasycarpa	sessilispicata
alata	crassicarpa	falciformis	juncifolia	myrtifolia	shirleyi
ampliceps	cretata	fauntleroyi	laccata	neriifolia	siculiformis
anceps	cyclops	fimbriata	lanuginosa	nysophylla	signata
anceps	cyclops	flavescens	lasiocalyx	obtusata	silvestris
auriculiformis	dawsonii	flexifolia	lauata	obtusifolia	simsii
baeuerlenii	dealbata	flocktoniana	leioderma	oldfieldii	steedmannii
beauverdiana sp aff	deanea	genistifolia	leiophylla	omalophylla	stipuligera
beckleri	debilis	gilbertii	leprosa	oncinophylla	stricta
beckleri	decurrens	gillii	leucoclada	pachyacra	strigosa
binata	delphina	gladiiformis	limbata	pellita	suaveolens
binervata syn glaucescens	dictyoneura	glaucocarpa	limbata	penninervis	subcaerulea
binervata syn glaucescens	dictyophleba	glaucoptera	lineata	phlebocarpa	subulata
browniana	divergens	gnidium	littorea	phlebopetala	tanumbirinensis
bruinioides	dodonaeifolia	gracilifolia	longifolia	podalyriifolia	tenuissima
bynoeana	drepanocarpa	grandifolia	longispicata	polybotrya	terminalia
caesiella	drewiana	gregorii	loroloba	pruinocarpa	tetragonophylla
caesiella	drummondii (dwarf)	guinetii	lysiphloia	pubescens	trinervata
calantha	drummondii ssp elegans	hakeoides	mabellae	pulchella	trineura
cardiophylla	drummondii ssp grossus	harveyi	macdonelliensis	pulchella	triptera
caroleae	drummondii subsp affinis	hemiteles	macradenia	pulchella	triptycha
celastrifolia	drummondii subsp candolleana	hemsleyi	maidenii	pustula	ulicifolia
cheelii	drummondii subsp drummondii	heteroclita	megacephala	racospermoides	umbellata
chinchillensis	drummondii subsp elegans	holosericea	meisneri	retinodes	verniciflua
chrysella	dunnii	horridula	melliodora	rhigiophylla	vicidula
cincinnata	elongata	implexa	merinthophora	rigens	wattsiana
cognata	empelioclada	inaequilatera	merrallii	rothii	

Table 2 Some Germination Observed

amblygona	curvata	holotricha	luteola	pilligaensis	salicina
aneura	curvinervia	howittii	meiosperma	pinguifolia	scirpifolia
arida	cyperophylla	imbricata	mollifolia	platycarpa	sclerophylla, var lissophylla
bancrofti	denticulosa	inoploia	monticola	polyfolia	sulcata
barringtonensis	doratoxylon	ixodes	mooreana	prominens	truncata
brassii	estrophiolata	kybeanensis	mucronata, var longifolia	pruinosa	ulicifolia, var brownei
calamifolia	exilis	lasiocarpa	neurophylla	pubescens	varia, var parviflora
chrysocephala	extensa	lateriticola	nodiflora var ferox	pycnantha	wilhelmiana
citrioviridis	falcata	ligulata	notabilis	pyrifolia	
cochlearis	farinosa	ligulata-prostrata	obovata	redolens	
complanata	floribunda	loderi	orthocarpa	retinodes	
crassa	fragilis	longiphyllodinea	papyrocarpa	rostellifera	
crassiuscula	gonophylla	loxophylla	pentadenia	salicifolia	

Table 3 No Germination Observed

acradenia	cuthbertsonii	latescens	oraria	semilunata	tumida
aprepta	ephedroides	leptoloba	paradoxa	sophorae	venulosa
argyrophylla	eremaea	leptostachya	parramattensis	spectabilis	verticillata
aspera	iteaphylla	melanoxylon	pendula	squamata	victoriae
assimilis	jennerae	mucronata, var mucronata	pravissima	trachycarpa	wardellii
coriaceae	lanigera	multispicata	schinoides	translucens	xiphophylla

Table 4 Slow Germination

aculeatissima	microcarpa, aff sp	penninervis	retinodes	rothii	
calamifolia	mooreana	pruinosa	retinodes	sclerophylla, var lissophylla	
kybeanensis	notabilis	redolens	rostellifera		

Table 5 Fast Germination

amblygona	citrioviridis	elongata	jamesiana	nodiflora var ferox	scirpifolia
aneura	cochlearis	ericifolia aff	laccata	nysophylla	semirigida
arida	cognata	estrophiolata	lasiocalyx	oldfieldii	sessilispicata
auriculiformis	conferta	exilis	ligulata	omalophylla	shirleyi
beauverdiana sp aff	craspedocarpa	fauntleroyi	limbata	oncinophylla	signata
beckleri	crassa	fragilis	limbata	orthocarpa	simsii
beckleri	curvata	gladiiformis	longiphyllodinea	pachyacra	steedmannii
binervata syn glaucescens	curvinervia	gonophylla	longispicata	papyrocarpa	subcaerulea
binervata syn glaucescens	cyperophylla	gregorii	lysiphloia	phlebocarpa	tenuissima
caesiella	delphina	guinetii	macdonelliensis	pilligaensis	triptycha
calantha	denticulosa	harveyi	meiosperma	platycarpa	ulicifolia
caroleae	dictyoneura	hemiteles	melliodora	polybotrya	ulicifolia, var brownei
cheelii	dictyophleba	holosericea	merinthophora	polyfolia	umbellata
chrysella	doratoxylon	inaequilatera	monticola	pruinocarpa	
chrysocephala	drepanocarpa	inoploia	neurophylla	pyrifolia	

Table 6 Second Boiling Water Soak Apparently Beneficial

acinacea	conferta	farinosa	inaequilatera	monticola	retinodes
acuminata	cowleana	fimbriata	inoploia	mooreana	rostellifera
amblygona	craspedocarpa	flavescens	jibberdingensis	mucronata, var longifolia	salicina
ampliceps	crassicarpa	flexifolia	juncifolia	myrtifolia	saligna
anceps	crassiuscula	flocktoniana	lasiocarpa	nodiflora var ferox	sclerophylla, var lissophylla
baeuerlenii	cretata	floribunda	leiophylla	notabilis	semirigida
bancrofti	cyclops	genistifolia	leprosa	obovata	sessilispicata
barringtonensis	dawsonii	gillii	leucoclada	obtusata	siculiformis
beckleri	debilis	gladiiformis	ligulata-prostrata	omalophylla	signata
beckleri	delphina	glaucocarpa	lineata	oncinophylla	silvestris
binervata syn glaucescens	divergens	glaucoptera	littorea	pachyacra	suaveolens
binervata syn glaucescens	dodonaeifolia	gnidium	loderi	penninervis	subulata
brassii	doratoxylon	gonophylla	longiphyllodinea	phlebopetala	tanumbirinensis

bruinioides	drummondii ssp elegans	gracilifolia	longispicata	pilligaensis	tetragonophylla
bynoeana	drummondii ssp grossus	grandifolia	luteola	pinguifolia	trinervata
caesiella	drummondii subsp candolleana	guinetii	mabellae	polybotrya	trineura
caesiella	drummondii subsp drummondii	hakeoides	maidenii	pubescens	triptycha
calamifolia	drummondii subsp elegans	harveyi	megacephala	pubescens	truncata
cardiophylla	elongata	hemiteles	melliodora	pulchella	ulicifolia
caroleae	empelioclada	hemsleyi	merrallii	pulchella	ulicifolia, var brownei
celastrifolia	enterocarpa	heteroclita	meulleriana	pulchella	umbellata
chinchillensis	estrophiolata	holotricha	microcarpa	pycnantha	varia, var parviflora
citrioviridis	extensa	howittii	microcarpa, aff sp	racospermoides	wattsiana
complanata	extensa	imbricata	moirii, var dasycarpa	redolens	wilhelmiana
conetes	falcata	implexa	mollifolia	retinodes	

Table 7 Second Boiling Water Soak Apparently Harmful

aculeatissima	curvata	fauntleroyi	lauata	obtusifolia	rigens
adsurgens	curvinervia	fragilis	leioderma	oldfieldii	salicifolia
alata	cyclops	gilbertii	ligulata	papyrocarpa	shirleyi
aneura	dealbata	gregorii	longifolia	pellita	stipuligera
binata	decurrens	horridula	loxophylla	phlebocarpa	stricta
cheelii	denticulosa	inoploia	macdonelliensis	platycarpa	subcaerulea
chrysella	dictyoneura	ixiophylla	macradenia	polyfolia	sulcata
chrysocephala	drewiana	ixodes	meiosperma	prominens	tenuissima
cochlearis	ericifolia aff	jamesiana	merinthophora	pruinocarpa	terminalia
cognata	exilis	kybeanensis	neurophylla	pruinosa	vicidula
crassa	falciformis	lasiocalyx	nysophylla	rhigiophylla	

Seed Bank News

My thanks to the two contributors of seed. Even where the species is already in the bank fresh seed is greatly appreciated. The article by Rob Potter in this newsletter will tell why.
Warren and Gloria Sheather have contributed two species that are new to the bank – *A. diphylla* and *A. pycnostachya* both of which are described in their article.

Leon Steinhardt of Laidley has contributed 23 species one of which is new to the bank – *A.brevifolia*. Leon is a very keen grower of acacias and a former Acacia Study Group member but unfortunately he no longer belongs to the SGAP. He has a web site at

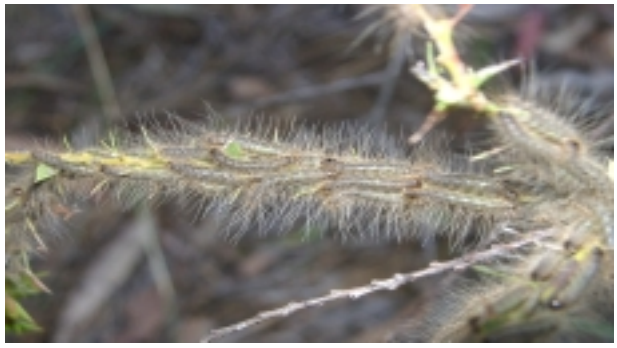
http://www.uq.net.au/~zzlstein/acacia/acindex.html

which deals mainly with growing acacias in SE Queensland. He is willing to host a field day of Study Group members in spring and hopefully this can be arranged.

Any correspondence to: Thais Eisen
86 Taunton Street
Annerley 4103

email address: 4thais@optushome.com.au

1.



2.

3.

4.

Processionary caterpillars – Eastern type.
(*Ochrogaster lunifera*, Family Thaumetopoeidae/ Notodontidae)
By Thais Eisen

These need no introduction as I'm sure we have all, at some time, suddenly noticed a defoliated plant and then discovered a nest of caterpillars (larvae) at the base of the victim's stem. Many of us have also experienced the dermatitis that follows contact with their spines. But have you seen the adults or noticed their egg masses ?

The adults often turn up at lights. If you wish to begin your control of the pest at that level the adult is a robust, hairy, grey/brown moth with a wingspan of about 4cm. The wings are held tented over the body. The abdomen is narrowly banded in yellow/orange and has a tuft of white hairs at the end. The forewings have variable silver/white markings which may consist of just one spot. This description is, no doubt, difficult to visualise and I will take a photo when the moths are about again.

Fig 1. Silken mass at the base of an acacia. This consists of silk, leaf litter, caterpillar frass and some spines and shelters the moth larvae during the day. They emerge at night to feed when conditions of temperature and humidity are more favourable.

Fig 2. Young larvae feeding on *A.hubbardiana* just before their execution.

Fig 3. An egg mass at the base of a small *A.leiocalyx*, measuring 3-4cm.

Fig 4. A close up of an opened egg mass. The eggs are not easy to see as they are mixed with scales from the abdomen of the female while she is laying the eggs. This may give protection from temperature extremes, desiccation and some predators. It does not however give protection against the predatory larvae of another moth (*Titanoceros thermoptera*) which specifically feeds on the eggs. Nice to know we have someone on our side!

For some unknown reason I had not noticed these white egg masses at the bases of acacias until this spring. I counted a dozen on a morning walk and kept one to see what hatched. After a week and a half my suspicions were proved correct when a large number of tiny hairy caterpillars appeared. By now (February) I am no longer able to find the egg masses just many colonies of half grown caterpillars which indicates that a time to be on the watch for the eggs is the spring. After this present generation has completed it's life cycle and moths begin to turn up at lights again no doubt the egg masses will also appear again.

The easiest control is to open the egg mass and kill the eggs by spraying with methylated spirits. This is also very effective against the caterpillars after their nest is opened and not toxic to fauna.
Hopefully by destroying the egg masses the foliage of at least some acacias will be saved this summer.

Mistletoes
by Thais Eisen

The mistletoes on roadside eucalypts and acacias near Kingaroy have flowered magnificently this summer (coloured plate 1). Some of the host plants support what seems to be a lethal burden and the debate about whether mistletoes should be destroyed or conserved comes to mind.

A brief background.
Mistletoes in Australia are roughly defined as hemiparasitic plants which live on the branches of the host as opposed to the roots. They are hemiparasites as they have chlorophyll for the production of energy and obtain only water and minerals from the host. This contrasts with plants like dodder which have no chlorophyll and are totally dependant on the host. There are about 85 species of mistletoe in Australia and most of these are in the Family Loranthaceae. They parasitise a wide range of plants from figs to introduced street trees. They often mimic their host and so may be difficult to see. Many are spectacular when in flower. The fruit is succulent and attractive to birds, in particular the Mistletoe Bird, a small, scarlet breasted bird (male only) which is probably mainly responsible for spreading the seeds. While the fruit is digested the single seed passes through the bird with a string of a very sticky substance still attached (coloured plate 2). This may stick to the bird which works hard to wipe it off on a branch or be deposited in the droppings. In a favourable site the seed germinates, sends a modified root into the host and connects with its vascular system. The part of the host plant beyond the point where the mistletoe is attached is deprived of water and minerals and eventually dies. Mistletoes support a range of wildlife including over 20 species of butterflies.

The only very heavy infestations I have seen have been in disturbed sites. Many *A.leucoclada* and to a lesser extent other species carry heavy burdens in roadside situations near Kingaroy and the *A. rubida* seen in a similar state were on a very disturbed property. Isolated trees in paddocks often seem to have more than their fair share. It's easy to come to the conclusion that stress on the host or lack of the normal controls on the parasite are responsible for the outbreaks.

A search of the web turned up articles suggesting that mistletoes are indicators of the health of an ecosystem as well as some suggesting methods of control. The consensus for Australian mistletoes is that they are pollinated, consumed and spread by native animals and rarely cause problems in undisturbed conditions. A Charles Sturt University News Release (23-11-2001) quotes, in a major review of mistletoe research compiled by Dr Watson, an ecology researcher, ' *since many animals depend on mistletoe for food and shelter, there is a strong relationship between mistletoe density and biodiversity. In areas with more mistletoe, there appear to be more animal species. This idea is supported by research from all corners of the globe.'*

There are no mistletoes on my land at Kingaroy possibly as the result of an over abundance of brush tailed possums which eat all parts of the plants. Recently I have spent some time sucking mistletoe fruit to extract the seeds (a pleasant pastime as the fruit is quite palatable) and attaching them to likely host acacias on my property in an attempt to redress the imbalance. Perhaps I will be lucky enough to have some survive.

Does anyone else have any experiences of mistletoes?

Acacia leptoloba (See Colour Plates 5 & 6)

by Thais Eisen

A.leptoloba is a species with a scattered distribution in Cape York Peninsula as far south as Herberton. It grows in sandy soils on hills and along creek banks (Acacias In Queensland, L.Pedley). In spite of a much colder environment at Booie in southern Queensland it has grown rapidly and flowers profusely. The plants have done so well in comparison with other northern species in this situation that I doubted their identification until I checked it.

This species is quite colourful. The young phyllodes are an attractive pinkish colour which contrasts well with the grey green of the older foliage. The green seed pods are edged in the same pink. Large pale, almost white flowers are produced in profusion from December to January. This flowering outside the spring makes it a valuable addition to a collection of acacias.

These plants are growing in shallow sandy soil near the top of a hill and have survived very dry periods during which they looked happier than many of the locals. I have seen no obvious insect damage which presumably indicates that they are not severely stressed in the harsh conditions.

Coloured plates

Plate 1
Mistletoe (*Amyema sp*, Family Loranthaceae) growing on *A.leucoclada* near Kingaroy.

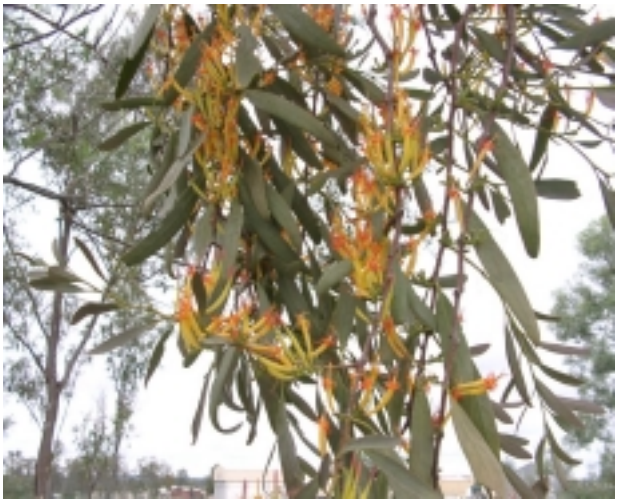
Plate 2
Mistletoe fruit and seeds. The seeds on either side of the central pink fruit have been cleaned but retain a 'tail' of a very sticky substance which glues them firmly to anything they happen to contact. The 'tail' is longer than the seed in the specimen on the left. The light green area at the lower end of the seed (best seen in the seed on the left) is the radicle or embryonic root.

Plate 3
Galls on *A.leiocalyx.*

Plate 4
The contents of a number of the above galls which have been carefully shaved open. These insects have been preserved and are stored in methylated spirits which will explain the difficulty of obtaining a good photo. Each gall contains a number of chambers and both larvae and ready to hatch adult wasps were present. The largest adults were under 4mm in length. Two different species of wasps and perhaps two or three different larvae can be seen. In some cases two different larvae were found in one chamber and one was obviously feeding on the other. The majority of wasps have orange backs and reddish eyes but a smaller black specimen can be seen in the lower right hand corner of the photo. The relationships between different wasp species in this situation can be very complex with one species forming the gall and then others parasitising it. These species may in turn be parasitised.

Plate 5
A.leptoloba growing at Booie near Kingaroy. Two plants are about a metre apart. They are about 4 metres high and the same wide after 6 years. The staff in the photo is 4m high.

Plate 6
Close up of *A.leptoloba* flowers and phyllodes.

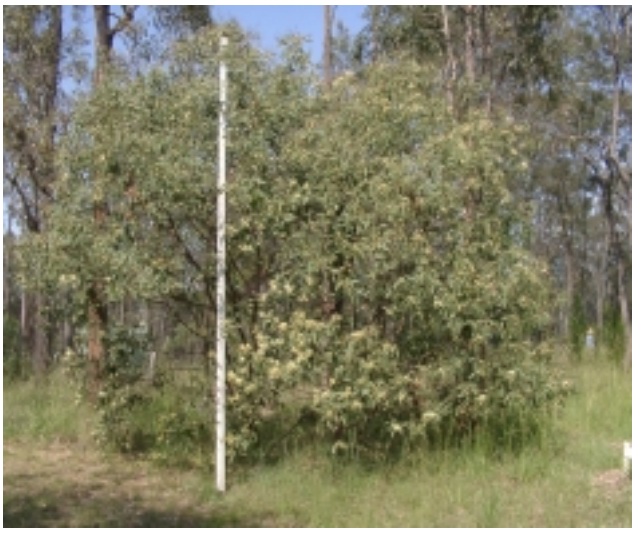


1.

2.

3.

4.



5.

6.