



Australian Native Plants Society (Australia) Inc.

ACACIA STUDY GROUP NEWSLETTER

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Contents	Page
From the Leader	1
From Members and Readers	2
Some Notes From Yallaroo	3
Rust Fungi, Endoraecium sp	4
Acacia awestoniana	6
Acacia carneorum	7
New species - Acacia yalwalensis	8
Acacia pendula	9
Pre treatment of Acacia seed	9
Wattle Day at Colac 2015	10
Books	10
Photos of Wattle Places	10
Seed Bank	11
Study Group Membership	11

Note: If you wish to view or download previous Study Group Newsletters, they are available on the Study Group website.

The address is:

<http://anpsa.org.au/acaciaSG>

From The Leader

Dear Members

A tradesperson who was recently doing some work at our place had cause to get up in the roof cavity, and upon doing so immediately noted that there was evidence of animal activity up there. This was no surprise to Sue and me, as we were aware that we have sugar gliders living in the roof. But I was then prompted to look up our reference books to check on what these animals eat, and the first food listed was wattle gum, of which there is no shortage in our garden – just an example of the importance of our native plants, including wattles, to our wildlife.

I was recently also talking to a friend who is a volunteer wildlife carer. She usually has a number of ringtail and brushtail possums in her care, and has to provide browse for these animals. She often uses clippings from wattle trees for this purpose, but she notes that her possums are quite good in differentiating between those species which they like, and those they don't. For example, she finds that her possums like *A. acinacea* and *A. longifolia*, but don't care much for *A. melanoxylon*.

Her possums are more astute in being able to differentiate between different wattles, than one of my human friends, who recently told me quite proudly that he had a wattle in his garden – but thought there is only one wattle, so once you have a wattle, you don't need to grow a second one. He was quite staggered when I told him there are some 1300 different varieties of wattle. I wonder how many other people have the same understanding – that a wattle is just a single plant.

I hope you enjoy reading this Newsletter. Thanks to all those who have contributed to it. Note that contributions for our June newsletter should be with me by 1 June.
Bill Aitchison

From Members and Readers

Doug White (Longwood, Vic) sadly lost his house and garden in a bush fire shortly before Christmas. Doug advises that most wattles perished but he hopes for some seedlings when the rains come. Some wattles did survive and some regeneration has occurred quite remarkably. Our thoughts are with Doug in this difficult time.

Des Nelson (Alice Springs, NT) writes (1 February 2015) as follows:

“On the local scene, my self sown (or more likely bird sown) *Acacia salicina* has invaded our nearby vegetable patch and a flower garden by means of suckers from adventitious roots. They are easily removed but I have left one to develop to maturity. Our *Acacia murrayana* trees produce offspring from suckers fairly profusely. They are well known as Colony Wattle as they will give rise to close clonal groups. What is interesting is that the *A. salicina* seeks moist areas but *A. murrayana* prefers to put its shoots up in dry, open, bare places. Our major species, *A. kempeana*, Witchetty Bush, develops long lateral roots but shoots don't rise from these. Our Mulgas, *A. aneura*, at present flowering profusely, and our Ironwood, *A. estrophiolata* do not propagate via root suckers.

I note frequent references to the method of nicking or chipping *Acacia* seeds to facilitate germination. In nature, what prepares the hard coated seeds in like manner? Fire certainly in some circumstances but in our area are large areas free from burning over long periods. Frost may damage the seed coat but I have the idea that more injury is done by insects but in particular, termites.

There are perhaps 50 species of termite within a 100km radius of Alice Springs. They are very abundant, both dead-wood eaters and a number which harvest dry grass and debris. The prominent species of the latter is *Amitermes viitosus* which in places builds a large number of erect mounds around 1m -1½m in height. Also prevalent are the larger *Drepanotermes* spp. which build slab like structures, sometimes with low elevation. The tunnels of these species are lined with short pieces of grass stem but may also contain lesser amounts of other vegetative material. Some wood eaters such as *Microcerotermes* spp. also feed among debris and litter. Termites would well be able to “nick” *Acacia* seeds. Further north the very voracious *Mastotermes darwiniensis*, a very large termite would cope with any seed surface. Legend has it that if you stand still for a while where these insects abound, they will start eating your shoes.

Another parameter to be considered are the very high ground temperatures in summertimes. Prolonged soil surface temperatures may serve as an equivalent to the propagator's hot water treatment.”

Len Hubbard (Chinchilla, Qld) advises (4 February 2015) that since 4 December his local area has received in excess of 12 inches of rain, spread out over this time. Plenty of green everywhere. He and Joan found a few days during their holidays to check out the local *Acacias* on Bunya Mountains and at Burrum Heads - Hervey Bay area.

In 2006, a selection of *Acacia* species were propagated for sale at the FJC Rogers Seminar held in Melbourne on the subject of Knowing and Growing Australian Wattles. One of the species propagated was *Acacia phlebopetala*. **Dan Murphy** bought one of these seedlings at the Conference and planted it in his garden. He has now (10 February 2015) provided the following report on this plant:

“Unfortunately I had to remove it this week and reduce the *Acacia* biodiversity in my garden! It had formed a nice healthy low growing shrub but it produces and drops sharply pungent phyllodes. These sometimes remained on dried branchlets where they could pack a powerful punch if picked up or stepped on, but even individual dried phyllodes are slightly curved and nasty if stepped on with bare feet. Over time these little nasties had worked their way around our backyard, and I had planted it near what later became the only place we could fit our kids' trampoline. It was definitely not suitable for this sort of situation, near a lawn or where kids play without shoes.

Thought you might be interested in the fate of a plant from the conference, even if negative.

Acacia triptera is also not favoured by the kids but at least it retains any sharp foliage on the plant and is very showy.”

Peter Cox (Garfield, Vic) has asked a general question about native plants. If you get seed from a prostrate form of a plant, Peter would like to know what percentage of the seedlings will be prostrate plants? He notes that he cannot get an answer from anyone that he has asked. He currently has some seed from a prostrate eucalypt, and is wondering what percentage of the seedlings will be prostrate, but he is also keen to know about seedlings grown from prostrate *Acacias*.

Mark Hewitson (Dee Why, NSW) refers to our Newsletter No. 97 in which there was a reference to the secretion of nectar from glands on *Acacias*. Mark has been observing his own *Acacias* and comments as follows:

“I noticed on my *A. terminalis* ssp. *terminalis* that one of them had a small caterpillar on it, eating some bipinnate leaf. It was only on a single branch, and that particular branch was the only one secreting nectar out of its gland. This was the only plant of the lot that had any predators on it, and the only one that had secreted any nectar.



Acacia terminalis nectar

Photo: M Hewitson

On another note, one of my *A. acuminata* is secreting nectar out of almost ALL of its glands. (I let the wife and kids taste some of it by pressing their tongue on the glands. mmmmm... like honeysuckles!) Interestingly, this is the only one of my *A. acuminata* that is secreting nectar. And by and large it's quite a healthy plant with no predators found, no stress etc...



Acacia acuminata nectar

Photo: M Hewitson

I planted 4 *A. terminalis* in the bush area running along Artarmon train station 2 weeks ago... I'll get some photos later, they are doing quite well.

A. terminalis_ssp. terminalis is the fastest growing acacia I have dealt with so far, although it seems to drop lower leaves and branches almost as fast as new ones grow.

Some Notes from Yallaroo

by Warren and Gloria Sheather, Yarrowyck, NSW

Acacia leptoclada

This attractive, spreading shrub is a native of northern New South Wales. The common name is Tingha Golden Wattle.

Tingha is a village near Inverell on the Northern Tablelands of NSW. One of the strongholds, of *Acacia leptoclada*, is the Goonowigall State Conservation Area. This large, bushland area protects a range of interesting native plants including *A. leptoclada* and is situated near Inverell.



Acacia leptoclada

Photo: W and G Sheather

A. leptoclada reaches a height of three to four metres in the wild. We find that with light pruning specimens attain a compact height of two metres.

Bark is smooth, grey or greenish brown. The bipinnate foliage is fine and feathery with small leaflets. In mid spring plants become covered with large, globular, golden yellow flower heads. The common name is very apt. The pods are linear and up to 70 millimetres long.

Acacia leptoclada would be an ideal shrub to slot into a native shrubbery. In spring its golden flowers will light up that part of the garden.



Acacia leptoclada cuttings

Photo: W and G Sheather

We have been interested in propagating wattles from cuttings and have had some success with those with phyllodes. We tried cuttings of the bipinnate *Acacia*

leptoclada and were very happy with the result. Cuttings produced roots rapidly and in large numbers (see photo). Fortunately cutting propagation is possible because although our plant bloomed bounteously no pods were produced.

Recent Purchases

The two rival, large hardware companies, Bunnings and Masters, both stock a range of native plants in their nurseries. Many of these plants are unusual and reasonably priced.

Two purchases of particular interest, from a Master's store, were *Acacia drummondii* and *Acacia guinetii*. They are both Western Australian wattles. *Acacia drummondii* is well known in cultivation although this is our first attempt at cultivating the species. The same applies to *Acacia guinetii*.

Both species have small bipinnate foliage similar in appearance to the foliage of *Acacia leptoclada* and develop into small to medium shrubs. *Acacia drummondii* has rod-shaped, golden yellow flower heads up to two centimetres long. *Acacia guinetii* has yellow, globular flower heads. Both species flower in spring. *Acacia guinetii* has limited distribution and is found north of Geraldton.

Acacia guinetii is probably the only wattle that has featured on the ABC's 7.30 TV programme. Back in the 1990's a Western Australian farmer was trying to obtain funds from the WA government to fence off a population of *Acacia guinetii* so he could farm the area around the wattles. The ABC took up his story. Unfortunately we cannot remember the outcome of his battle.

We now return to things horticultural. Cuttings were taken from both wattles and within a month or so both species produced satisfying roots. Cuttings took root as rapidly as *Acacia leptoclada* mentioned above.

The cuttings, of the three wattles, were dipped in red Clonex hormone gel, put in seed/cutting raising mix and placed under intermittent mist with bottom heating at 25 degrees. Struck cuttings were potted on into native tubes in reasonable potting mix. In future this will be our preferred method of propagation for the three species.

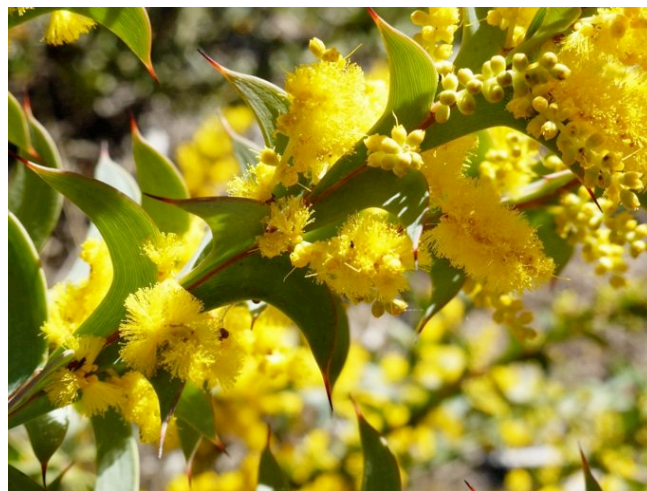
Acacia triptera

This sprawling, dense species is known as the Spurwing Wattle. The phyllodes have a sharp point and winged appearance, this is because the phyllodes are decurrent (forming a winged appearance with the stems). The spring flower heads are rod-shaped, bright yellow and are carried for a few weeks.

Small birds will thank you if you have room to cultivate this

handsomely prickly native. The prickly growth creates excellent nesting sites. The Spurwing Wattle occurs in Queensland, NSW and Victoria. In some places, on the Northern Tablelands of NSW, this species forms impenetrable thickets.

Acacia triptera, because of its very prickly foliage, would not be suitable for suburban gardens but would be ideal for rural properties. Propagate from seed.



Acacia triptera

Photo: W and G Sheather

Rust Fungi on Acacias – *Endoraecium* sp.

by Bill Aitchison

Probably the most well known rust fungus found on *Acacia* species in Australia is *Uromycladium tepperianum* (this being one of a number of *Uromycladium* species found in Australia). This has been recorded on many species of *Acacia* and typically induces galls on phyllodes, stems, flowers and seed pods.

There are, however, other genera of rust fungi, one of which is *Endoraecium*. Until recently, there had been seven species of *Endoraecium* described from Australia, but a further nine new species have recently been described, giving a current total of 16 Australian species (in addition to these Australian species, there is one in South-East Asia and five in Hawaii).

Species of *Endoraecium* infect only *Acacia* sp. and produce a range of symptoms that include bullate swellings or pulvinate sori on phyllodes, or galls and witches' brooms on stems. Each species of *Endoraecium* has either a single *Acacia* host species, or a very limited number of host species.

The 16 currently described Australian species of *Endoraecium* are listed below:

Endoraecium auriculiforme - Host is *A. auriculiformis*.

E. bicinctum - Host is *A. fasciculifera*.

E. carnegiei - This is one of three species that form galls on the stems of its host, and is only known to occur on *A. dealbata* in south eastern Australia.

E. digitatum - Host is *A. notabilis*. It forms galls on the stems of its host.

E. disparrimum - Host is *A. disparrima*.

E. falciforme - Host is *A. falciformis* (on phyllodes and fruit). Recorded in south-east Qld.

E. irroratum - Host is *A. irrorata*. It forms galls on the stems of its host.

E. maslinii - This is the only species of *Endoraecium* known from WA. It is found on phyllodes of *A. daphnifolia*. It is named in honour of Bruce Maslin, who assisted in identifying many *Acacia* species in the study of this rust.

E. parvum - Host is *A. leiocalyx*.

E. peggii - Host is *A. holosericea* (from northern Australia). The rust was also collected in south east Qld on a plant in the Mt Coot-tha Botanic Gardens.

E. phyllodiorum - Host is *A. aulacocarpa*.

E. podalyriifolium - Host is *A. podalyriifolia*.

E. tierneyi - Host is *A. harpophylla*.

E. tropicum - Host is *A. tropica* (in the NT and NW Qld).

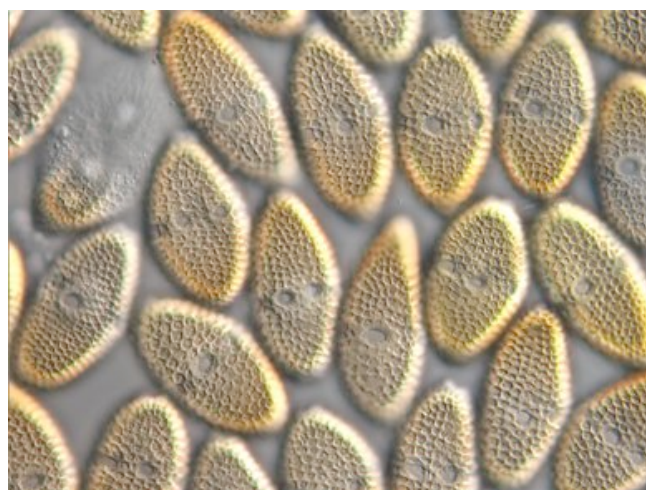
E. violae-faustiae - Hosts in northern parts of Australia are *A. aulacocarpa*, *A. crassicarpa* and *A. difficilis*.

E. walkerianum - This is found in southern Australia. Hosts are *A. penninervis* and *A. obliquinervis*.

My thanks to Alistair McTaggart for providing the images accompanying this article. Alistair points out that these rusts are very important pathogens on *Acacia* (both from a point of view of biological control and forestry wise). It is predicted that many new species of *Endoraecium*, which have diversified by coevolution with their *Acacia* hosts, remain to be found in Australia. Whilst *Uromycladium* is very important, *Endoraecium* may be an upcoming pathogen, especially on bipinnate species of *Acacia*.



Endoraecium podalyriifolium on *A. podalyriifolia*



Urediniospores of *Endoraecium maslinii*

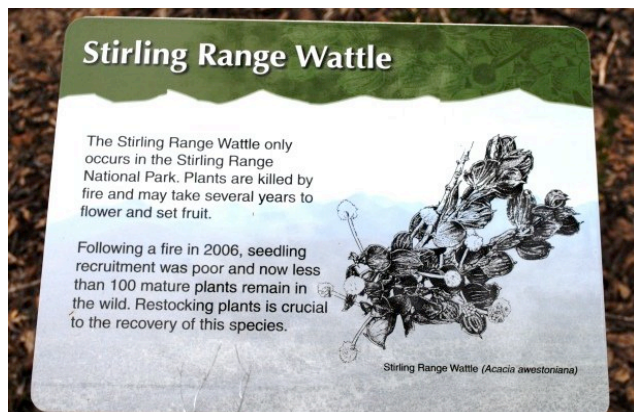
Note: As noted above, without doubt there are many new species of *Acacia* rusts to be found. If you see rust fungi on an *Acacia*, you are most welcome to contact Dr Roger Shivas, who is Curator of the Queensland Plant Pathology Herbarium in Brisbane (contact roger.shivas@daf.qld.gov.au) and to possibly deposit a specimen. The following website is an excellent resource: <http://collections.daff.qld.gov.au/web/key/rustfungi/Media/Html/browse.html>. This website contains images and keys for the identification of over 100 rust fungi and is constantly updated as new rusts are collected. It is a fantastic starting point for people interested in collecting or identifying rust fungi.

Reference:

McTaggart AR, Doungsa-ard, C, Geering ADW, Aime MC and Shivas RG 2015. A co-evolutionary relationship exists between *Endoraecium* (*Pucciniales*) and its *Acacia* hosts in Australia *Persoonia* 35: 50-62.

Acacia awestoniana

Acacia awestoniana is a Critically Endangered species found only in two small populations in the Stirling Range National Park in WA. It has experienced a rapid decline in population size since 1996, most probably related to a combination of natural senescence and poor recruitment after fire. In 1996 there were approximately 2,300 mature plants found in the two populations, whereas in 2013 there remained a total of 77 mature plants and 337 juveniles. Significantly, a fire in 2006 killed 98% of mature plants in one of the populations. Although there was substantial seedling recruitment after the fire, many seedlings were heavily grazed by rabbits and/or kangaroos.



Interpretive Sign

This particular species is one of 33 threatened *Acacia* species in WA (15 of which are classified as Critically Endangered, 7 as Endangered and 11 as Vulnerable).

In an effort to save these species from extinction, the Department of Parks and Wildlife in WA has, since 1998, been undertaking a program of translocations of threatened flora. To date, seven *Acacia* species have been translocated, including *A. awestoniana* (other genera are also included in this program).



Volunteer planting seedlings, 2010

The translocation process involved collecting seeds from one of the populations (population 2). These seeds were then germinated, and the resultant seedlings were planted out in an area adjacent to population 1.

Christine Allen has recently completed a thesis presented for the degree of Doctor of Philosophy at the University of Western Australia, in which she has presented the results of her research into the factors that influence successful seedling establishment of this species (her research also covered a species of *Banksia*, *B. ionthocarpa* ssp. *ionthocarpa*). Christine worked in collaboration with the Department to set up the relocation in 2010 and then monitored survival and growth of the species for 2 years.

The translocation of *A. awestoniana* during the early establishment stages was quite successful, with 81% of seedlings surviving at the end of a 2 year monitoring period. The research came to the following conclusions in relation to factors that are important:

- (1) Seedling size at transplant – in dry environments, seedlings with a larger root size are more likely to explore deeper soil layers for moisture faster thereby avoiding desiccation. In fact, the age of seedlings at planting was the most important variable affecting survival, with larger seedlings having greater survival and growth compared to smaller seedlings.
- (2) Planting seedlings in potting mix “plugs” is much faster and reduces the chance of root breakage during planting compared with planting seedlings with bare roots, which subsequently improves initial survival and growth.
- (3) Watering – Different watering regimes (watering over summer only) were trialled in relation to the seedlings. It was found that weekly watering over the first summer had a strong positive effect on seedling height compared to monthly watering and no watering treatments (the weekly watering applied 1 litre per seedling per week via a drip irrigation system, the monthly watering was done manually with the equivalent of 1 litre per week per seedling being spread slowly to each seedling). However, at the end of a 2 year period, the watering treatments did not have a significant influence on the overall survival of the seedlings.
- (4) Microhabitat – The seedlings were planted in *Eucalyptus wandoo* woodlands, and the research investigated whether those seedlings planted in gaps between the trees experienced different survival and growth rates compared to those planted under trees. In most comparisons, seedlings placed under the trees were slightly smaller - perhaps due to competition for water and nutrients with the overstorey trees, or possibly

lower light levels under the canopy or higher rates of herbivory in shaded areas.

- (5) Herbivores – The exclusion of herbivores (eg rabbits, kangaroos) is important in seedling survival (at one site where both newly established *Acacia* and *Banksia* species were investigated, the *Acacia* species were preferred by herbivores over *Banksia* species – these were not *A. awestoniana* though but a different set of species)).

If you are interested in reading Christine’s thesis, it is available on the Internet (http://research-repository.uwa.edu.au/files/4307707/Allen_Christine_2014.pdf), and is written in a very readable form.

Reference:

Understanding the factors that influence seedling establishment to improve the success of threatened species translocations in the Mediterranean-climate region of southwest Australia, by Christine Allen. (Thesis presented for the degree of Doctor of Philosophy The University of Western Australia 2014)

Acacia carneorum

Last November, **Alan Gibb**, who lives at Bobinawarrah in north eastern Victoria, made a trip to Broken Hill, about 850km away, so a round trip of 1700km. Alan’s reason for making this trip was to find *Acacia loderi*, which grows near Broken Hill. He successfully accomplished this objective. But that is a story for another day.

Whilst in Broken Hill, Alan decided that it was a great opportunity to look for *Acacia carneorum*, a species that he had never previously seen growing in the wild. He made some enquiries in Broken Hill and was delighted to meet a native plant enthusiast who was able to direct him to two locations where it is growing. The first of these was an area about 50km south of Broken Hill, with a healthy population covering at least 2 acres. Alan noted that in this population there were a lot of plants about 1m high, presumably all of a similar age. The second location was near Silverton, about 20km west of Broken Hill. This was only a small patch, over about 100m.

It is not only Alan who has had an interest in this species. In some recent correspondence with **Marion Simmons** (Laguna, Tas), Marion advises that back in about 2002, she and John were in Broken Hill, and visited Thackaringa Station, about 41km south west of Broken Hill. They were shown around part of the property by David Lord and family, and were shown *A. carneorum*, which is a long established plant on the property. They were also given a copy of a large report titled “The Impact of Rabbit Grazing on Sucker Recruitment of the Threatened Species Purple-wood Wattle (*Acacia carnei*)”. This paper included a description of this species, as follows:

“*Acacia carnei* is a small shrub or tree growing to 4 metres in height on sand dunes, level sandy sites or alluvial and aeolian accumulations along watercourses. It is limited to the Broken Hill region of New South Wales and the north east pastoral zone of South Australia. Mature trees can vary in age from 180- to 300 years. The species flowers in autumn, winter and spring, however flowering is very infrequent as it depends on rainfall. Generally seed viability is very low and seedling recruitments are rare. The production of vegetative suckers is more common, however these are generally lost to grazing by rabbits. Rabbits not only prevent regeneration, but they actively build warrens under adult plants, which may cause the plants to collapse and die (Auld 1992). *A. carnei* has a vulnerable status according to Schedule 2 of the Threatened Species Conservation Act 1995. The reason for this listing is that rabbits have prevented the regeneration of the species.”



Acacia carneorum at Boolcoomatta Reserve Photo T Blake

Another person who has had an interest in this species is **Trevor Blake**. Trevor recalls seeing it growing on Boolcoomatta Reserve, a Bush Heritage property about 100km west of Broken Hill, across the border into SA. Here it was growing as a thick stand on sand dunes, the plants being about 2.5m high and 2-3m wide. Trevor remembers how prickly the plants were.

More recently, this species has been the subject of extensive research. This research has shown that the species occurs as a set of small, spatially isolated populations. Whilst regular flowering occurs, only two populations set seed. The populations are typically highly clonal and reproduce mainly through suckering, and lack genetic diversity. It has also been found that the reproduction that has occurred over the past 150 years has not been very successful, due to the impacts of agriculture, including land clearing, changed water regimes and the introduction of grazing animals and of climate change.

This species is noted for its deep purple heartwood and is valued by wood turners.



Acacia carneorum purple wood

Photo: Alan Gibb



Acacia carneorum at AALBG

Photo B Haase

Cultivation

From a few enquiries that I have made, my impression is that this species is rarely cultivated. No doubt, one reason for this is the difficulty of getting propagating material. It does not commonly set seed, so growing from seed is problematic. Alan Gibb suggests that the plant is such that growing from stem cuttings would be very difficult, and the most viable means of propagation would be via root cuttings.

Another reason for its lack of cultivation (according to one person I spoke to) is simply because it is so viciously prickly that it is just not suitable for a home garden (although it would be good habitat for small birds).

The only place where I am aware it is being cultivated is in the Australian Arid Lands Botanic Garden at Port Augusta in South Australia. **Bernie Haase** has kindly provided the following information on the plants growing at the Gardens.

“In reply to your request for information on the *Acacia carneorum* plants growing in the Australian Arid Lands Botanic Garden. We have four plants growing and looking healthy in three different areas of our mixed plantings areas. The records show that two were planted on the 3rd of March 1997, in garden bed 3a. I collected them just east of Olary along the railway line where graders had cleared a track and suckers were growing up on the track. I dug up several suckers and two survived and are now growing in the garden. These plants are our largest, 2m high and about 2.5m in diameter. Both have flowered profusely for a few years now but never set any seed. I have noticed that the flowers are attacked by a virus or minute bug and die after they would have been pollinated, turning brown and staying on the plant for a long time.

The other three plants were given to us by a station owner at Pinery Hill and collected at Trig Dam, south of Cockburn. He told us that they were grown from seed he had collected. One was planted on the 14th of August 1998, in bed 4b and two planted on the 10th of September 1998, in bed 2d, unfortunately one of these has died. These plants are smaller than the ones collected as suckers, about 1m by 1m and have not flowered yet. The two oldest and largest plants are growing in sandy soil (3a) and the other two are growing in sand over loam (2d) and loam (4b), all in alkaline soil, pH 8 – 9. They are all on drip irrigation with four litre/ hr. drippers watering for two hours, twice a week, but we do have problems with blocking drippers and timers. One of the sucker collected plants has sent out a sucker itself, but it had to be removed because it had come up in a track next to it. It was transplanted but did not survive.”

Have any members had experience in growing this species?

Note: This species was originally called *A. carnei*. However, because it is named in honour of a father and son (Joseph Edmund Carne and Walter Mervyn Carne, the correct epithet is the plural form in –orum. Hence, it is now correctly called *A. carneorum*. A similar situation has occurred with *A. havilandiorum* (previously incorrectly called *A. havilandii*) and *A. bancroftiorum* (previously incorrectly called *A. bancroftii*).

Reference:

O'Brien EK, Denham AJ, Ayre DJ (2014) Patterns of genotypic diversity suggest a long history of clonality and population isolation in the Australian arid zone shrub *Acacia carneorum*. *Plant Ecology* 215:55-71

New Species *Acacia yalwalensis*

Acacia oshanesii is a species found in north eastern NSW and south east Queensland, and it was previously believed that there was a southern variant of this species, along the south coast of NSW about 450-500 km from north eastern NSW. The southern variant has now been determined to be a separate species, and this has been named as *Acacia yalwalensis*.

A. yalwalensis is a shrub or tree to 9m or more higher (and up to 20m), often with pendulous branches. It has bipinnate foliage, dark green above and paler green below. Globular flower heads occur in terminal and axillary racemes and panicles.

It is a rare species and should be considered as vulnerable, as although occurring in Morton National Park, it has a restricted distribution (less than 100km).

Reference:

Kodela PG (2015) *Acacia yalwalensis* (Fabaceae, Mimosoideae sect. Botrycephalae), a new species from the South Coast of New South Wales, Australia *Telopea* 18: 27-31

Acacia pendula

Endangered or a weed? *Acacia pendula* is the most legislatively protected plant species in the Hunter Valley in NSW, being listed under state legislation as an Endangered Population and as a component of two Endangered Ecological Communities. However, in a recent paper published in the journal *Cunninghamia*, it is suggested that there is a strong circumstantial case that this species was either intentionally or accidentally introduced to the region.

In coming to this conclusion, the authors examined the writings of early Australian explorers, herbarium and database records, and the species habitat attributes across NSW. This led to the conclusion that the species was absent from the Hunter Valley at the time of European settlement. It is suggested that there is now an urgent need for genetic studies to clarify the origins of the current Hunter Valley stands. A consequence of this could be that the status of this species in the Hunter Valley changes from being classified as a species of high conservation status to being recognized as an introduced woody weed.

Reference:

Bell, S. & Driscoll, C. (2014) Doubts over *Acacia pendula* populations in the Hunter Valley. *Cunninghamia* 14: 179-200

Note: I believe that some Acacia Study Group members have had difficulty trying to get seeds of *Acacia pendula* to germinate. In their paper, Bell and Driscoll refer to some research done by Ghassali and others in 2012 in relation to pre-treatment methods to induce germination in 14 species of *Acacia* (4 techniques were investigated, being water, boiling water, sulphuric acid and mechanical scarification). One of the species investigated was *A. pendula*. In relation to this species, it was found that mechanical scarification produced the highest germination rate. They also refer to an earlier 2007 study that showed that treatment by boiling water resulted in only 15% germination success.

Pre-treatment of Acacia seeds

In our Newsletter there are frequent references to pre-treatment of the hard coated Acacia seeds before sowing, in order to enable germination to occur. One of our members asked for some advice on how to go about this, and in particular how to “nick” seeds – “nicking” being one of the pre-treatment methods often referred to.

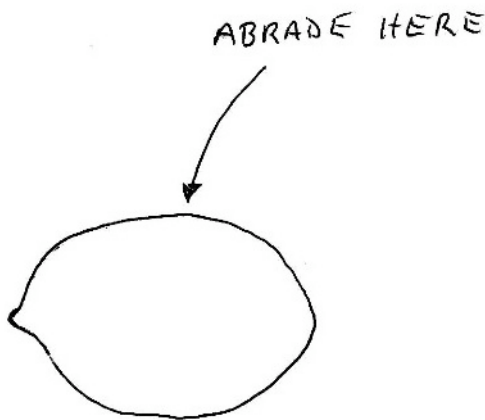
We asked three of our experienced propagator members for any hints that they could offer in this regard.

Alan Gibb (Bobinawarrah, Vic) previously worked in the propagation area of a nursery, and advises that at the nursery, they used hot water treatment on their Acacia seeds. This was the preferred method because of the volume of seeds and plants being propagated. However, Alan is now propagating as a hobby and to meet his own garden requirements, so the volume of seeds involved is small. He now invariably applies the “nicking” technique – this is much more time consuming than treating with hot water, but quite manageable where dealing with only a small number of seeds.

Alan’s first advice with this technique is to not cut your finger. He uses the sharpest knife that he has got, a small peeling knife, about the size of a pocket knife but a lot sharper. He then nicks the rounded end of the seed (not the pointy end where the funicle is), and that is all he does – no hot water soaking at all. In doing this, try to hold the seed with your finger nail. Bigger seed is easier than smaller seed, but he also uses the same approach with small seed. One of the smallest seeds that he has nicked recently is the seed obtained from our Seed Bank labelled as *Acacia* sp. Hollands Rock. This seed was very small and he wasn’t sure that it was viable, but he now has 2 small seedlings growing.

Alan makes the general observation that a lot of outback species have a very hard seed coat.

Phil Price (Jamison, ACT) advises that for any seed big enough to hold between thumb and forefinger, his preference is to abrade the seed. He finds some seed too brittle to nick (*Acacia peuce* is an example), and with thin and flat seeds he worries about the effect of multiple doses of boiling water (one dose is rarely enough for many seeds). As per his rough drawing below, he holds the seed and rubs one of the long sides on a fine emery or sand paper, 250-320 grade, until he can see a white patch (means you are through the seed coat) or even green (means you have gone through to the cotyledons). He then leaves the treated seeds on a damp paper towel overnight to check they have swelled, then plant into a fairly open potting mix (he uses one with about 15% perlite to open it up and ensure good drainage).



Joe Wilson (Donvale, Vic) previously ran his own native plant nursery, but is now retired and propagates for his own garden and as part of some volunteer work.

He advises that, in order, his first preference is to abrade Acacia seeds with a medium – coarse sand paper, secondly to use hot water treatment, and thirdly to nick the seeds. When he does nick the seeds, he uses the sort of knife available from an office stationer (eg Officeworks), and uses one with snap off blades. He finds it easier to control the seed if he puts it on a piece of tissue paper, and then holds the seed down with a finger. He advises that you should never nick wet seeds.

Wattle Day at Colac Botanic Gardens 1 September 2015

The Colac Botanic Gardens in Victoria are celebrating 150 years this year, and Brendon Stahl tells us about some of the Wattle Day Celebrations they have planned.

APS Colac/Otway Group have potted up 760 various wattles to give away free to anyone who attends the “Wattle Day” celebrations at the Colac Botanic Gardens on September 1st 2015.

I had propagated the wattles and we had two potting up days where we potted up the 760 wattles.

The species were *acinacea*, *alata*, *aphylla*, *boormanii*, *buxifolia*, *cultriformis*, *cyclops*, *drummondii* ssp *affinis*, *drummondii*, *elegans* and *grossus*, *lanigera*, *genistifolia*, *glaucoptera*, *guinettii*, *iteaphylla*, *mucronata*, *myrtifolia*, *provincialis*, *stricta*, and *verniciiflua*.

We concentrated in the main on smaller growing wattles that would fit in smaller properties.

The APS Colac/Otway Group is also combining with the Friends of the Colac Botanic Gardens to conduct a talk about Acacias, and have a “Walk and Talk” about the Gardens, and also hand out the Acacias we have propagated.

Books

Australian Plants for Canberra region gardens and other cool climate areas

By ANPS Canberra Region Inc
5th edition 2015, 372 pages, RRP \$30

This is the 5th edition (extensively revised) of a book originally published in 1973. It includes illustrations and descriptions of 934 species suited for growing in cool climate areas such as Canberra. According to my calculation, there are 61 *Acacia* species included (plus a number of additional selected forms and cultivars).

Our Study Group provided a number of photos from our Photo Library that have been included in the book.

Canberra’s climate is characterised by cold winters with many frosts, and hot summers, and about 600mm of rain each year. Most Canberra soils are clay or clay loam, often poorly drained.

Last year David Hockings’ book **Pests, Diseases and Beneficials** was published. Recently two more books on similar subjects have been published, both of which include numerous references to wattles. These new books are:

Garden Pests, Diseases & Good Bugs

By Denis Crawford

Published by ABC Books 2015, 464 pages, RRP \$39.99

Pests, Diseases, Ailments and Allies of Australian Plants

By David L Jones, W Rodger Elliot and Sandra R Jones

Published by Reed New Holland 2015, 448 pages, RRP \$45

One of our Study Group members came across a book that can be freely downloaded from the Internet. The book is the Field Guide to Trees and Shrubs of Eastern Queensland Oil and Gas Fields. Descriptions and notes are included for about 28 species of Acacia. This 322 page book was published in 2007. The web reference is https://www.santos.com/library/Santos_Old_Field_Guide.pdf.

Photos of Wattle Places

This month’s Photo of a Wattle Place has been provided by **Warwick and Shirley Daniels (Wanniassa, ACT)**. Last October they were holidaying in Tasmania, and took the photo of a sign advertising a Function and Conference Centre in Port Sorell. They suggest that maybe the sign would indicate that either wattles are easier to paint than banksias, or have a higher profile.



Seed Bank

An up to date list of species held in our Seed Bank was included in Newsletter No. 126 (September 2014).

Our thanks to Len and Joan Hubbard and Joe Wilson for recent donations to the Seed Bank.

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 \$3 in relation to each order, to cover the cost of a padded post bag and postage. The \$3 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:

1. 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.

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). It also helps enormously if you are able to clean, sort and label the seed correctly. Also, we would like to have provenance information for all seed in the seed bank – so if you donate

any seed, could you also provide any information you have in relation to provenance.

Inevitably, we seem to accumulate excess stocks of some species, but for other species we struggle to source stock. Victoria has been compiling a list of species for which we would appreciate donations to the Seed Bank – these being species where we have either no seed or minimal seed. To date, she has produced a list of species A to M – if you can help with any of these species, that would be greatly appreciated.

<i>aemula</i>	<i>dolichophylla</i>
<i>alpina</i>	<i>drummondii</i> ssp <i>candolleana</i>
<i>ashbyae</i>	<i>enervia</i> ssp <i>explicata</i>
<i>atkinsiana</i>	<i>eremaea</i>
<i>aulacophylla</i>	<i>erinacea</i>
<i>baeuerlenii</i>	<i>glandulicarpa</i>
<i>bakeri</i>	<i>gonophylla</i>
<i>barattensis</i>	<i>heterochroa</i>
<i>beckleri</i>	<i>horridula</i>
<i>biflora</i>	<i>idiomorpha</i>
<i>cambagei</i>	<i>inaequiloba</i>
<i>cana</i>	<i>kempeana</i>
<i>chinchillensis</i>	<i>latipes</i>
<i>citrinoviridis</i>	<i>latisepala</i>
<i>confluens</i>	<i>lazaridis</i>
<i>cyperophylla</i>	<i>leichhardtii</i>
<i>delphina</i>	<i>longispinea</i>
<i>demissa</i>	<i>lunata</i>
<i>dimidiata</i>	<i>lycopodiifolia</i>

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.

Study Group Membership

Acacia Study Group membership for 2014/15 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).