

#### Australian Native Plants Society (Australia) Inc.

## ACACIA STUDY GROUP NEWSLETTER

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#### From The Leader

Dear Members

It was good to catch up with a number of Study Group members at the recent ANPSA Biennial Conference hosted by SGAP Queensland on the Sunshine Coast. Special thanks to **Michael McCuaig** who organized our Study Group display at the Conference – I am sure we are all grateful to Michael for the many many hours of work that he put in to the display. Drawings of Wattle Blossom Fairies, done by students from the local Buddina State Primary School, were one of the highlights of the display,

and some of these drawings are reproduced in this Newsletter.

We had a meeting of Study Group members on one of the evenings of the Conference – this was only attended by four members (Michael McCuaig, John Boevink, Jan Hall and myself) but we had an interesting discussion of various wattle matters for a couple of hours. Michael brought along specimens of a number of SE Queensland species and these formed the basis for much discussion. One matter that was raised related to our Seed Bank, with a suggestion that we should ask members who access seed from the Bank to report on the results of their propagation efforts. This is something that Victoria Tanner had previously suggested to me, and we do think that the additional information that would be obtained would be worthwhile, and would not impose too greatly on members. Coincidentally, Alan Gibb has recently provided a report on his recent propagation activities, and his report (on page 6) is pretty much identical to the format of the report that was suggested at the meeting in Queensland - so if you source seed from the Seed Bank, we would very much appreciate a report of your results along the same lines as Alan's report. An updated Seed Bank list is included in this Newsletter.

In relation to the Seed Bank, the operation of the Seed Bank does rely to a significant extent on donations of seed from members. Although we do buy some seed from commercial sources, we do have limited funds available for this purpose – and buying seed is not cheap (if indeed you can get the seeds you want). Most packets cost around \$3.50 - \$4.50 each and while some have 20-30 seeds, others only have 3 seeds in them. Hence, as we come into the main seed collection time of year in many parts of Australia, if you are able to think of the Seed Bank (especially for less common species) that would be greatly appreciated. Without an increase in our seed donations, we may need to look at an additional charge for seed orders.

We have had an excellent response to the proposed Field Trip next year to the Barakula Forestry area in Queensland. If you have not yet registered your interest in attending, but think that you may be interested, please let us know so that we can keep you informed as planning progresses. Len Hubbard has proposed a change in date for the weekend - it will now be held from 1-4 August 2014. A note from Len explaining this change is included below. Note that at the recent ANPSA Conference, it was reiterated (again) that anyone who takes part in a Study Group Field Trip such as this must be a member of their regional APS/SGAP State society.

In the past, our Study Group newsletters have been available on the worldwidewattle website (<a href="www.worldwidewattle.com/socgroups/asg">www.worldwidewattle.com/socgroups/asg</a>). Future newsletters will not be available on this website, but will be available on the ANPSA website (as well as back issues). The link to this website is <a href="http://anpsa.org.au/acaciaSG/">http://anpsa.org.au/acaciaSG/</a>.

Thank you to all members who have paid their membership renewals for the 2013/14 year. If you have not already paid your subscription, it would be appreciated if you could attend to this (or let me know if you do not wish to renew). Note that our financial report for the 2012/13 year appears on page 13.

Bill Aitchison

#### Welcome

A special welcome to the following new members to the Study Group.

Warwick and Shirley Daniels, Wanniassa, ACT Barry Revill, Moorabbin, Vic Ben and Ros Walcott, Red Hill, ACT

## Study Group Field Trip 2014 by Len Hubbard, Chinchilla, Qld

I am starting to become concerned about the timing of our proposed Acacia Field Trip to the Barakula Forestry. Some acacia species in particular A. *leiocalyx*, has flowered early April this year, where normal time is early May. Other species have flowered two weeks early. Could this be due to the dry period we are experiencing in Queensland at the moment. We wish to present what we have here in its best condition. To get the premium time is like trying to pick the winner of next year's Melbourne Cup, now.

Recently on the 1<sup>st</sup> & 2<sup>nd</sup> August, I organised a weekend wattle trip to Barakula for the SGAP people from Toowoomba. Of the 36 acacia species we found, 24 were flowering. We all considered that these dates were the best time to see most acacias at their best (some two weeks

earlier than normal). Also due to the dry most acacias fade quite quickly.

Joan and I have been going out to the area on a weekend basis since, and in reflection would like to bring the proposed field trip forward to the 1<sup>st</sup> to 4<sup>th</sup> August 2014. After speaking to a few interested starters, it has been suggested that we could meet at the Chinchilla Tourist Information Centre at 12.00 noon on Friday 1<sup>st</sup> August. Leaving the "Tourist Information Centre" at 1.00 pm. we can head out to Barakula campsite. On the way we can inspect 6 acacia species, that are not found in the forestry. On arriving at the campsite, we will have time to set up before dark, allowing a full weekend to explore the forestry. The rest of the trip would remain the same, only the dates would change to the 1<sup>st</sup> to 4<sup>th</sup> August 2014.

I would like to clear up another anomaly. The distance to Barakula Campsite was given as 25 kilometres, but was meant to be miles. Please note that the distance is 40 kilometres. Sorry for the mistake.

Would it be possible to publish our contact details in your next newsletter?

Phone: 07 46627065

Home address: Len Hubbard, 2 Leichhardt St,

CHINCHILLA. 4413. lenandjoan@bigpond.com

Cheers Len

#### From Members and Readers

**Des Nelson (Alice Springs)** has written (23 July 2013) in relation to a number of items in our previous (June) Newsletter:

"Many thanks for the copy of your June Newsletter. I was interested to see the report by Michael McCuaig about nodulation on roots of *Acacia decora*. I have a memory that some research into the possibility of N. fixing by Mulga (*A. aneura*) was done in the 1960's by chemist L. R. Murray then resident in Alice Springs. I tried to chase up a possible paper referring to the work but didn't have much luck. I did find one reference which possibly does have something to do with the subject.-

Murray, L.R. and Siebert, B.D.: "Nitrate in Underground Waters of Central Australia", The Australian Journal of Science; July 1962, Vol 25, No. 1, Page 22.

The review of Linda Hoffman's "Wattle Seed The Kitchen Handbook" reminds me that I was told by Bob Purvis, pastoralist of Woodgreen Station NE of Alice Springs that pioneers roasted the seeds of *Acacia victoriae* to use in the making of a coffee substitute.

As for other uses of Acacias in the Centre by far the most used species is Mulga, the most common and widespread

species in the area. Countless thousands of mulgas fell to the axe for use as fence posts, the length and diameter of the trunks being ideal for this purpose. Among my duties as a jackaroo on Elkedra Station N.T. was to cut fence posts from Mulgas in the early 1950's. The boss John Driver was a conservation minded man. He told his staff to select posts from twin trunked mulgas, cutting one trunk and leaving the other. This made post cutting quite a long process but was a good idea. Many other post cutters just felled trees en masse. The most common local supply of domestic firewood is sourced from dry mulga, the second most common being local Ironwood, Acacia estrophiolata which is much more scattered than Mulga. Another plentiful species, Gidgee, Acacia georginae occurs mainly east and north east of Alice Springs. Fires of Gidgee wood are extremely hot and can cause a wood fuelled stove's metal to glow red hot, as I have observed. It is splendid camp fire wood during cold weather.

Mulga was also used in other structures apart from fences. Long Mulga poles were used to build a pioneer house on a now remote part of Narwietooma Station NW of Alice Springs. The rails of many stock yards were of Mulga. Short poles were used for such things as suppprts for workshop benches. Polished Mulga wood makes good small artefacts such as book ends etc. Mulga is a favoured material for the manufacture of boomerangs, digging sticks, mullas etc by local Aborigines."

**Note:** Following receipt of Des's letter, I chased up a copy of the paper he referred to by Murray and Siebert. Interestingly, this paper noted that in the NT "there is generally good correlation between areas of *Acacia* scrub and areas of moderately and highly nitrated waters". The paper suggested that fixation of atmospheric nitrogen by legumes could account for the areas with moderately and highly nitrated waters. Let me know if you would like to read a copy of the paper.

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**John Boevink (Port Sorell, Tas)** also responded (18 July 2013) to Michael McCuaig's comments:

"I have been much stimulated by Michael McCuaig's ruminations on Nodules & Rhizobacteria. For me as a chemist from way back nitrogen fixation is fascinating; so I have read the excellent reference he provided (Ref 1, Nitrogen fixation in Acacias etc by Brockwell, Searle, Jeavons and Waayers).

A key chemical aspect of nitrogen fixation is that the enzymes that carry out this energetically demanding reaction are quite sensitive to oxygen, ie the reaction cannot proceed in the presence of oxygen. And it requires molybdenum, a key component of these enzymes.

This may explain one benefit of root nodules: if they supply the Rhizo-bacteria with a low oxygen environment. Unfortunately I have no reference to suggest that this is the case.

Furthermore there is a significant degree of nitrogen fixation by bacteria living freely in the soil, but it is easy to postulate that they would have to be living in a low oxygen environment. In fact Ref1 suggests that Rhizobacteria secrete a layer of viscous carbohydrate around themselves, that could limit diffusion or perhaps create a zone capturing diffusing oxygen. Note the latter is just speculation on my part.

Ref 1 provides strong evidence how difficult it is to estimate the contribution of root nodules to the success of a plant in the real world as distinct from a "fully" controlled lab or greenhouse environment. It is great to see the complexity of the real world thus emphasized.

One complicating and beautiful aspect is that non-nodulating plants secrete some of their large stores of carbohydrate into the soil to stimulate the growth of nitrogen fixing bacteria, an approach that must help many soil organisms other than the nitrogen fixing kind. This also is a benefit of the nodule formation: the supply of carbohydrates is better directed to the bacteria that benefit the plant.

My final comments concern the provision of nitrogen underground. Again I have no idea of the profile of oxygen and nitrogen penetration into the ground. I expect it to differ widely between soils and to be generally better in dry soil of course. Oxygen consumption by roots and soil organisms should provide at least an environment with reduced oxygen in the gas phase. However, nitrogen fixation does not need to depend on diffusion: since the nitrogen gets consumed new gas from elsewhere will flow into those spaces with reduced pressure (if it can).

The quantities are not as big as they may seem. I calculated that as a rough approximation 1 cum (cubic meter) of air contains about 1kg of nitrogen. If 1 Ha fixes 200kg of nitrogen per year (a high level) that accounts for only 200 cum of air. 1 Ha is 10,000 sqm (square meter). Thus for fixing 200kg/year it requires the transfer of a layer of just 2cm of air into the soil over the period of 1 year. Not a conceptual problem for me, especially since nodule formation starts to occur at levels not far below the surface."

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**Peter Cox (Garfield, Vic)** writes (4 August 2013) as follows:

"Further to *Acacia* tricolour - the plant I have been watching is now in full blossom and it is a sight to behold. Flowers completely smother the foliage. A bright yellow flower. Mind you, the owner of the plant says she has never seen it flower so well. My attempts to grow it from cuttings have so far been fruitless (or should I say plantless)."

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#### Brian Freeman writes (6 August 2013) as follows:

"I am a member of the Fleurieu group of SA APS, and live at Victor Harbor and also belong to a couple of study groups. I am not a member of your group, but thought that I would send to you a photo of an *Acacia calamifolia* that I have in my garden (a collection of many hundreds of different Australian Plants that I have.). I sent specimens off to the herbarium and Martin O'Leary has confirmed that it is *Acacia calamifolia*. I had a farm at Koolunga in the mid north of SA before retirement to Victor Harbor, and I think that seed was collected from local *Acacia calamifolia* plants that grow in that area. The plant in the photo would be 9-10 years old. Asking around, it appears that no one has seen a prostrate form of *Acacia calamifolia*, so I thought that you or your members may know of other plants that may be in cultivation?"



Acacia calamifolia

**Photo Brian Freeman** 

Note: Warren and Gloria Sheather have referred to *A. calamifolia* in a note on page 8.

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**Neil Marriott (Stawell, Vic)** tells us (17 August 2013) about a "Wattle Walk" that he and Wendy have developed on their property:

"Wendy and I have just completed our "Wattle Walk", which is a circuit down the hill through our grassy woodland, around large granite boulders and through fields of mixed native grasses, and now lined, at uneven spaces with a large range of small to medium sized wattles. The idea came about from a most generous gift of around 50 wattle species in tubes from Mike Williams, Yarra Yarra APS Group. Mike grew most of them from seed gifted to him from the extensive collection of Max and Regina McDowall, also from the Yarra Yarra Group. These were planted out last winter (2012), but sadly that winter was our driest on record, as was the following spring and summer. Despite regular watering over summer, only about a dozen of the original plants survived. However, we were not to be daunted, and topped up with a gift of a further dozen of so species as well as many we have grown ourselves we have replanted again this winter. We are very keen on our local

Victorian species and have planted many, including numerous distinct clones of *Acacia verniciflua*, *A. exudans* - the Casterton Wattle listed as vulnerable, many clones of *A. aspera* and *A. acinacea*, several distinct forms of *A. genistifolia* as well as a number we have found on travels round the state that so far defy identification (we really do need a new field guide to Victorian Wattles). As well as the many smaller Victorian species, we have planted a number of the iconic species from elsewhere; *Acacia chinchillensis*, *A. curvata*, *A. craspedocarpa*, *A. aphylla*, *A. restiacea* and many more. Already many of the young plants are coming into flower, and we are hoping in a couple of years time the "Wattle Walk" will be a real delight both for ourselves and our visitors."

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In our previous Newsletter we asked a question as to whether anyone has experience in growing *Acacia johnsonii*. **Joan Hubbard** (**Chinchilla**, **Qld**) has provided the following photo of a plant that she and Len have growing in their garden. The plant is just 2 years old – obviously it enjoys the conditions there much more than the plant referred to in the previous Newsletter that was struggling in Canberra's climate.



Acacia johnsonii

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**Jenny Simons (Burradoo, NSW)** asks a question in relation to an *A. melanoxylon*:

"A friend of mine and APS member, Sarah Cains, has an *Acacia melanoxylon* that behaves oddly. Each year in late July it sheds all its leaves. Other Blackwoods in her garden shed a few, but none so dramatically as the one of which I enclose her photographs. I have looked around in the neighbourhood and discern this problem nowhere else, and the one in my garden has all its leaves attached. The Blackwoods grow natively in our district - mine is a volunteer - and Sarah has a completely native garden on the edge of bushland.

Can anyone explain this phenomenon? Could this tree be a genetic variant? It is otherwise completely healthy."



Acacia melanoxylon leaf drop

Photo Sarah Cair

We referred Jenny's question to Blackwood expert Dr Gordon Bradbury, and he commented as follows:

"My guess it is stress related. At the same time each year a combination of environmental factors that are particular to this one tree on this one site cause the tree significant stress. Obviously not enough to be fatal (yet), but enough to give the tree a short sharp shock. My guess it is a complex mix of soil and climatic factors.

That the tree can fully recover from this year after year is quite a testament to how tough blackwoods can be. Imagine a eucalypt doing this? I don't think so!"

Does anyone have any other comments on Jenny's question?

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Maria Hitchcock (Armidale, NSW) advises that she is currently growing seedlings of a number of local New England species of wattles, and will have them listed for sale through her nursery <u>coolnatives.com.au</u>. If you are interested in obtaining some of these wattles, keep watching her website – she will add them to the website as they become ready for sale.

**Diana Leggat and Martin Rigg (Yackandandah, Vic)** have established a website relating to their garden in NE Victoria. The web address is <a href="https://www.eremaeagarden.com.au">www.eremaeagarden.com.au</a>.

Another website worth checking out is **Esther Bruggemeier's**. Esther is selling the most exquisite Acacia artworks on her Wild about Wattle site in a variety of forms. Go to

 $\underline{http://esther-brueggemeier.artistwebsites.com/art/all/wattle+wonderland/all/wattle+w$ 

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I have recently had some communication with **David Coote** (**Camberwell, Vic**) regarding the following question that he raised. If anyone has any thoughts that may help David, please let us know. David wrote as follows:

"My wife and I have recently bought some land in the Strzeleckis. The property is at around 200m altitude with 1000mm+ annual rainfall. The 1750 Ecological Vegetation Class is Wet Forest but there is a range of micro-climates with north, south and south-easterly aspects. We're interested in planting some acacias for a number of purposes including edible seed production. We would be very grateful for advice on what acacia species producing edible seed might do well on this site."

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We recently received a communication from the **Australia First Party** advising that they have adopted as one of their policies a proposal to revive Wattle Day. Details of their policy can be found on their website (www.australiafirst.net/wattleday).

## **Some Propagation Items**

In our previous Newsletter, I mentioned that we had received a query as to what seed raising mix might be recommended for Acacias, and asked for suggestions from members. The following are responses received:

Phil Hempel (Diamond Creek, Vic) comments as follows:

"I use a commercial seed raising mix with good results. I have also used my own mix of perlite and compressed coconut/coir fibre (expanded in water) mixed at a ratio of 3 to 1, it is easier to get seedling out without damaging the roots when they are potted on into forestry tubes with good quality potting soil. It is more suited to larger seeds."

**Judy Barker (Hawthorn East, Vic)** advises that she has obtained best results with Better Grow Seed Mix.

**Brendon Stahl (Elliminyt, Vic)** advises that he uses Debco seed raising mix for small acacia seed and vermiculite for other acacia seed.

In **Marion Simmons** book **Growing Acacias**, she suggests that excellent results may be achieved with either of the following:

3 parts washed or sterilised coarse river sand 1 part peat moss or aged crushed pine bark or

3 parts perlite

1 part peat moss

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I recently received a query from someone seeking advice on the most successful method to propagate the Thomby Range Wattle (*Acacia wardellii*). The enquirer had a limited volume of seed and wished to obtain the best results with minimal seed loss.

My thanks to **Nita Lester** (**Mapleton, Qld**) for responding to this query – Nita has had experience with this species at Myall Park Botanic Garden. Nita responded as follows:

"Have had high success in the past re this species - I soak the seeds in warm water overnight.

Carefully make one small split in the coat - the coat comes away a little so this is very easy. A few of the seed coats do not soften in that time, so I just wait a few more hours. Very small seeds often do not respond and these I have had no success.

Plant as per any other acacia and if seed is 'good' - you should have 90% success."

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Thanks to **Alan Gibb** (**Bobinawarrah**, **Vic**) for providing his results in propagating some seeds that he recently obtained from our Seed Bank. All of the seeds were nicked with a knife.

Species	No. seeds sown	No. germinated	Days after sowing	No. potted
burbidgeae	4	4	7-15 days	3
granitica	4	4	6-15 days	2
ingramii	4	0		0
leptoclada	4	0		0
macnuttiana	4	3	4-10 days	2
pruinosa	4	3	12-14 days	3
torringtonensis	4	4	4-9 days	4

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Sulphuric acid is sometimes suggested as a means of pre treatment of Acacia seed prior to propagation, although it is probably not appropriate for use by the amateur propagator. However, **Matthew Alexandra (Bacchus Marsh)** tells me that he has been advised that citric acid is very effective as a pre treatment (and much safer than sulphuric acid). Has anyone had experience in using citric acid in this way?

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**Peter Goldup** advises that for the last two years he has been using Fishers Creek rock dust in his potting mix, and has found that it gives Acacias a big boost. Peter describes it as "a volcanic rock dust – a great natural product". It looks

just like cement – a fine grey powder. More information is available on the website www.fcrd.com.au.

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Does anyone have hints for growing *Acacia pendula* from seed. **Michael McCuaig** advises that he has had real problems in getting any germination. It may be that the seeds he was using (from our Seed Bank, and now some years old) are not particularly good quality. But if anyone has experience in growing this species, perhaps you could let us know what results you got.

#### Wattles at Wickham

By Ros Walcott Photos by Ben Walcott

We now have ten years experience growing wattles on our property on Wickham Crescent in the middle of Canberra. The garden is a pie shaped wedge covering about a hectare and slopes ten metres from front to back. The soil here is clay, much to our consternation, as we were used to gardening for thirty years in pure sand on Long Island, NY. Clay is a different proposition altogether, but needs the same treatment as sand for completely different reasons. The addition of lots of humus is key, in the first case to break down the soil and in the second to build it up. We originally added 30 truckloads (15 cubic metres each) of mulch to our soil in Canberra and have continued to add about ten truckloads of 'coarse forest litter' each year. Our soil has improved markedly and we have plenty of healthy worms in our soil. For the first few years we had regular visits from an aerating crew of Straw-Necked Ibis who probed our soil for grubs to the depth of 30cm. They have now moved on to greener pastures (e.g. Parliament House grounds). We have tried to make our garden as bird friendly as possible, by creating three layers of dense and sometimes prickly shrubs for their shelter and nest building and providing plenty of nectar bearing plants. We have been gratified by the growth of both numbers of birds overall and species of birds in the garden from 35 when we began to over 75 now.

We grow 56 different wattles at time of writing and have had much success with them. In fact of all the groups that we grow, wattles are the second most successful after banksias. This does not mean that we have not had plenty of failures, (in fact 25% failure), especially in the beginning when we were establishing the microclimates needed for good growth. We began with a virtually bare block and it took time to get enough growth on the trees to make some needed shelter from frost and wind. It is worth mentioning that some of the so called 'failures' were because certain acacias outgrew their position and had to be removed. We also ended up removing several *Acacia leprosa* 'Scarlet Blaze' after three years of beautiful blooms because they were too brittle and collapsed in the wind.

We have many favourite acacias growing in our garden at present, A. acinacea – Gold Dust Wattle, A. aff. verniciflua 'Avenel' or Sigma Weeping Wattle, A. boormanii – Snowy River Wattle, A. 'Burgundy Cascade', A. cardiophylla – West Wyalong Wattle, A. caerulescens – Buchan Blue Wattle, A. cognata 'Lime Magik', A. covenyi – Blue Bush, A. cultriformis – Knife Leaf Wattle, A. denticulosa – Sandpaper Wattle, A. doratoxylon – Currawang, A. cognata 'Fettucine', A. gracilifolia – Graceful Wattle, A. howittii – Sticky Wattle, A. pendula – Weeping Myall or Boree, A. pravissima nana "Golden Glow', A. pruinosa, A. pycnantha – Golden Wattle, A. spectabilis – Mudgee Wattle, A. suaveolens – Sweet Scented Wattle and saving the very best for last A. subulata.



Acacia cultriformis

The foundation planting in our garden included particularly *A. boormanii*, Snowy River Wattle, *A. cardiophylla*, West Wyalong Wattle and *A. spectabilis*, Mudgee Wattle, all reliable and free flowering in Canberra. These shrubs are visited regularly by many little birds. We originally had a couple of *A. iteaphylla*, a really beautiful shrub that thrives in the protected Sculpture Garden at the Australian National Gallery. Our two developed black mould and could not be saved despite spraying etc. Interestingly, a *Banksia ericifolia* 'Golden Girl', which was near the acacias and had sulked for several years, immediately put on tremendous growth and flowered amazingly as soon as the acacias were removed. Acacia root systems obviously beat Banksia root systems, at least in this case.

Originally we also tried many *A. cognata* 'Green Mist' and 'Limelight' in our garden but these do not tolerate the frost well enough to keep, so we have now removed all of these plants. The *A. cognata* varieties that we do grow are either under shelter, like 'Lime Magik' or in pots, like 'Fettucine'. We continually ask the plant breeders that we know to develop a suite of really frost hardy *A. cognata*. The many cultivars of this plant are so attractive and varied that we would like to be able to grow more of them.

We have cut back the suckering *A. boormanii* to contain them to particular parts of the garden. They make a

wonderful regenerating haven for small birds, especially thornbills and silvereyes.

At present we have only one wattle grown as a standard, *A. suaveolens*, which blooms sweetly, according to its common name, all through winter. It also produces copious shiny black seed in attractive seed pods. We would like to add more standard wattles as it gives variety to the garden and adds another layer. However, it must be said that standard wattles are still very expensive at this point and it would be better if they became more easily available and the price came down.



Acacia subulata

Acacia subulata must be singled out for praise. This wattle blooms all year, in a serial fashion, from branch tip upwards, it smells delicious, it has delightful light ferny foliage, decorative seed pods and grows fast. I find it hard to understand why gardeners complain about the fast growth and in some cases, short life of wattles. How marvellous to have a plant that grows fast and can easily be replaced when it starts to decline. In the US we gardened with more established plants that had been grown by gardeners longer and hybridised over many years. In one way it was gratifying to have plants which grew reliably to the size and shape on the plant label and lasted for generations. On the other hand, we wanted to develop more gardens and try more plants, but ran out of room. Running out of space is less of a problem in a native garden where most of the plants are relatively new to gardens and have yet to be developed to 'reliable' status. For example we purchased five A. pravissima 'Bushwalk Baby' at the same time from the same nursery. We wanted them to be prostrate as it said on the label and to spill over a wall, but three decided to do just that and the other two grew upright and quite large. This is the sort of variability that native plant growers can expect at this stage of the development of Australian native garden plants. We have also had to remove wattles like A. pravissima nana 'Little Nugget' as they have so outgrown their space to become unworkable. The label on 'Little Nugget' listed height to 1.5m, but ours grew quickly to over 2m and were headed upwards and outwards - nothing 'nana' about them at all.

On the other hand *A. pravissima nana* 'Golden Glow' has been highly successful in its tough position in our garden and has grown and flowered reliably for six years. It has exceeded its listed height of 1.2m somewhat, but not to the extent of 'Little Nugget' and can be kept in line by judicious pruning.



Acacia podalyriifolia

We did have a marvellous *A. podalyriifolia* or Queensland Silver Wattle for some years. It grew into a magnificent umbrella shape and flowered prolifically all through our frosty winter. The contrast between the silver foliage and the golden blooms was delightful. I understand that this tree can become a pest in other climates, but ours never suckered or misbehaved in any way. However, it did get borer and had to be removed – we still miss it, and may plant another.

Our Buchan Blue Wattle, *A. caerulescens*, leans and I thought it must be because I had planted it with the wrong aspect. The Curator of the National Arboretum Canberra, Adam Burgess, came to visit our specimen of Buchan Blue Wattle, as he was planting them as one of the 'hundred forests' at the arboretum, and told us that they all lean. It must be part of their rather constrained genetics as a rare tree that we now have Buchan Blues which lean.

We love A. acinacea, the Gold Dust Wattle, especially the smaller, denser tetraploid form. This plant is one of the showiest in the Australian National Botanic Garden and stands out in the sea of wattle bloom there in early spring.

We will continue to plant wattles for their brilliant foliage, their knockout spring display and their fast growing qualities. Besides, who can resist a little charmer like *Acacia willdenowiana*, the Grass Wattle, with its long thin foliage and yellow ball flowers?

# Acacia calamifolia and Acacia subulata

by Warren and Gloria Sheather, Yarrowyck, NSW

Not all wattles flower in spring. Species that flower "out of season" bring a spring feel to the garden at other times of the year. *Acacia calamifolia* and *Acacia subulata* are two wattles that we rely on to bring spring colour to our garden for many months.

We first encountered *Acacia calamifolia* in a local garden many years ago and were impressed by the bounteous blooming of this wattle. *Acacia calamifolia*, the Reed-leaf Wattle, is a bushy, tall shrub reaching a height of four metres. The long, narrow phyllodes have a reed-like appearance (in fact the species name means reed-like leaves) and may reach a length of 20 centimetres with a hooked apex. The flowers are held in globular heads that are profuse, conspicuous and golden yellow in colour. Our specimen carries some flowers for most of the year. *Acacia calamifolia* is found in western Victoria, central west NSW and South Australia. The seed, from this species, forms part of the diet of the rare Mallee Fowl.



Acacia calamifolia

Photo W & G Sheather

Acacia subulata is known as the Awn Wattle and is very similar in appearance to A. calamifolia. Acacia subulata reaches a height of three metres and is an open shrub. The phyllodes are narrow linear, thick and up to 15 centimetres long. The yellow flowers are globular. Our plants carry blooms throughout the year.

Acacia subulata occurs from Wollemi National Park northwest to the Pilliga Scrub and Inverell, in New South Wales. The species is common in the sandstone country around Warialda NSW.



Acacia subulata – Image from 1813 book

Both these wattles have interesting botanical and horticultural histories. *Acacia calamifolia* was described and illustrated in a United Kingdom nursery publication in 1824. At this time the species was described as: "a NSW native that flowers during most of the year. Plants are elegant in appearance. Propagation is difficult from cuttings. In winter plants need to be protected in greenhouses." The type specimen, of *Acacia subulata*, came from Malmaison, the garden of Napoleon and Josephine, near Paris. This wattle was described and illustrated (see image) in an 1813 book describing the rare plants growing at Malmaison. The original seed was probably collected by a French scientific expedition to Australia.

## Acacia paradoxa

by Warren and Gloria Sheather, Yarrowyck, NSW

When we lived and worked in the Warrumbungle National Park, central NSW, we were pleasantly surprised by the range of wattles that burst into bloom during spring. One species was of particular interest. This rather straggly shrub had pendulous branches and bright yellow, globular, spring flowers. The arresting feature, of this species, was the vicious stipules at the base of each phyllode. The phyllodes are crowded, elliptical, up to three centimetres long with wavy margins. In those distant days the species was known as *Acacia armata* but is now known as *A. paradoxa*. The species has two common names: Kangaroo Thorn and Hedge Wattle.

Acacia paradoxa is widespread in NSW on the slopes and tablelands as well as Victoria, Queensland, South Australia and Western Australia. The species has become naturalised in Tasmania.



Acacia paradoxa – image from 1828

*Acacia paradoxa*, as with many native plants, has an interesting botanical and historical history. Kangaroo Thorn was introduced into the United Kingdom in 1803. The

species appears in two volumes of the *Botanical Cabinet* a periodical published in 20 volumes between 1817 and 1833 by an English nursery. There were 2000 species illustrated with a brief description. The plants were those growing in the nursery and came from all corners of the world. Australian plants, including many Acacias, were well represented.

Acacia paradoxa makes two appearances. In the 1817 volume the species is described as Acacia armata and given the common name "Fortified Acacia" (an apt description). In the 1828 volume the species is described as Acacia ornithophora (see image) and given the common name "Bird-shaped Acacia". The name is said to apply to the phyllode shape. In both the 1817 and 1828 descriptions propagation is by cuttings.

We now fast forward 180 years to the ASG Newsletter 103 where Neil and Wendy Marriott describe finding an *Acacia paradoxa* plant carrying orange flowers on one stem. Cuttings have been grown from the stem and hopefully plants will be available in the fullness of time. "Marmalade Hedge" will be the name of this cultivar.

There we have *Acacia paradoxa* another native plant with an interesting botanical and horticultural history.

#### The Wattles of Bundarra Road

by Warren and Gloria Sheather, Yarrowyck, NSW

Bundarra Road runs west of Armidale on the Northern Tablelands of NSW. The road is about 30 kilometres long and our property, Yallaroo, is 20 kilometres along the road from Armidale.

Over the years we have been impressed by the spring blooming bonanza of the various wattle species that grow along Bundarra Road. We thought it would be interesting to describe the various species growing along the road starting at Armidale and travelling west.

Acacia filicifolia is the most common along the first 15 kilometres west of Armidale. This bipinnate-foliaged wattle in some places forms avenues along the road and in early spring lights up the roadside with typical bright yellow flowers. At about 15 kilometres west the road crosses Tea Tree Creek, a tributary of the Gwydir River. Acacia filicifolia does not extend beyond Tea Tree Creek. This may be due to a change in soil type.

Around the creek there is a population of *Acacia rubida*, the Red-stemmed Wattle. The plants, in this population, have developed into medium shrubs reaching a height of two to three metres. West of Tea Tree Creek there are only scattered individuals.

Acacia viscidula makes an appearance about 15 kilometres west of Armidale and is then present for the remainder of

Bundarra Road. This species usually flowers in early October. Although not the showiest wattle this medium shrub has an upright growth habit, light green foliage and pale yellow flowers. *Acacia viscidula* has regenerated in large numbers on our property since sheep were removed about 20 years ago.



Acacia neriifolia

Photo W & G Sheather

Acacia neriifolia, the Oleander Wattle, is a very showy species in spring. The Oleander Wattle does not occur east of Tea Tree Creek and takes over from Acacia filicifolia. Acacia neriifolia is a tall shrub with grey-green foliage and golden yellow flowers. This species is widespread for the western 15 kilometres of Bundarra Road and has also regenerated prolifically on our place.

Scattered individuals of *Acacia venulosa* also occur along the road's last 15 kilometres but in small numbers.

Acacia implexa, the Hickory Wattle, is found along most Bundarra Road but not in large numbers. The Hickory Wattle does not contribute to the spring display but saves its floral display until late summer and early autumn.

Some sections, of Bundarra Road, have been subjected to extensive roadworks in recent times. This disturbance has had a positive effect on a number of Acacias. The numbers of Acacia implexa, A. neriifolia and A. viscidula plants have increased considerably in disturbed areas.

Perhaps other member of the ASG would like to describe the roadside wattles in their area.

#### **Some New Acacia Selections**

Thanks to **Peter Goldup** for providing some information on some new Acacias he has been developing:

Acacia baileyana 'Gold'n Winter' – This is a smaller form of Acacia baileyana, with a weeping habit. The main distinction of this form is that during Winter all the new growth turns a lovely rich golden colour. Foliage changes back to a grey green colour in spring. It needs a well drained position and can be grown in full sun to dappled shade. This large shrub to small tree grows to 3-4m x 3m and benefits from regular tip pruning to keep it compact and encourage the golden new growth in Winter.

Acacia 'Twilight Glow' – This is a howittii x leprosa seedling. It has rich green foliage similar to leprosa. Profuse ball flowers in mid winter to spring and are a mustard pink colour with yellow tipped stamens. It forms a slim small tree and is very hardy.

Acacia 'Lemon Glow' – A hybrid between A. leprosa 'Scarlet Blaze' and A. howittii (a miniature unreleased form that is around ½ metre high and 1 metre wide. The plant matures into a pendulous medium to large shrub with rich green foliage. It is a prolific flowerer with glowing lemon ball flowers occurring from late winter to early spring.

Acacia cognata 'Gold Cascade' – This has a small compact weeping habit and lovely fine golden foliage. Once fully matured it may display soft ball wattle flowers in late winter to early spring. A. cognata 'Lime Cascade' has weeping fine lime foliage and A. cognata 'Bronze Cascade' has rich lime green foliage with copper tipped new growth.

**Brendon Stahl** has noted that on Channel 7's 'Better Homes and Gardens' on 23 August, Graham Ross promoted the use of wattles and was at the Mt. Annan Botanic Gardens. He mentioned a chance seedling (hybrid) between *Acacia mariae* and *Acacia semilunata* which he said was being trialled and would be released in the future.

#### **Photos of Wattle Places**

I have received a couple of photos of Wattle places. One was from **Jenny Simons**, taken by a friend of hers at Canonleigh in the Southern Highlands of New South Wales. The photo showed the street name, Wattle Flats Road, with flowering trees of *Acacia decurrens* nearby. Unfortunately I had trouble scanning the photo so haven't been able to reproduce it in the Newsletter.

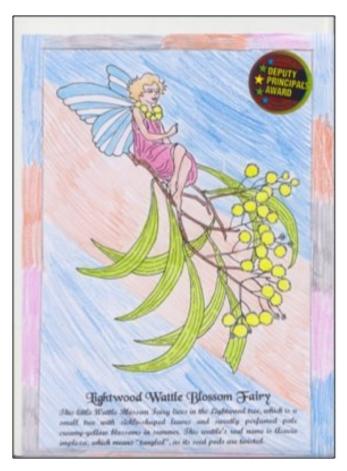
I also received a photo from **Alan Gibb**, taken in Canberra of Acacia Cabins at a Caravan Park.



#### Wattle Blossom Fairies

Congratulations to the students at **Buddina State Primary School** for their drawings of Wattle Blossom Fairies that were displayed at the recent ANPSA Conference. We have shown below three of these drawings, by **Georgia** (Flat Stem Wattle), **Jacee** (Lightwood) and **Annabelle** (Rush-leaf Wattle).







#### **Books**

Australian Trees and Shrubs: Species for Land Rehabilitation and Farm Planting in the Tropics

Editors – John C Doran and John W Turnbull Published by Australian Centre for International Agricultural Research 1997

David Coote (Camberwell. Vic) suggests that this book may be of interest to Study Group members (even though it was published in 1997). After some introductory chapters titled The Australian Environment, Australian Vegetation, Selection of Species and Provenances for Planting, and Seed, Nursery Practice and Establishment, the remainder of the book then provides information in relation to 164 Species, including 78 Acacia species. Information for each species is provided under headings that include Main Attributes, Botanical Name, Common Names, Botanical Features, Natural Occurrence, Climate, Physiography and Soils, Vegetation Type, Utilisation, Silvicultural features, Pests and Diseases, Limitations, Related Species. A significant portion of the book's 394 pages relates to Acacias. The book can be purchased through the ACIAR website (http://aciar.gov.au/) at a price of \$45, or pdf versions can be downloaded free.

#### **Books relating to Amalie Dietrich**

In our previous (June 2013) Newsletter, **Barry Revill** (**Moorabbin, Vic**) referred to his interest in Amalie Dietrich (after whom *Acacia dietrichiana* is named). This reminded **Barbara Henderson (Moore, Qld)** of a book that she purchased in the late 1990's: Brilliant Careers - Women Collectors and Illustrators in Queensland (published by Queensland Museum 1997). This book includes a section on Amalie Dietrich.

Another book that may be of interest is Woman in the Wilderness: The Story of Amalie Dietrich in Australia, a biography written by Dr Ray Sumner (published by UNSW Press, 1993).

### **Seed Bank**

An up to date list of species held in our Seed Bank is included on pages 14 and 15.

Our thanks to **Sue Bendel** who has donated seed to our Seed Bank. Although we do purchase some seed from commercial sources, we also rely upon donations of seed. If you are able to help with any seed donations they would be very welcome (we would ask you to post any donations to Bill Aitchison, who will forward them on to Victoria).

The procedure for requesting seed from the Seed Bank is as follows. Study Group members are entitled to lodge up to 3 orders per member per year, with 18 packets maximum in each order (negotiable). There is a charge of \$2.40 in relation to each order, to cover the cost of a padded post bag and postage. The \$2.40 may be paid in stamps or by direct credit to our Group's bank account. Some members include an additional payment with their annual subscriptions to cover the Seed Bank charge.

Requests for seed may be lodged in either of the following ways:

- By email to our Study Group email address, acaciastudygroup@gmail.com (emails to this address go directly to both Victoria and Bill Aitchison). If you make a request by email, you will also need to make the necessary payment by one of the above methods. If you are paying by stamps, these should be mailed to Bill Aitchison, 13 Conos Court, Donvale, Vic 3111.
- 2. By mail (enclosing stamps if required). These requests should be posted to Bill Aitchison (address as in the previous paragraph). Bill will then advise Victoria of the request.

We would like to maintain some data on your results in propagating seed from the Seed Bank. We would therefore ask if you could provide a report on your results, recording information on species, number of seeds sown, number germinated and days after sowing (refer report from Alan Gibb on page 6 as an example).

## **Study Group Membership**

Acacia Study Group membership for 2013/14 is as follows:

\$7 (newsletter sent by email) \$10 (hardcopy of newsletter posted in Australia) \$20 (hardcopy of newsletter posted overseas) Subscriptions may be sent to: Bill Aitchison 13 Conos Court Donvale, Victoria 3111

Subscriptions may also be paid directly to our Account at

the Bendigo Bank. Account details are:

Account Name: ASGAP Acacia Study Group

BSB: 633-000

Account Number: 130786973

If you pay directly to the Bank Account, please advise us by

email (acaciastudygroup@gmail.com)

ANPSA ACACIA STUDY GROUP FINANCIAL BALANCE SHEET 2012-13				
INCOME	Balance at 1.7.12		\$710.06	
	Members' subs and donations	\$1,126.10		
	Other Income	<u>\$49.80</u>		
	Total Income	\$1,175.90	\$1,175.90	
EXPENSES	Stationery	\$65.48		
	Printing	\$372.00		
	Photocopying	\$296.00		
	Postage	\$221.35		
	Seeds	\$341.35		
	Total Expenses	\$1,296.18	-\$1,296.18	
BALANCE	Balance at 30.6.13		\$589.78	

#### ACACIA STUDY GROUP SEED BANK LIST

#### (current at September 2013)

acanthoclada acinacea acradenia acuaria aculeatissima acuminata acuminata (narrow) adenophora adsurgens adunca aemula ssp aemula aestivalis alata alcockii alleniana amblygona amoena ampliceps anaticeps anceps ancistrocarpa andrewsii aneura var macrocarpa angusta anthochaera aphylla aprepta argyraea argyrophylla arida arrecta ashbyae aspera assimilis atkinsiana attenuata aulacocarpa aulacophylla auriculiformis ausfeldii ayersiana axillaris baeuerlenii baileyana baileyana aurea baileyana prostrate baileyana purpurea bakeri bancroftiorum barattensis barringtonensis haxteri beauverdiana aff beauverdiana beckleri betchei

bidentata

aff bidentata

bidwillii biflora binata binervata binervia bivenosa blakei blakelyi boormanii brachybotrya brachyclada brachystachya brassii brevifolia browniana var browniana var intermedia var endlicheri brownii brumalis brunioides burbidgeae burkittii burrowii buxifolia bynoeana caerulescens caesiella calamifolia calantha calyculata cambagei cana cardiophylla caroleae celastrifolia chamaeleon cheelii chinchillensis chisholmii chrysella chrysocephala cincinnata citrinoviridis clunes-rossei cochlearis cognata colei colletioides cometes complanata concurrens conferta confluens consobrina

coriacea var sericophylla covenyi cowleana craspedocarpa crassa crassicarpa crassiuscula cretata cultriformis cupularis curranii curvata curvinervia cuthbertsonii cyclops cyperophylla dawsonii dealbata ssp dealbata deanei ssp deanei ssp paucijuga debilis declinata decora decurrens deficiens deflexa delphina demissa dempsteri denticulosa dentifera desertorum dictyoneura dictyophleba dielsii dietrichiana difficilis difformis dimidiata diphylla disparrima divergens dodonaeifolia dolichophylla donaldsonii doratoxylon drepanocarpa drummondii ssp affinis ssp candolleana ssp drummondii ssp elegans ssp grossus dunnii elata elegans

empelioclada enervia ssp explicata enterocarpa ephedroides eremaea eremophila var variabilis ericifolia erinacea eriopoda estrophiolata euthycarpa everistii excelsa exilis exocarpoides extensa falcata falciformis farinosa farnesiana fasciculifera fauntleroyi filicifolia filifolia fimbriata flagelliformis flavescens flexifolia flocktoniae floribunda fragilis frigescens gemina genistifolia genistifolia prostrate georginae gilbertii gillii gittinsii gladiiformis glaucescens glaucissima glaucocarpa glaucoptera gnidium gonocarpa gonoclada gonophylla gracilifolia gracillima grandifolia granitica grasbyi gregorii guinetii gunnii

hadrophylla hakeoides halliana hamerslevensis hamiltoniana hammondii handonis harpophylla harveyi hastulata havilandiorum helicophylla hemignosta hemiteles (Goldfields) hemiteles (Wheatbelt) hemsleyi heterochroa ssp heterochroa heteroclita heteroneura hexaneura hilliana hispidula holosericea holotricha horridula howittii hubbardiana huegelii hvaloneura hypophylla hystrix idiomorpha imbricata implexa inaequilatera inaequiloba incurva ingramii inophloia intricata irrorata iteaphylla ixiophylla ixodes jamesiana jennerae jensenii jibberdingensis johnsonii jonesii jucunda julifera iuncifolia kempeana kettlewelliae kybeanensis laccata lanigera

lanuginosa laracina var laracina lasiocalyx lasiocarpa var lasiocarpa var sedifolia lateriticola latescens latisepala lauta lazaridis leichardtii leiocalyx leioderma leiophylla leprosa leptalea leptocarpa leptoclada leptoloba leptoneura leptopetala leptospermoides var leptospermoides leptostachya leucoclada ssp argentifolia ssp leucoclada ligulata (narrow leaf) ligulata prostrate ligustrina limbata limbata prostrate linearifolia lineata lineolata linifolia linophylla littorea loderi longifolia ssp longifolia ssp sophorae longiphyllodinea longispicata longissima longispinea loroloba loxophylla luteola lycopodiifolia lysiphloia mabellae macdonelliensis macnuttiana macradenia maidenii maitlandii mangium

continua

coolgardiensis

ssp coolgardiensis

elongata

## **ACACIA STUDY GROUP SEED BANK LIST 2013 (cont)**

marramamba maslinii maxwellii mearnsii megacephala megalantha meiosperma meisneri melanoxylon melliodora melvillei menzelii merinthophora merrallii microbotrya microcarpa mimica var angusta mimula minutifolia mitchellii moirii ssp moirii var dasycarpa mollifolia montana monticola mooreana mountfordiae mucronata var mucronata var longifolia muelleriana multisiliqua multispicata var multispicata murrayana myrtifolia (NSW) myrtifolia (SA) myrtifolia (VIC) myrtifolia (WA) myrtifolia v angustifolia nana ssp. nana nanodealbata nematophylla

neriifolia grey neriifolia green nervosa neurophylla ssp neurophylla ssp erugata nigricans nodiflora var ferox notabilis nova-anglica nuperrima var cassitera nysophylla obliquinervia obovata obtecta obtusata obtusifolia oldfieldii olsenii omalophylla oncinocarpa oncinophylla oraria orthocarpa orthotricha oshanesii oswaldii oxycedrus oxyclada pachyacra pachycarpa palustris paniculata papyrocarpa paradoxa paraneura parramattensis parvipinnula pataczekii patagiata paucijuga pellita

pendula penninervis pentadenia perangusta peuce phasmoides phlebocarpa phlebopetala pilligaensis pinguiculosa pinguifolia platycarpa plectocarpa plicata podalyriifolia polybotrya polyfolia polystachya praelongata prainii pravissima preissiana prominens pruinocarpa pruinosa ptychoclada ptychophylla pubescens pubicosta pubifolia pulchella var glaberrima var goadbyi var pulchella 'Kamballup Dwarf' pustula pycnantha pycnostachya pyrifolia quadrilateralis quadrimarginea quadrisulcata

racospermoides

ramulosa redolens redolens low form redolens upright resinimarginea restiacea retinodes retinodes (blue leaf) var. uncifolia retivenia rhetinocarpa rhigiophylla rhodophloia riceana rigens rigens broadleaf rivalis rossei rostellifera rotundifolia rothii rubida rupicola ruppii sabulosa saliciformis salicina saligna schinoides scirpifolia sclerophylla var lissophylla var teretiuscula sclerosperma semilunata semirigida semitrullata sessilis sessilispica shirleyi sibina siculiformis signata

silvestris simsii sparsiflora spathulifolia spectabilis sphacelata spinescens spinosissima spondylophylla spongolitica squamata steedmanii stenoptera stereophylla stipuligera striatifolia stowardii stricta strigosa (now browniana) suaveolens subcaerulea subflexuosa subglauca subulata subulosa sulcata var platyphylla sutherlandii synchronicia tanumbirinensis tenuissima teretifolia terminalis tetragonocarpa tetragonophylla tetraptera tindaleae torringtonensis torulosa trachycarpa

trachyphloia translucens tratmaniana trigonophylla trinervata trineura triptera triptycha triquetra tropica trulliformis truncata tumida tysonii ulicifolia ulicina umbellata uncifera uncinata uncinella undoolyana urophylla validinervia varia v parviflora venulosa verniciflua verricula verticillata vestita viscidula victoriae wanyu wattsiana wickhamii wilhelmiana willdenowiana williamsonii xanthina xanthocarpa aff xanthocarpa xiphophylla yorkrakinensis

ssp acrita