

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

ACACIA STUDY GROUP NEWSLETTER No. 85

November 2002

Dear members

The word on everyone's lips at present is 'drought' and one can only hope that the dire predictions of the weathermen are not fully realised. In spite of these predictions in SE Qld we had a brief respite towards the end of August with good rain even if it was not the type that fills dams. Many acacias were poised waiting for that moisture and flowered rapidly and heavily. They are now busily setting seed and with luck some may mature before the ground has dried out again in the present very hot, dry weather. Some of the dry area species seem to be relishing the conditions and are producing the best seed set of their lives. Unfortunately, as usual, I probably won't manage to do much harvesting as the parrots are already eating the green seed. The ground under *A.conferta* is a carpet of pods with the seeds neatly removed. At least the parrots will be in good condition for the dry.

'Gardening Australia' featured a segment on Bob and Dot O'Neil's acacias this week – Nov 1st and 3rd. The segment was certainly worth seeing and far too short. It featured a wide variety of beautifully grown plants at their property, 'Katanga Gardens' and was a great advertisement for acacias.

The tragedy in Bali has focused some attention on wattles and Prime Minister Howard asked people to wear a sprig of wattle as a symbol of national unity and mourning on Oct 20th. He also suggested that people plant wattle seeds and the Government announced that it would be sending wattle seed or a plant to all schools. Brendon Stahl mentioned that the Melbourne Sun Newspaper reported that Foreign Affairs Minister, Alexander Downer, planted a wattle with the United States Ambassador in the grounds of the American Embassy in remembrance of the Bali bombing. The Qld Courier-Mail (Oct 19th) even gave methods of germinating seed and 'letters to the Editor' suggested that a wattle must be included on any future Australian flag. A subsequent letter pleaded for someone to design an Australian flag incorporating a wattle so that they could vote for it to be adopted. The Courier-Mail also made the comment that wattle plantings should not get out of hand as in some districts wattles are so plentiful they're seen as a pest. Some acacias certainly have invaded bushland away from their native habitat but the wording of this comment seemed to refer more to the fact that acacias are so much a part of the natural landscape that they are not valued. Also many are regarded as pests because they refuse to disappear readily from cleared land particularly the species that sucker.

Around Brisbane we have few acacia 'escapees'. In the 'Key to the Wattles of greater Brisbane' produced by the Queensland Herbarium 34 species are listed and only two are naturalised foreigners, *A.macradenia* and *saligna*. *A.macradenia* is still extensively planted as an ornamental and *saligna* was widely used to stabilise sand dunes after mining and became naturalised in beach areas.

On the other hand, a 'Land for Wildlife Note' entitled 'Wattles and Wildlife' (Note No. 17, August 1992) sent by Brendon Stahl carries a warning that wattles may become environmental weeds and lists the species, below, as colonisers of bushland in Victoria where they did not previously occur – *A.baileyana*, *decurrens*, *elata*, *floribunda*, *iteaphylla*, *longifolia*, *prominens*, *saligna*, *sorophae*. That is quite a list and makes me feel that perhaps we are fortunate up here.

However, I still felt the 'Gardening Australia' segment mentioned above, showed some degree of paranoia in singling out *baileyana* as an acacia that should never be planted away from its natural habitat because of its tendency to spread into native bushland. That is a very sweeping statement which I'm sure is true in southern areas. However *baileyana* shows no sign of that behaviour in the areas of Qld I am familiar with, even though it is extensively planted around Kingaroy and to some extent around Brisbane. It doesn't do much in the way of flowering around Brisbane in the warm climate but the foliage is much appreciated. Some acacias are very adaptable but most prefer a particular climate and soil type to survive, flower well, set seed and establish seedlings.

I do not wish to argue that acacias are unlikely to become weeds but again it seems that acacias are cast as villains and singled out for special warnings (as with allergies). Any plant should be treated with caution away from its native habitat particularly if it is being grown near bushland. At Booie, cultivated *Grevillea banksii* var *fosteri* and white cedar have produced more seedlings than the acacias and of course there are a multitude of introduced, herbaceous weeds.

On this topic, a relatively new member, Stephen Shugg, raised the possibility of cultivated acacias proliferating and taking over away from their native habitat. In my reply I mentioned my own experiences. At Booie where I have over 150 species of cultivated acacia only two species have produced seedlings that I am aware of. These are *A.bancroftiorum* and *paradoxa*. *A.bancroftiorum* does occur locally though not on my type of soil but it is obviously adapted to the climate. Two clumps of seedlings of *paradoxa* (definitely not a local) appeared some distance from the parent plants after a wet summer but fortunately older plants don't cope with hot, wet summers. However I still keep an eye out for progeny. The only plant which could really cause concern is *A.leuococlada* var *argentea*. This occurs locally on red soil where it forms a large shrub without very noticeable suckering. On the poor, sandy soil at Booie it is a much less impressive plant but suckers readily – 43 suckers from 3 plants in 5 years but very few flowers and no seed set. The five species that are native to the land at Booie certainly pop up everywhere and if I was attempting to cultivate they could be considered a nuisance. A fire has not been through for some time and I believe many of these plants are suckers.

Leon Steinhardt who grows a very large number of acacias at Laidley near Brisbane also has no problem with non-locals proliferating.

Does anyone have any comments or horror stories of acacia invasions?

From member's letters/emails

Margaret Moir at Margaret River, WA

I'm always fascinated to see the variety of galls that can exist on wattles, thanks for your info on this. We have very heavy infestations of those stem and leaf galls on our *A. salignas* by the time they are about 4 years old. I always believed it a sign of senescence, and usually once they are infested, they die within a couple of years. I've attached a scan of some very pretty galls on *A. cardiophylla*. When cut open, they have two or three tiny larvae. The bush looks very pretty, as they look like berries, but I don't think there will be any seed-set this year, all potential flower heads have been infested! I had planned to send you seed, too. Otherwise, the plants look very healthy, they are in a group of three, 5 years old, each about 2.5m x 2m. I have propagated from them, and find them a reliable shrub here on the farm, with no propensity to be weedy.

Another very reliable performer is *A. howittii*, flowering now for the first time. My plants are 3 years old. The flowers are the most inconspicuous that I've ever seen on a wattle. It is very wind hardy. One of the bonuses of this plant is the fact that it seems to attract a lot of aphids, which

provide a feast for ladybirds and predatory wasps. The ladybirds seem to choose it for their winter siesta.

My *A. fimbriata*s flowered also for the first time, they are also 3. I was very impressed with the sweet perfume. This has also proved very wind-firm.

A couple of new WA species I've planted this year are: *A. merinthiphora*, *A. glaucoptera* and *A. denticulosa*. We'll see how they go without the dry heat they are adapted to. They have survived winter OK, I guess that is the bigger test, as even our poor rainfall of last year [half our average] is more than their original habitat. This year we will be on target for a very acceptable 1000mm. [ave 1400].

Margaret's scan is included with the black and white plates – coloured for those receiving email. The galls are a striking reddish maroon colour.

An article in a recent New Scientist (28 September 2002) suggests a 'scavenger-and-shield' theory for the role of red pigments in plants. Almost all red colour in plants is produced by anthocyanins which are powerful antioxidants that mop up damaging free radicals and reactive forms of oxygen in both animals and plants. Stress such as an insect attack causes plants to produce more of the pigments which also act as a shield against extra light.

This doesn't explain why most galls are green.

Bob & Dot O'Neil at Wandin Vic

A. beckleri flowered extremely well with very large flowers, the biggest by far that I had this year. The name on the packet was something like *beckleri var tarumbarensis*, writing is difficult to decipher. Is there a species with a name like that? Happily it is setting a lot of seed so I will certainly save some. Also very striking for its foliage is *aphylla* with its blue green colouring. Visitors marvel at this plant, and like me are amazed that it is a wattle.

Has anyone heard of that variety of beckleri? According to the 'Wattle' disc there is a variety of beckleri growing in the Flinders Ranges along with the typical variety that has very large flowers on very thick peduncles. The flower heads contain 80-100 flowers and measure 10-13mm. There is seed of beckleri in the Seed Bank marked 'large flowered variety, 20-25mm' - surely a misprint. Anyone like to find out if it is? It is dated 1982 but germinated well for Rob.

Barry Nilsson at Maraylya NSW

The dry weather continues in Windsor, NSW and we have not received any worthwhile rain for 4-5 months. We have also had the most frost days in winter in 30years. The acacias in our area are coping very well. The stars being *A.falcata*, *mearnsii*, *binervata*, all endemic to the Sydney Cumberland Plain – heavy clay soil, acid pH 3-5. *A.baileyana*, *podalyriifolia* and *fimbriata*, all introduced (weeds?) are also doing well in the Maraylya area.

I enclose a brochure of an acacia that is being propagated by the Royal Botanic Gardens Melbourne *A.leprosa* (Scarlet Blaze). I have seen the plant at a nursery in Sydney (2m high in a 300mm diameter pot) selling for \$120. You will see from the brochure it enjoys Plant Breeders Rights. Perhaps some other members have observed the plant for sale in nurseries in their area.

Newsletter No 83 featured a photo of this variety. The introduced species mentioned are very adaptable and are ones which should be watched in cultivation where the climate is suitable. A.podalyriifolia must be one of the most attractive and adaptable wattles as it occurs naturally in Qld on sandstone ridges not acid clay.

Seed Bank

Thanks to Stephen Shugg for seed of *A.gunnii*. He has sent enough seed to fill the order from a member and also add that species to the seed list. *A.disparrima* has also been added along with fresh seed of *A. attenuata*, *floribunda*, *glaucocarpa* and *irrorata subsp irrorata*.

On the subject of seed – I recently had a request for seed of *A.harpophylla* which I should have removed from the Seed Bank list when I sorted the bank. The seed was old and this species is one with short lived seed.

I'm afraid I have been ignorant of the range of acacia species which have soft or semi soft seed coatings and therefore a limited storage life. Being from SE Qld I am most familiar with *A. harpophylla*. After a search I found a book by Murray Ralph called 'Growing Australian native plants from seed' which included the following information.

Species with a soft coat which as a result do not require any treatment and have a short seed life – *A.argyrodendron*, *argyrophylla*, *cambagei*, *cyperophylla*, *georginae*, *harpophylla*, *latzii*, *maconochiana*.

Species with semi hard coats which should only be immersed in hot water at 90 degrees for one minute – *A.drummondii*, *excelsa*, *farnesiana*, *hemignosta*, *jennerae*, *microcarpa*, *pachycarpa*, *pendula*, *peuce*, *pulchella*, *rigens*, *tephrina*, *xiphophylla*.

How long is a short seed life? Rob Potter had some germination from a batch of *A.cyperophylla* that was collected pre 1983. *A.argyrophylla* from 1979 was non viable. More work is required here.

I find of interest the fact that the species with soft seed coats are from dry areas where I would have expected long seed life to be an advantage. The majority of their acacia neighbours have hard, long lived seeds. Has anyone any suggestions as to why these acacias are successful when they buck the trend?

Incidentally of the batches of seed tested by Rob Potter 66 were dated pre 1980. Of these 52 germinated well, for 9 there was some germination and 5 did not germinate. Only 6 were pre 1972 (30 years old) and 5 of these germinated well.

Acacia photos

I have listed all the photos I have at present below. This includes the ones taken recently in Qld with a digital camera, photos from members and also the slides which already belonged to the ASG. Unfortunately some of these seem to have disappeared during their travels. Any ideas where? They should all be scanned into the computer soon. I have marked each photo as '(H)' for a habit photo ie view of the whole plant or '(C)' for a close up shot. Ideally both views should be available along with other features of interest but at present most of the photos are close ups. Descriptions and natural distributions are already available on the 'Wattle' Disc. However there is a mass of data in the ASG records on the adaptability of cultivated plants and this needs to be compiled and added to the photos. A disc of the photos without this data should be available soon for members to borrow. In the absence of a computer the slides could now be loaned out if anyone would like to illustrate a talk or use them in any other way.

As previously mentioned the long term aim is to produce a disc which could be sold at a very reasonable price and not only publicise acacias but also add some funds to the ASG which at present is totally reliant on subscriptions. The disc could be updated with new photos at any time. I am happy to sort and add data if members will just help with photos. Any of plants (or views of plants) which are not listed would be gratefully received.

Acacia acinacea (C&H), *adunca* (C&H), *alata* (C), *ancistrocarpa* (C&H), *argyrodendron* (H),
arida
(C&H), *asparagoides* (C), *aspera* (C), *ausfeldii* (C)
bancroftiorum (C&H), *beckleri* (C), *binervata* (C), *bivenosa* (C&H), *blakelyi* (C), *boormanii* (C no
fl), *brachybotrya* (C), *brownei* (C), *brunioides ssp brunioides* (C), *burbidgeae* (C), *buxifolia*
(C&H)
caerulescens (C no fl), *caesiella* (C), *cambagei* (C), *cangiensis* (C no fl), *cardiophylla* (C&H),
chalkerii (C), *cheelii* (C), *chinchillensis* (C&H), *chippendalei* (H), *chisholmii* (C), *collina* (C),
complanata (C&H), *concurrrens* (C&H), *conferta* (C&H), *coriaceae* (H), *covenyi* (C no fl),
crassicarpa (C), *crassulonicarpa* (C), *cretata* (C&H)
dallachiana (C no fl), *dealbata ssp subalpina* (C), *deanei ssp deanei* (C), *deanei ssp paucijuea* (C),
decora (C&H), *deflexa* (H), *depressa* (C), *dictyoneura* (C&H), *dictyophleba* (C), *dimidiata* (C),
disparrima (C&H), *drummondii* (C)
elongata (C), *excelsa* (C)
falciformis (C), *fimbriata* (C&H), *fimbriata dwarf* (C&H), *flavescens* (C&H), *flexifolia* (H),
forsythii (C), *frigescens* (C), *furfuracea* (C)
genistifolia (C), *gittinsii* (C&H), *gladiiformis* (C&H), *glaucocarpa* (C&H), *grandifolia* (C),
granitica (C&H), *guinettii* (C),
hakeoides (C&H), *handonis* ? (C&H), *harpophylla* (C), *havlandiorum* (C&H), *howittii* (C),
hubbardiana (C&H), *humifusa* (C)
implexa (C&H), *irrorata subsp irrorata* (C&H), *ixodes* (C&H)
jiggerdingensis (C), *jucunda* (C)
lasiocalyx (C), *latisepala* (C), *leichhardtii* (C), *leptoloba* (C&H), *leptospermoides?* (C&H),
leucoclada (C&H), *lineata* (C&H)
macradenia (C&H), *maidenii*(C&H), *megacephala* (C), *messnerii* (C), *microbotrya* (C no fl & H)
montana (C&H), *mucronata* (H), *muelleriana* (C&H), *multispicata* (H), *myrtifolia* (H)
neriifolia (C), *notabilis* (H)
obliquinervia (c no fl), *omalophylla* (C), *O'sharnesii* (C), *oswaldii* (C)
paradoxa (C&H), *parramattensis* (C), *parvipinnula* (C), *pendula* (C&H), *pilligaensis* (C&H),
podalyriifolia (C&H), *polybotrya* (C), *pravissima* (H), *pruinosa* (C), *ptychophylla* (C), *pubescens*
(C no fl & H), *pulchella* (C), *pyrifolia* (C&H)
racospermoides (H), *retinodes* (C), *rigens* (C&H), *robinae* (C), *rossei* (H), *rotundifolia* (C), *rubida*
(C)
saliciformis (C), *salicina* (C), *saligna* (C&H), *sclerophylla* (C), *semilunata* (C&H), *semitrullata*
(H),
shirleyi (C), *shuttleworthii* (C), *simsii* (H), *sparciflora* (C no fl), *sphaerostachya* (C), *stenophylla*
(C), *stipuligera* (C&H), *strongylophylla* (C), *suaveolens* (H), *subulata* (C&H), *sulcata* (H),
subporosa (C no fl), *sutherlandii* (C&H),
terminalis (C&H), *tetragonophylla* (H), *tindaleae* (C), *trachyphloia* (C), *trachycarpa* (C),
translucens
(C), *triptera* (C&H), *trineura* (C), *truncata* ? (C), *tunida* (H)
ulicifolia (H), *uliginosa* (H), *umbricata* (C)
verticillata (C), *vestita* (C&H)
wickhamii (C), *wildenowiana* (C), *wilhelmiana* (C&H)

Fasciation (from the Latin 'fascia' meaning 'to fuse')

See black and white plates 9 to 12

Fasciation is a condition that causes distortion of the growing tip in a wide range of plants – over 100 species are known at this stage. Instead of a single growing point, a line of growing points

forms producing a fan like appearance in stems, leaves, flowers or roots. The term 'fasciation' probably arose from the appearance of the new growth which seems to consist of many fused stems. Leaves on such stems are usually much reduced.

A number of causes have been listed with bacterial infection and a genetic disorder being the most prominent. Chemical or physical injury and insect attack have also been implicated. In my cactus growing days I was very keen on growing seed from fasciated cacti (known as crests) and usually about a third of the seedlings produced were fasciated. These were healthy, vigorous plants in spite of the genetic disorder. I'm sure the very frilly lettuce I ate last night had genetically fasciated leaves.

In the case of the cultivated *A.saligna* illustrated (plates 9 to 11) no insects were visible, not all plants in the group were affected and this was not a benign fasciation as affected shoots eventually died back. All this suggests a bacterial infection.

I have seen fasciation in a number of native plants and at present there are single affected shoots on a cultivated callistemon and a wild pandorea on my property. These fasciated shoots look healthy and there is no sign of distortion in other shoots. The acacia infection (above), however, caused distortion of most shoots on one plant and about half on a number of others. Some flowers were also distorted. As mentioned above the distorted shoots died and this suggests that the infection should not be ignored.

The best control would be cutting back the affected shoots (sterilising the cutters afterwards) but if the following new growth was also distorted removal of the plant would be the safest way to go, particularly if surrounding plants of the same species are starting to show signs of infection.

Black and white Photos (coloured on email)

Plates 1 & 2 Adults of the Processionary caterpillar (*Ochrogaster spp*)

Plate 1 The moth is a light greyish brown with very variable silver marking on the wings - length about 25mm.

Plate 2 The moths 'play dead' if handled. The exposed abdomen is orange with rings of black hairs and a white tuft at the end.

In Newsletter 82 the egg masses of these moths were illustrated and I mentioned that when the adults were again about I would take a photo. They are very common at present with 11 coming to lights at Boobie in one night. This indicates that it is again time in this area to keep a look out for egg masses and caterpillars before too much damage is done.

Plates 3 to 6 Fasciation on *A.saligna*

Plate 3 Fasciation of shoots and a leaf.

Plate 4 Different degrees of fasciation in leaves.

Plate 5 Some shoots have been removed so the fan shaped growth can be easily seen.

Plate 6

A shoot of *A.leiocalyx* showing distortion and some fasciation caused by mealy bugs. The bugs with their white covering were quite obvious. These bugs can seriously affect the growth of young plants

with every shoot being infested and they are difficult to remove by hand once the shoots are distorted. Rather than try to kill them with chemicals it is often easier to cut off the infected shoots.

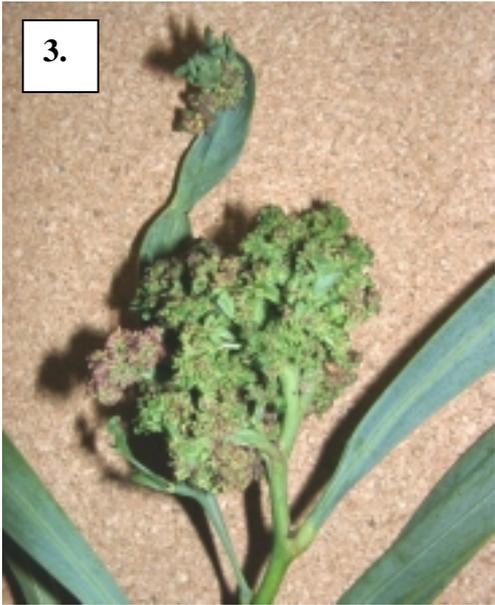
1.



2.



3.



4.



5.



6.



Black and white plates (continued)

Coloured for those on email

Plate 7

From Margaret Moir as mentioned in her letter. These galls on *A. cardiophylla* are a maroon red and measure up to 1.2mm. They contain a number of larvae /pupae about 1mm in length.

Plate 8

From Elizabeth George. Galls on *A. microbotrya*.

If anyone is keen enough to open galls and finds only grubs wait a week or two and try again. Often adult insects will then be present. So far I have only found wasps.

Plates 9, 10 & 11

These insects all have larvae which are borers in acacias and best removed from your favourite plants on sight.

Plates 9 & 10 are weevils from the Family Belidae - 13 and 20 mm respectively in length. Both have an extensive range through eastern Australia and are very common at present. I'm sure the west has its own versions. Weevils are easily identified by their long rostrum or snout which is an extension of the head. Their chewing mouthparts at the tip and their antennae situated on it. With very few exceptions weevil larvae bore in something eg plants, grain so cannot be considered desirable visitors.

Plate 10 is interesting as this weevil mimics a beetle in a different family – Lycidae. The lycid beetle smells and tastes unpleasant to predators so a number of unrelated insects mimic it in appearance as a protection. All these mimics have the colouring of the lycid ie basic black with bright orange wing covers. The long rostrum however gives this beetle away as a weevil. It is particularly common at present and I recently picked 11 from one *A. subulata* which doesn't give that plant a bright future.

Plate 11 is also a mimic of a lycid beetle with the same colouring but in this case the long antennae indicate that this is a longicorn beetle (see Newsletter No 83). Length 20mm.

Plate 12

This is a good guy for a change. Its a predatory assassin bug (Family Reduviidae) which actually has similar colours to the beetles above – orange and black (length 14mm). Bugs also have a rostrum which accommodates their sucking mouthparts but unlike the weevils the antennae are above the rostrum on their head. The bugs in this family inject toxins and enzymes into their prey and then suck out the body fluids. They will eat bees as well as unwelcome visitors such as caterpillars or sucking bugs on your acacias. This bug and its relatives are recognised by their body shape and a short, stout rostrum which curves under the body as opposed to the long, straight rostrum of the plant sucking bugs. I have no experience with this particular bug but a common, larger brown relative, if carelessly handled can inject fluids which cause quite a bit of pain.



Coloured Plates

Plate 1

A. ? leptospermoides beside the Piawanning – Wongan Hills Rd in WA.
(Thanks to Elizabeth George)

Plate2

Close up of the above. This magnificent species grows in south west WA from Shark Bay south. It grows to 2 m but is often less and prefers sandy soil. The only record of its cultivation in the archives of the ASG is in red loam, pH 5.6 and rainfall 700mm in Victoria.

Plate 3

A.conferta cultivated at Booie. Said to grow to 4m this plant is about 2m and perhaps at its limit in the conditions. This species grows from central Qld (coastal and inland) to inland northern NSW. It grows on sandy/loam soil and is drought and frost hardy. ASG records indicate that *conferta* grows well as far south as Victoria and can cope with clay.

Plate 4

Close up of flowers and phyllodes of *A.conferta*.

Plate 5

A.glaucocarpa in its natural habitat at Booie. This species is said to grow to 10m but I have only seen it to about 7m. It occurs from west of Emerald in Qld to near the NSW border. It is very common at Booie where it grows on shallow soil derived from granite. It is rare on the better soils. The 'Wattle' disc says that it is moderately drought resistant but sensitive to frost. This has not been my experience as plants cope well with dry conditions which make *A.leiocalyx* look poorly and frosts of -5 degrees or less are common.

Plate 6

Close up of the flowers and leaves of *A.glaucocarpa*.

Please send in any comments you might have about the plants illustrated so they can be incorporated in the information on the proposed disc.

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