



Acacia brunioides

Australian Native Plants Society (Australia) Inc.

ACACIA STUDY GROUP NEWSLETTER

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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

As I write this short message in December, typically for this time of year there are few wattles in flower in our garden – *Acacia implexa* and *A. muelleriana* are the two exceptions, together with just a few flowers on *A. deanei*. But at this time of year, it is never the wattle flowers that create the interest, but rather the seeds that have matured.

There are always some interesting observations in relation to seeds. For example, I find it interesting that seeds from last year's flowering of both *A. implexa* and *A. muelleriana* mature at the same time as this year's flowering, so they have taken close to a year to come to maturity. In relation to *A. implexa*, there has been a carpet of seeds lying on the ground underneath the trees – but then when one looks into the canopy of the trees, noisy rainbow lorikeets are obviously enjoying the seeds, at least their white fleshy arils. The hard coated seeds themselves, without any arils and totally extracted from their seed pods, are lying on the ground and the conspicuous result of the lorikeets' activity.

Another observation is that while most wattles in the garden seeded well this year, one that produced almost no seeds was *Acacia acinacea* – we have a number of these plants that in other years have produced copious quantities of seed – but for some reason, not this year.

The above references to seeds brings me to note that on pages 12 and 13 of this newsletter, there is an updated list of species held in our Study Group seed bank. Our thanks to Victoria Tanner who continues to look after our seed bank and provide this ongoing service to members.

Bill Aitchison

Welcome

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

Sean Walsh, Vic

From Members and Readers

Sandra McKenzie (Moonta Bay, SA) advises that the APS Northern Yorke Peninsula Group is holding its annual plant sale on Saturday 12 May, from 10am to 3pm at the Kadina Showgrounds Exhibition Hall. A large range of plants will be available including several species growing on Yorke Peninsula. All plants have been grown in South Australia. Apart from the plant sales, there will also be plant associated stalls, children's activities and books. Light refreshments will also be available.

I am sure that some of you will have your own channels of communication through which you could publicise this plant sale, and this would be greatly appreciated by the APS Northern Yorke Peninsula Group members.

In our previous newsletter (No. 138, September 2017), reference was made to **Max Kerr's** query regarding confusion caused by different common names applied to Acacia species. One of the common names that Max referred to was Balah – and I noted that I couldn't find this listed anywhere as a common name for an Acacia.

The only feedback that I received to Max's question regarding the name "Balah" came from **Eleanor Handreck** (who is the APS SA Study Group Liaison Officer). Eleanor wrote as follows:

"I have an explanation for your problem with finding "balah" as a common name for an acacia. I think that the problem is that the word should be "belah", which is a name that, in SA at least, is applied to *Casuarina* species and not to wattles."

In our Newsletter No. 137 (June 2017) there was a request from **Zoe Thomas** for suggestions as to what wattles may be in bloom in early November. Zoe had been invited to participate in the 11 November 2017 Memorial Parade and to lay a wreath at Menin Gate in Ypres, Belgium.

The lack of responses from Study Group members to Zoe's request presumably reflected the lack of flowering of wattles at this time of year. However, Zoe was undeterred by this, and has now reported that her trip to Belgium and the Wreath Ceremony went well, "a very emotional experience to walk a route through olde town street lined

with onlookers into the Menin Gate amongst all the celebrity officials and uniforms". Princess Anne laid a wreath for the UK.

But Zoe notes that 95% of the wreaths were fake poppies on plastic Frisbees, with just a few standout fresh flowers (including Zoe's wattles).

Zoe reports that she was fortunate that a hot hit of weather during October sent some of the *Acacia retinodes* (*A. provincialis* ?) on her property into "a blooming fury", so she was able to source fresh wattle flowers without any problems. She notes that it was fascinating to watch as different specimens across her small acreage flowered in a staggered succession, and obviously to continue after she had flown out.

Zoe reports that before she left home, she ran a test batch experiment, and travel bagged some test flowers for the precise duration it was going to take until the conclusion of the presentation ceremony. On the airline, the wattle blooms were carried in a supermarket chiller bag, which was unzipped and allowed to breathe in the overhead locker. The flowers were affected by the arid conditions of the plane's air conditioning, but they may have been helped by the humidity of the Brunei waiting lounge.

Overall, the Acacia flowers held up pretty well, despite the drying airline conditions. Congratulations to Zoe for achieving such a great result after many months of planning.

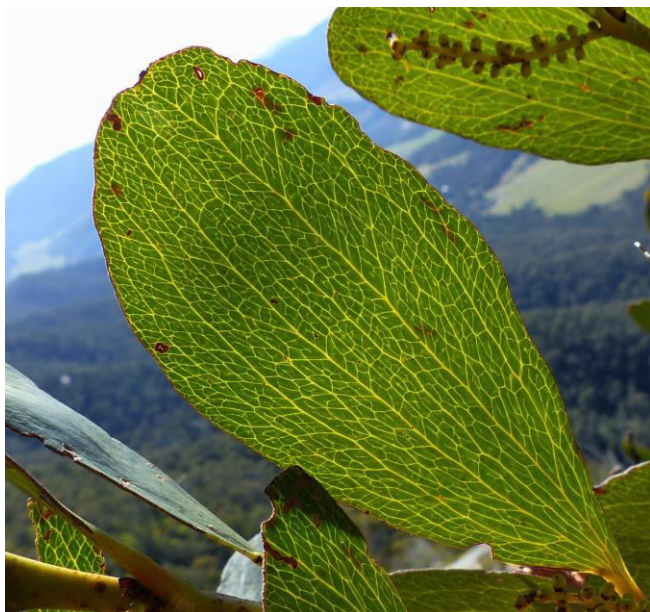
Doug White (Longwood, Vic) wrote (13 December 2017) as follows:

I have, among several Acacias, two of great interest. One is *A. quornensis*, which grows lowly and looks good, but has not yet flowered. Another is a northern inland, a tree which I know from rocky gullies in hillsides, between Papunya and Haast Bluff. I've lost the name. This plant is growing fast, at only one or two years old it flowered – great, round, yellow blossoms – and it is a metre or so tall. It hasn't set seed and I will try to grow cuttings. It is very prickly.

Both plants came from the AALBG Nursery in Port Augusta."

Chris Nayda (Pt Augusta) is a Guide at the AALBG, and on receipt of Doug's letter I asked her if she could identify the plant of which Doug had lost the name. Chris advised that it sounded like *A. strongylophylla*, which has triangular phyllodes and grows to about 2m at most. She noted that she had seen it growing near the Olgas in the NT, terribly prickly but gorgeous in flower. Doug subsequently confirmed that this was the species name that he had forgotten.

Glenda Datson (Baranduda, Vic) sent me a number of photos of *Acacia phlebophylla* (Buffalo Sallow Wattle – endemic to Mount Buffalo). The photos were taken by Neil Blair. One of the photos, showing the phyllode’s anastomising veins, is reproduced below.



Victoria Tanner (Canberra, ACT) advised (21 November 2017) that her *A. binervata* was just starting to flower. She comments that she has two plants given to her as seedlings by a local ANPS member, and has found that they are an attractive, fairly fast growing small tree with very soft lemon flowers and droopy, mid green, often twisted leaves with obvious veins. It tends to have red leaf tips and is best grown in dappled shade but in the ACT seems subject to some leaf miner attack.



Acacia binervata

Photo: V Tanner

Victoria’s plants are about 3-4m high but bushy, and their reported height varies according to the source of information. “World Wide Wattle” states 3 -10m with its home range from Narooma NSW to SE Qld, preferring moist, coastal, rainforest areas and fringes.

Victoria also referred to bees in her garden: “Also have bees in several of my bird nesting boxes but they swarmed and ended up in the middle of my yard on a paperbark in a huge heap. When it got warmer today, off they went, bees circling and going mad everywhere. Quite amazing! A few minutes, and a huge number of bees have gone.”

Fred Mazzaferri (Jimboomba, Qld) has reported on an interesting outcome in relation to some *Acacia polybotrya* seeds that he was attempting to germinate.

Fred observed that one particular seed sprouted with multiple roots. He reports that his normal process is to soak seed overnight in boiled water, planting any well swollen seeds then leaving the remainder in daily refreshed water for up to a fortnight, planting any that root. He observed one seed where a root appeared after about a week, about half way down the seed. After a further few days in water a second root appeared precisely where a viable one would in a normal seed. Then after a further few days he planted the seed as normally done. Within another week Fred noticed two pointed tips breaking the surface, and upon recovery there was the seed with two extra, random roots.



Fred’s *Acacia polybotrya* seed (one root has detached)

I made enquiries with a couple of Acacia experts, and they both suggested that it is a condition called polyembryony (which literally means “many embryos”). It seems that this is not something that is commonly observed in Acacias. (Fred has been growing Acacias for 30 years and he has not previously observed this phenomenon).

Footnote: Fred advises that he returned from Scotland 30 years ago (after gaining a doctorate in theology) and took up propagating Australian native flora in a bid to reabsorb Australian as quickly as possible, focussing upon *Grevillea*, *Acacia* and daisies.

I have always believed that in pre-treating Acacia seeds by soaking in boiling water, any seeds that float will not be viable and can be removed. However, **Andre Penders (Canberra, ACT)** tells me that what he does is to pour boiling water over the seeds, leave the sinkers and floaters overnight, drain off, and then apply boiling water again. He has then found that a lot of the floaters then sink – with a recent lot of seeds he had 40 floaters out of 100 seeds, but he finished up with 98 sprouting.

Victoria Tanner has drawn attention to a couple of references to Acacias on the Bush Heritage Australia website (bushheritage.org.au).

The Monjebup Reserve is one of the reserves on which Bush Heritage has worked to protect a significant patch of bushland between WA's Stirling Ranges and Fitzgerald River National Parks. This area is a haven for malleefowl, and Bush Heritage note that whilst Acacias were useful in kickstarting the restoration work, they don't provide any nectar for the nectar feeders, but their seeds are rich in protein and are a favourite food for malleefowl.

The other reference was in relation to *Acacia purpureopetala*. The following article by Paul Williams is extracted from the Bush Heritage website:

“*Acacia purpureopetala* is a small wattle with attractive pink/purple flowers – it's the only Australian wattle with purple flowers in fact! It has a restricted distribution in north Queensland, growing in the Atherton to Mt Garnet district. *Acacia purpureopetala* is listed as critically endangered and is one of the Australian Government's 30 priority threatened plant species.

In association with CSIRO, NSW Herbarium and Vegetation Management Science, we're undertaking an evaluation of *Acacia purpureopetala* populations to better understand the management requirements of this unique wattle.

Funded through the Australian Government Threatened Species Recovery Plan, this project is documenting the current extent of *Acacia purpureopetala* populations and searching for undocumented, additional populations. So far our surveys have uncovered 200 new plants, which increases the total known population to 700!

We're also evaluating the plant's responses to disturbances and threats to long-term population stability. We'll use DNA analysis to understand the species genetic variation across its range and undertake a seed germination trial to assess the propagation requirements of this rare species.”

Note: On the Australian Government's list of 30 priority threatened plant species, there are two *Acacia* species –

being *A. purpureopetala* and *A. whibleyana* (a species found at only two locations near Tumbly Bay in South Australia).

Sandra McKenzie (Moonta Bay, SA) recently returned from a trip to WA, and wrote (1 November 2017) as follows:

“We are back from our trip to WA enthused, confused and ready for another year of native plants and learning. I will keep this message brief as I could go on for hours about what we saw.

However, one of the things we picked up on was that there are some wattles which are on their Environment Department list as being a weed and I thought I would share this info with you. You probably already know but here goes.

dealbata, *decurrens*, *elata*, *mearnsii*, *iteaphylla*, *longifolia*, *melanoxylon*, *paradoxa*, *podalyriifolia*, *pycnantha* are considered weeds.

A. baileyana, *dealbata*, *decurrens*, *elata* can be confused with *A. pentadenia* (Karri Wattle), also with *Albizia (Paraserianthes lophantha)* which is native to WA.

Also we discovered *A. rossei* near Southern Cross. I loved it and so I did a pH test and it came in at 6.5, acidic of course. Do you know if it will grow in our soils pH 8 – 9? If so, could I please have some seed from the seed bank? Otherwise I won't bother and just enjoy our photos.”

Sandra decided that *A. rossei* might be too much of a challenge for her local conditions at Moonta and will be happy just to look at the photos she took in WA.



Acacia rossei in WA

Photo: Sandra McKenzie

Cathy and Ron Powers (Balliang, Vic) recently (8 October 2017) guided a group of APS members in a visit to the Brisbane Ranges (in Victoria). Two plants that were

prominent along Reids Road were *Daviesia leptophylla* and *Acacia aspera* ssp. *parviceps* (Rough Wattle). The group observed that this hairy sticky wattle is home to a small green beetle, *Calomela acaciae*, which is known to only occur on this species.



Calomela acaciae

Photo: Cathy Powers

Acacia cretacea

Photos and article by Sandra McKenzie, Moonta Bay, SA

Acacia cretacea is a rare and endangered spindly, straggly shrub or tree to 4 metres. It has pruinose, glabrous branchlets with grey, green rather crowded phyllodes. The inflorescences are racemose, heads globular with 35-45 lemon yellow to golden yellow flowers. Pods are linear to 9 cm long, 5-6mm wide and can mature sporadically (my observation, depending on the rainfall). In the wild the species grows on alkaline sand with an annual rainfall of approx 350mls. If you google *Acacia cretacea*, there is quite a bit of information available.



Acacia cretacea trees near Cowell

I have been interested in our amazing wattles for many years. Having decided that I needed to know more about them, I joined the Acacia Study Group in 2015 and met up

with some of the group at Stawell in 2016. One of the comments was “you must live close to where *Acacia cretacea* is found.” Being a total novice to the world of Acacias at the time (still am), I asked some questions and discovered that they grew not far from Cowell on Eyre Peninsula, South Australia. Although Cowell is a four and a half hour drive from where I live at Moonta Bay on Yorke Peninsula, my husband and I are frequent visitors to Cowell and on a subsequent visit there, I mentioned to a friend that I was interested in finding these trees.



Well Fenced area



Looking the worse for wear

I showed him a photo of a tree which is on the internet and he said that he knew exactly where it was. I was amazed but then I realised that he goes goat shooting regularly and knows the country well. Subsequently, we went for a drive and found the very same tree and also the enclosure where trees have been fenced to stop kangaroos and livestock from grazing. I understand that the work done to protect the area was carried out by the South Australian Environment Department some time ago. All existing trees appear to have been numbered and tagged. However, no maintenance has been done in recent times. Some of the trees have died

and the area is looking the worse for wear, although the fence is in good condition. I also observed that there were only a few juvenile trees growing in the enclosure.

About 300 metres away we found another stand of unfenced trees and these appear to be much healthier with several juvenile trees growing. As these trees are on private property, I obtained permission from the land holder to enter his property and collect seeds. I planted 2 trees at the premises of the Northern Yorke Peninsula Australian Plants Society, which is based in Kadina, South Australia, in June 2017 and they are now a metre high.

This is an unusual plant which would be an interesting addition to a garden, especially when planted in a group.

Acacia pruinosa

by Warren and Gloria Sheather, Yarrowyck, NSW

This is part of a continuing series of articles on wattles of the Northern Tablelands of NSW.

Acacia pruinosa, the Frosty Wattle, is another of the 60 or so wattles that occur on the Northern Tablelands of NSW.

A. pruinosa will develop into a tall shrub or small tree, reaching a height of 6 metres. The leaves are bipinnate with 9-20 pairs of pinnules per compound leaf. The pinnules are greyish-blue. There is a slit-like gland near the base of the lowest pair of pinnae.



Acacia pruinosa

Photo W & G Sheathe

Globular heads carry 40-60 deep yellow flowers. The heads are carried in long axillary racemes or in panicles. Flowering occurs between August and November. Pods are up to 14 centimetres long, leathery and constricted between seeds. Pods ripen between November and January.

As well as the Northern Tablelands, the Frosty Wattle occurs on the Northwest Slopes and southern Queensland.

A. pruinosa develops into a rather straggly plant that does not take kindly to pruning. It is best grown as a component of a native shrubbery.

The species and common name refer to the powdery secretion on the foliage.

A. pruinosa was previously known as *A. spectabilis* var *stuartii*.

Acacia rhetinocarpa

by Warren and Gloria Sheather, Yarrowyck, NSW

This is part of a series of articles by Warren and Gloria Sheather on interesting species in our Study Group Seed Bank.

Acacia rhetinocarpa is another interesting wattle that appears in the Seed Bank List.

A. rhetinocarpa, the Neat Wattle, is a compact, rounded, spreading shrub that reaches a height of 1.5 metres. The phyllodes are small and triangular in shape. Flower heads are small, globular, bright yellow and profuse. Flowering occurs between August and November. The pods are linear, brown, resinous and glossy.

A. rhetinocarpa is a South Australian endemic species and occurs, in small scattered populations, in southern South Australia. The Neat Wattle is classified as vulnerable.

A. rhetinocarpa was featured in a Gardening Australia TV program segment. A South Australian group known as Conservation of our Threatened Species (COOTS) has propagated large numbers of the Neat Wattle. It was said that, due to their propagating, the species has increased from 200 plants in the wild to 3000.

The type was collected near Monarto South in 1919 and named by John McConnell Black (1855 - 1951) the author of a *Flora of South Australia*. The illustration accompanied the original description, of the species, in the *Transactions and Proceedings of the Royal Society of South Australia*, 1920.

A. rhetinocarpa is one of many “neat” small wattles that could be grown in containers, rockeries and cottage gardens.

The species name comes from the Greek and means resin or gum and refers to the sticky nature of the pod. As well as seed, it is likely that the species could be propagated from cuttings.



More on *A. rhetinocarpa*

Coincidentally, shortly after receiving Warren and Gloria's article on *A. rhetinocarpa*, an interesting report appeared in the Murray Valley Standard (11 December 2017). An extract from this article appears below:

"In a bid to regenerate *Acacia rhetinocarpa* a two hectare area of Ferries McDonald Conservation Park at Monarto was burnt last week during an ecological prescribed burn carried out by the Department of Environment Water and Natural Resources (DEWNR).

The plant targeted in the burn is a resin wattle, listed as vulnerable nationally, is a species endemic to SA.

Natural Resources SA Murray-Darling Basin (SAMDB) Restoration Ecologist Kylie Moritz said while it seemed unusual to burn a vulnerable species the aim behind the prescribed burn was to assess how the resin wattle would respond to a spring fire.

"In autumn 2015 Natural Resources SAMDB surveyed all populations of resin wattle in the SAMDB region and found their numbers had declined significantly," she said.

"Not only were there fewer plants, but many of the populations contained plants that were old and dying.

"There was also very little recruitment of new plants and this raised concerns about the future prospects for resin wattle in the region.

"The small population at Ferries McDonald Conservation Park was the chosen site for the ecological burn as it contained more than 300 plants in 2008, but only 90 in 2015, and a number of the remaining plants were showing signs of deterioration and old age.

"Like a lot of wattles, resin wattle responds well to disturbance."

Ms Moritz said in places where this species is found, resin wattle seedlings are coming up in disturbed ground such as when a new fence line is put in or a service line is installed in roadside vegetation.

"We have also seen recruitment of seedlings in areas where animals, such as echidnas, are moving soil and seed around," she said.

Within the SAMDB region populations are known to occur around Murray Bridge, Brinkley, Monarto and Finnis areas.

"The Brinkley area contains the highest number of resin wattles, with approximately 400 plants at Monarto Conservation Park and 650 plants at Ferries McDonald Conservation Park," Ms Moritz said.

The resin wattles at Monarto Conservation Park were planted more than 10 years ago and are part of a University PhD study.

Natural Resources SAMDB is working with a number of landholders and local councils to manage threats to resin wattle populations including grazing pressures and weed management.

Natural Resources SAMDB hoped this ecological prescribed burn may provide insight into the use of fire as a management tool to better secure the future of the species.

This project is supported by the SAMDB Natural Resources Management Board through funding from the Australian Government's National Landcare Programme and NRM levies and the Department of Environment, Water and Natural Resources."

Acacias and Galls.

Keith Buck (Blind Bight, Vic) recently advised that while fossicking in his “grossly overgrown backyard”, he noticed galls on an *Acacia mucronata*. He then forwarded to me two photos (see below), one photo of the galls, and one of the inside, showing the chambers and two active grubs.



Galls on *Acacia mucronata*

Photo K Buck

The galls appeared to me to be similar in appearance to the galls seen on *Acacia longifolia*, these galls being induced by a wasp by the name of *Trichilogaster acaciaelongifoliae*. This wasp was introduced into South Africa in 1982 for the biological control of *Acacia longifolia* and has since then become well established there and an effective natural enemy of this invasive plant. *Acacia mucronata* is closely related to *A. longifolia*, which would perhaps support an identification of *T. acaciaelongifoliae*.



Grubs inside the Gall

Photo K Buck

I then forwarded Keith’s photos to **Fiona Impson**, an entomologist at the University of Cape Town who has had a long period of involvement with biological control programs for some invasive weed species in South Africa (including some Australian *Acacia* species). Fiona responded that the galls in Keith’s photo are very similar to *Trichilogaster* galls, and the fact that *A. mucronata* is a

close relative of *A. longifolia* suggests that it probably is *T. acaciaelongifoliae*.

However, Fiona noted that in recent trips to Australia she has been collecting galls from *Acacia dealbata* (and *A. baileyana*) and the insect responsible for these galls is known as *Perilampella hecateus*. The galls produced by this insect are very similar to *Trichilogaster* galls, and to be completely sure of Keith’s insect it would be best to rear out some adults and then have them identified – identification is always hard without seeing the beast that makes the gall!

Keith has advised he is keen to try and rear some adults!

Another local *Acacia* that is host to another species of *Trichilogaster* is *Acacia pycnantha* – this being host to *T. signiventris*. However, Fiona notes that Keith’s photo of the inside of the gall shows that it has clearly defined chambers, which tells it apart from *T. signiventris* (which is a very solid gall with very minute pupal chambers – hard to distinguish with the naked eye).

The Wasp Genus *Trichilogaster* - A revision of the *Trichilogaster* genus was published in 2007, and this described 9 species. Apart from one species from Saudi Arabia (*T. arabica*), all of the species are native to Australia and associated with galls on Australian species of *Acacia*.

The following table lists the Australian species of *Trichilogaster*, and the associated host plants:

<i>Trichilogaster</i> species	Host plants
<i>T. acaciaelongifoliae</i>	<i>A. floribunda</i> , <i>A. longifolia</i> , <i>A. melanoxylon</i> , <i>A. sophorae</i> , <i>Paraserianthes lophantha</i>
<i>T. esculenta</i>	<i>A. aneura</i>
<i>T. flavivena</i>	<i>A. acuminata</i> ssp. <i>burkittii</i>
<i>T. maidenii</i>	<i>A. floribunda</i> , <i>A. implexa</i> , <i>A. longifolia</i> , <i>A. maidenii</i>
<i>T. olgae</i>	<i>A. ?pruinocarpa</i>
<i>T. pendulae</i>	<i>A. pendula</i>
<i>T. signiventris</i>	<i>A. pycnantha</i> , <i>A. rivalis</i>
<i>T. stefani</i>	<i>A. ligulata</i> , <i>A. rostellifera</i>

Note: *T. acaciaelongifoliae* has been very effective in controlling the spread of *Acacia longifolia* in South Africa, but this then raises a question as to why it may not have been so effective in Australia, where *A. longifolia* is still weedy. It is reported, however, that damage by *T. acaciaelongifoliae* in Australia is infrequent and unimpressive because of high levels of parasitism (eg refer https://www.invasive.org/proceedings/pdfs/6_797-803.pdf).

Reference:
Prinsloo G.L. & Naser O.C. 2007. Revision of the pteromalid wasp genus *Trichilogaster* Mayr (Hymenoptera: Chalcidoidea): gall-inducers on Australian acacias *African Entomology* 15(1): 161-184

Archibald James Campbell

Ian Campbell (Sydney) is the grandson of Archibald James Campbell, who is recognized for his formation of a Wattle Club in Victoria in 1899 and for the first suggestion of a Wattle Day during a speech in 1908.

Ian wrote to me (4 November 2017), shortly before a trip to Victoria. In his letter, he refers to a bio prepared by his grandfather concerning key dates in his life up to 1915. If you would like a copy of this document, let me know and I will email it to you. Ian also refers in his letter to holdings regarding AJ Campbell in Museum Victoria and in the National Library of Australia. Both of these Institutions have undertaken major exercises in digitisation, and many images and photos can be freely viewed on their respective websites.

Ian's letter was as follows:

“To advise that I will be attending a gathering of descendants of James and Margaret Pinkerton on 12 November at the old Pinkerton Homestead ruins along Werribee River bank in the Pinkerton Forest area along the Mt Cotterell Rd near Melton. AJ Campbell was a son of Catherine Pinkerton, daughter of the above-named, and Archibald Campbell snr, who landed in Port Philip Bay on 21 June 1840 - if my recollection from his diary is correct. The event now is part of a series of at least two events concerning the Surbiton Park/Pinkerton Forest project and in association with the partnership between Western Water and The Pinkerton Landcare and Environment Group. In 2006 I had visited the area, in company with Frances Overmars of the latter group, before I went to the Ringwood 2006 Acacia conference.

I am going through papers and can't remember whether I forwarded to you/Acacia Study Group a copy of a bio that my grandfather typed, or a relative typed, apparently, in 1915 or after, concerning key dates in his life up to 1915. I now attach the bio – there are some page overlaps as the typed original was on A3– which I probably put in the National Library of Australia in 2002 along with the images and photos and papers etc. These now complement the Museum Victoria holdings regarding AJ Campbell and son AG Campbell; in both cases major exercises in digitisation have occurred and as far as I can ascertain all images and photos (perhaps 1000 plus) pertaining to Campbell snr and AG Campbell activities in connection with ornithology and wattles/acacias, are now available for wider access via digitisation. In the bio notes there are references to various trips AJ Campbell made and most if not all were the subject of his articles in the *Australasian*, a Melbourne-based paper, in which over decades he did occasional columns under the title: 'The Naturalist'. I put the diary of AJ Campbell's father, Archibald Campbell, and his sketches of Victoria circa 1850s also in the NLA and the sketches have been digitised as part of the overall AJ Campbell collections.

What is of interest to me in the attached is not solely the record of family history, but also the mentions he makes of the 'wattle and trips' items, and it is also for this reason that I send it on now. To also advise that a Melbourne relative, Bryan Campbell, who will attend the Pinkerton events as far as I know, has had much liaison with Museum Victoria in recent years and this has also provided much encouragement to the Museum regarding the many Campbell-related holdings there, and on occasions museum exhibitions have featured references and images held there.”

Xylella fastidiosa

Pentachondra is the journal of the **Australasian Plant Society** in the UK. In the most recent December 2017 issue, there was a reference to *Xylella fastidiosa*. It was noted that this is a bacterium that is currently considered to be one of the biggest threats to UK horticulture and the wider landscape. It is native to the Americas where it affects many crops including citrus, coffee and grapes. It has yet to reach the UK, but in 2013 it was found to be killing olive trees in Italy and has since spread to France, Germany and Spain.

The Pentachondra article noted that one thing that makes *Xylella* so worrying is that not only is it known to have an extensive host range, but also it is thought that even more plants could turn out to be susceptible. Thus far it has been detected in 350 species from 75 plant families (though some don't show disease symptoms). It was noted that some species that can be infected include *Acacia dealbata*, *Dodonaea viscosa* and *Grevillea juniperina*.

Xylella is referred to on the website of the Australian Government's Department of Agriculture and Water Resources (<http://www.agriculture.gov.au/pests-diseases-weeds/plant/xylella>).

The following is an extract from the website:

“*Xylella* is an invasive bacterial plant pathogen that causes significant environmental and economic impacts. Many commercial and ornamental plant species can be killed by this bacterial pathogen.

Xylella is spreading around the world, and although it is not present in Australia, it is of major concern to Australia's plant industries.”

Wattle Family Plumbing

Sheryl Backhouse has drawn attention to some research done by Dr Nigel Warwick from the University of New England.

The following is taken from a report headed “Unlocking the Secrets of the Green and Gold”, 1 December 2017 (<http://keepitclever.com.au/unlocking-the-secrets-of-the-green-and-gold/>).

“New understanding of the wattle family’s ‘plumbing’ could provide clues to how plants will survive climate change, says a University of New England (UNE) researcher.

UNE’s Dr Nigel Warwick has enlisted the help of one of the world’s oldest botanic gardens to unlock some of the secrets of the fascinating genus *Acacia*. He has just made his third trip to the Royal Botanic Gardens in Kew, London, where he carried out some of the world’s first comprehensive studies of wattle anatomy.

“Acacias are some of the most hardy and resilient plants in the world,” said Dr Warwick.

“They possess a number of adaptations that allow them to transport water and nutrients and to survive tough drought conditions. Learning how they cope with drought and heat stress may provide some clues as to how they and other plants will tolerate the hotter, drier conditions projected under climate change.”

Dr Warwick, a plant physiologist (who studies how plants adapt to different environmental conditions, including drought, salinity and temperature), is comparing more than 50 species of *Acacia* from a range of climatic zones in northern New South Wales.

“I have found that the *Acacias* living in drier environments have different plumbing. They have more xylem vessels that conduct water and nutrients through the plant, and these vessels are slightly narrower, and they are fitted with special seals that prevent their plumbing from collapsing during dry periods,” Dr Warwick said.

His findings improve our understanding of entire forest and woodland ecosystems, many of which rely on *Acacias*.

“Bacteria living in the roots of *Acacias* fix nitrogen from the atmosphere in the soil, which contributes to soil fertility, making *Acacias* very important to surrounding plants and the nitrogen cycle within an ecosystem,” he said.

Microscope slides of *Acacias* that Dr Warwick prepared now form part of the Royal Botanic Gardens’ permanent collection and will soon be available online to scientists globally.”

Use of *Acacia dealbata* in dyeing

By **Bill Aitchison**

A number of *Acacias* can be used in dyeing, one of which is *Acacia dealbata*. In the book *Dyemaking with Australian Flora*, produced by The Handweavers and Spinners Guild of Victoria in 1972, it is noted that the leaves of *Acacia dealbata* (Silver Wattle) can be used in dyeing wool. Different colours are produced depending on the mordant used – alum produces a yellow-fawn colour, and chrome and copper mordants produce a green colour.

In June this year, the 3rd International Conference on Natural Fibres: Advanced Materials for a Greener World, was held in Braga, Portugal. One of the papers presented at that Conference related to the dyeing of cotton fabric using an aqueous solution extracted from the bark of *Acacia dealbata*. This species is considered invasive in Mediterranean regions, and it was found that the environmental impact of using this *Acacia* was diminished, by comparison with a method using synthetic reactive dyes. This dyeing process produced a brownish colour.

A separate paper was recently published in the *Journal of Natural Fibers*, on the subject of dyeing using *Acacia* bark. This paper noted that the bark of *Acacias* is used for making dye, and that this usually gives brown or blackish shades. (Particular species used were not mentioned).

References:

Maria Teresa Pessoa de Amorim et al 2017. LCA of textile dyeing with *Acacia dealbata* tree bark: a case study research. *Procedia Engineering* 200; 365-369

Assad Farooq, Muhammad Azeem Ashraf , Ayesha Rasheed, Jawairia Umar Khan & Farida Irshad (2017): Development of a novel method for natural dyeing of cotton fabrics using ultrasonic radiations and *acacia* bark, *Journal of Natural Fibers*

Seed Bank

An updated list of species in our Seed Bank appears below.

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.

germinated and days after sowing

Our thanks to Ian Tranter for a donation of seed.

The procedure for requesting seed from our Study Group Seed Bank is as follows. Study Group members are entitled to lodge up to 3 orders per member per year, with 10 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.

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

Study Group Membership

Acacia Study Group membership for 2017/18 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 2016-17			
INCOME	Balance at 1.7.16		\$811.43
	Members’ subs	\$715.00	
	Donations	\$101.00	
	Other Income	\$41.00	
	Total Income	\$857.00	\$857.00
EXPENSES	Stationery	\$10.00	
	Printing	\$420.00	
	Photocopying	\$214.00	
	Postage	\$288.00	
	Seeds	\$42.50	
	Total Expenses	\$974.50	-\$974.50
BALANCE	Balance at 30.6.17		\$693.93

ACACIA STUDY GROUP SEED BANK LIST

(current at December 2017)

acanthoclada	blakei	cultriformis	estrophiolata	hemiteles	lauta
acinacea	blakelyi	cupularis	euthycarpa	(Wheatbelt form)	legnota
acradenia	blayana	curranii	everistii	hemsleyi	leichhardtii
acuaria	boormanii	curvata	excelsa	heterochroa	leicalyx
acuminata	brachybotrya	curvinervia	exilis	heteroclita	leioderma
acutata	brachystachya	cuthbertsonii	exocarpoides	heteroneura	leiophylla
adenophora	brassii	cyclops	extensa	hexaneura	leprosa
adoxa ssp adoxa	brevifolia	cyperophylla	falcata	hispidula	leptalea
adsurgens	browniana	dallachiana	falciformis	Holland's rock	leptocarpa
adunca	browniana	dawsonii	farinosa	holosericea	leptoclada
aemula ssp. aemula	ssp browniiana	dealbata	fasciculifera	holotricha	leptoloba
aestivalis	ssp intermedia	deanei	fauntleroyi	horridula	leptoneura
alata ssp alata	ssp endlicheri	deanei ssp deanei	filicifolia	howittii	leptopetala
alata ssp tetrantha	brownii	debilis	filifolia	hubbardiana	leptospermoides
alcockii	(ulicifolia ssp	declinata	fimbriata	huegelii	leptostachya
alleniana	browneii)	decora	flavescens	hyaloneura	leucoclada
amblygona	brumalis	decurrens	flexifolia	hystrix	ssp argentifolia
amblygona prost	brunioides	deficiens	flocktoniae	Idiomorpha	ssp leucoclada
amoena	burbidgee	deflexa	floribunda	imbricata	ligulata
ampliceps	burkittii	delphina	fragilis	implexa	ligulata prostrate
anatriceps	burrowii	demissa	frigescens	inaequilatera	ligulata narrow leaf
anceps	buxifolia	dempsteri	gemina	inaequiloba	ligustrina
ancistrocarpa	bynoeana	denticulosa	genistifolia	incurva	limbata
aneura	caerulescens	dentifera	genistifolia	ingramii	limbata prostrate
angusta	caesiella	desertorum	prstrate	inophloia	linarifolia
anthochaera	calamifolia	dictyoneura	georginae	intricata	lineata
aphylla	calantha	dictyopleba	gilbertii	irrorata	lineolata ssp lineolata
applanata	camptocada	dielsii	gillii	iteaphylla	linifolia
aprepta	cardiophylla	dietrichiana	gittinsii	ixiophylla	linophylla
aptaneura	caroleae	difficilis	gladiiformis	ixodes	littorea
argyraea	celastrifolia	difformis	glaucescens	jamesiana	loderi
argyrophylla	chamaeleon	dimidiata	glauccissima	jennerae	longifolia
arida	cheelii	diphylla	glaucocarpa	jensenii	longifolia
arrecta	chinchillensis	disparrima	glaucoptera	jibberdingensis	ssp longifolia
aspera	chisholmii	divergens	gnidium	johnsonii	longiphyllodinea
assimilis	chrySELLa	dodonaefolia	gonocarpa	jonesii	longispicata
assimilis	chrysocephala	donaldsonii	gonoclada	jucunda	longissima
ssp atroviridis	cincinnata	doratoxylon	gonophylla	julifera	longispinea
atkinsiana	clunes-rossei	drepanocarpa	gracilifolia	juncifolia	loxophylla
attenuata	cochlearis	drummondii dwarf	gracillima	kempeana	lucasii
aulacocarpa	cognata	drummondii	grandifolia	kettlewelliae	lysiophloia
aulacophylla	colei	ssp drummondii	granitica	kybeanensis	mabellae
auriculiformis	colletioides	ssp elegans	grasbyi	laccata	macdonnellensis
ausfeldii	complanata	ssp affinis	guinetii	lamprocarpa	macnuttiana
axillaris	concurrans	ssp candolleana	gunnii	lanigera	macradenia
baileyana	conferta	dunnii	hakeoides	lanigera	maidenii
baileyana prostrate	consobrina	elata	halliana	lanuginosa	maitlandii
baileyana purple	continua	elongata	hamersleyensis	laracina	mangium
bancroftiorum	coolgardiensis	empelioclada	hamiltoniana	ssp laracina	marramamba
barakulensis	coolgardiensis	enervia	hammondii	lasioclyx	maslinii
barattensis	ssp effusa	ssp explicata	handonis	lasiocarpa	mearnsii
barringtonensis	coriacea	enterocarpa	harveyi	ssp bracteolata	megacephala
baxteri	courtii	ephedroides	hastulata	ssp lasiocarpa	megacephala
beauverdiana	covenyi	eremophila	havilandiorum	ssp sedifolia	prostrate
beckleri	cowleana	eremophila	helicophylla	lateritocola	megalantha
betchei	craspedocarpa	ssp variabilis	hemignosta	(formerly strigosa)	meiosperma
bidwillii	crassa	ericifolia	hemiteles	latescens	melanoxylon
binervata	crassicarpa	erinacea	hemiteles	latipes	melliodora
binervia	crassiuscula	eriopoda	(Goldfields form)	latisepala	melvillei
bivenosa	cretata				

ACACIA STUDY GROUP SEED BANK LIST 2017 (cont)

menzeli	obliquinervia	polystachya	riceana	spinescens	trigonophylla
merinthophora	obovata	prainii	rigens	spinosissima	trinervata
merrallii	obtecta	pravifolia	rossei	ssp robusta	trineura
microbotrya	obtusata	pravissima	rostellifera	spongolitica	triptycha
var borealis	obtusifolia	prominens	rotundifolia	spondylophylla	triquetra
var. microbotrya	oldfieldii	pruinocarpa	rothii	sporadica	tropica
microcarpa	olsenii	pruinosa	rubida	steadmanii	trulliformis
mimica ssp angusta	omalophylla	ptychoclada	rupicola	stereophylla	truncata
mimula	oncinocarpa	ptychophylla	sabulosa	stenoptera	tumida
mitchellii	oncinophylla	pubicosta	saliciformis	striatifolia	tumida
moirii ssp dasycarpa	oraria	pubifolia	salicina	stricta	ssp pilbarensis
moirii ssp moirii	orthocarpa	pulchella	saligna	strigosa	tysonii
mollifolia	oshanesii	pulchella	schinoides	(now lateriticola)	ulicifolia
montana	oswaldii	ssp pulchella	scirpifolia	stowardii	ulicifolia
monticola	oxycedrus	'Kamallup dwarf'	sclerophylla	stupuligera	ssp brownii
mooreana	oxyclada	ssp goadbyi	sclerophylla	suaveolens	ulicina
mountfordiae	pachyacra	ssp glaberrima	ssp teretiuscula	subcaerulea	umbellata
mucronata	pachycarpa	pulviniformis	ssp lissophylla	subflexuosa	uncifera
ssp mucronata	palustris	pustula	sclerosperma	subglauca	uncifera x conferta
ssp longifolia	paniculata	pycnantha	semilunata	sublanata	uncinata
muelleriana	paradoxa	(SA, NSW, VIC)	semirigida	subulata	uncinella
multispicata	parramattensis	pycnostachya	semitrullata	sulcata	urophylla
murrayana	parvipinnula	pyrifolia	sericophylla	sulcata	validinervia
myrtifolia	pataczekii	quadrilateralis	ssp coeiacea	ssp planoconvexa	varia
myrtifolia	patagiata	quadrimarginea	sertififormis	subtilinervis	ssp parviflora
ssp angusta WA	paucijuga	quadrisulcata	sessilis	synchronicia	venulosa
WA, Vic, SA, NSW	pellita	racospermoides	sessilispica	tanumbirimensis	vermiciflua
nana ssp nana	pendula	ramulosa	shirleyi	tenuinervis	verricula
nanodealbata	penninervis	redolens	sibina	tenuissima	verticillata
nematophylla	pentadenia	redolens pr	siculiformis	teretifolia	vestita
neriifolia	perangusta	resinimarginea	signata	terminalis	viscidula
nervosa	phasmoides	restiacea	silvestris	tetragonocarpa	victoria
neurophylla	phlebocarpa	retinodes	simsii	tetragonophylla	wanyu
nigricans	phlebopetala	retinodes	sophorae	tetraptera	wardellii
nitidula	phlebophylla	ssp uncifolia	sowdenii	tindaleae	wattsiana
notabilis	pilligaensis	Blue leaf form	(papyrocarpa)	toondulya	wilhelmiana
nova-anglica	pinguifolia	retivenia	sparsiflora	torringtonesis	willdenowiana
nuperrima	platycarpa	rhetinocarpa	spathulata	torulosa	williamsoni
nuperrima	plectocarpa	rhigiophylla	spathulifolia	trachycarpa	xanthocarpa
ssp cassitera	podalyriifolia	rhodophloia	spectabilis	trachyphloia	xiphophylla
nysophylla	polybotrya		sphacelata	anslucens	yorkrakinensis
					ssp acrita