Association of Societies for Growing Australian Plants

ACACIA STUDY GROUP NEWSLETTER

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From The Leader

Dear Members,

Out on the west side of Melbourne we have had a little rain and the suburbs have started to look greener again. A nice surprise for me this year is my *Acacia cardiophylla* being completely covered from top to toe in bright blossoms earlier than usual. Other wattles in my garden are heavy with bud and the gentle scent of winter with its icy temperatures and sunny blue skies is quite relaxing.

I would like to say a big, warm '*Thank you*' to all the support and help from everyone in the Acacia Study Group over the past year. We never run out of material and there are many ideas yet to be implemented in future newsletters. Also a special thanks to Bill Aitchison who keeps everything up to date and running smoothly, making sure I don't forget anything in my hectic schedule and also for putting up with me.

Now it is also that time of year once again, end of financial year, when subscriptions and reports are due. Some members have paid for a number of years so they don't need to worry. Others will have the renewal notice sent to them with this newsletter. To ensure prompt processing of renewals, please fill out all relevant details on your subscription form. Note that receipts are not generally provided but may be requested to be sent with the next newsletter.

Membership fees this year have increased a little which I'm sure everyone will understand. Our new fees are as follows:

Email:	$7
Hard copy:	$10
O/seas hard copy:	$20

The financial report and fully updated seed list will be posted in the next newsletter.

Once again, thank you for all the support and kind thoughts that help to keep this study group running strong.

Cheers
Esther Brueggemeier

Welcome

A special welcome to the following new members and subscribers to the Newsletter:

Matt Cosgrove, Tamworth, NSW
Sam Frankel, Brunswick, Vic
Col and Joanne Wallace, Wilkesdale, Qld
Hunter Region Botanic Gardens, Heatherbrae, NSW

Boost For Acacia Research in Australia

Acacia research in Australia has been given a significant boost with the appointment of one of the world's leading Acacia researchers, Dr Joe Miller, to a position where he will be in charge of the molecular systematics laboratory at the Centre for Plant Biodiversity Research at CSIRO Plant Industry in Canberra.

Most recently, Dr Miller worked at the Department of Biological Sciences at the University of Iowa.

Dr Miller's transfer to Australia is exciting news and we extend our best wishes to him and his family in their move to Australia.

Old Study Group Newsletters

Following our request in the previous Newsletter for copies of old Newsletters that we are missing in the Study Group Archives, we extend our thanks to SGAP Queensland for providing copies of some that we did not have.

We are still missing the first 25 unnumbered newsletters, and Newsletters 1 – 14, and 24.

If anyone can help with these missing newsletters, we would be very grateful.

Feature Plant – *Acacia dealbata* (Silver Wattle)

by Esther Brueggemeier

Distribution and Habit

Acacia dealbata is a bushy shrub or beautiful tree that can be utilised in many ways. Generally it grows from 2 to 15 meters and can be multi-stemmed although in wetter climate forests and along watercourses it reaches an amazing 30 meters and develops a lovely straight stem with a wonderfully rounded crown. The bark is smooth grey, brown or rich dark brown to almost black and only becomes corrugated at the base of old trunks with age.

The name *dealbata* indirectly refers to the whitish appearance of the branchlets and foliage. The leaves are mostly bluish grey green or silvery with young foliage being a soft velvety cream to golden colour. The flowers are highly perfumed ranging from yellow to bright yellow.

***Acacia dealbata* ssp. *dealbata*, Photo Russell Best**

Acacia dealbata occurs on the Great Divide (mainly tablelands and foothills) from the Ben Lomond Range in northern New South Wales to the Grampians in western Victoria; it is also common in eastern Tasmania and is naturalized in parts of southwest Western Australia and southern South Australia. *Acacia dealbata* has been introduced into many countries including Chile, China, France (and other parts of southern Europe), Ethiopia, India, Japan, Kenya, Nepal, New Zealand, North Africa, South Africa, Sri Lanka, Uganda, West Africa, Zambia and Zimbabwe. Unfortunately many of these have become weed species due to their incredible suckering habit.

As a long lived, fast growing, vigorous species, *Acacia dealbata* copes extremely well in a range of topography from high plateaus to deep mountain valleys, often growing on steep slopes, along stream banks and usually in dry sclerophyll forest or woodland. Soil types vary from deep, fertile forest soils, clays and gravelly clays of moderate drainage to well-drained stony slopes, volcanic brown earths and deep clay. Generally it is found at higher elevations than *Acacia mearnsii* and *Acacia decurrens*.

Taxonomy

Acacia dealbata comprises two subspecies. That is subspecies *dealbata* and subspecies *subalpina*. Subspecies *subalpina* is generally distinguished by its smaller leaves and smaller stature and often brighter yellow flower-heads with fewer flowers. Subspecies *subalpina* occurs mainly at higher altitudes and is common on the Snowy Mountains.

According to the *world wide wattle website*, "Intermediates between them are common in areas where subsp. *dealbata* occupies the lower mountain slopes and subsp. *subalpina* the upper slopes. (See the table at end of article) *Acacia dealbata* can also hybridise with *Acacia decurrens*, *A, baileyana, A. pataczekii, A. mearnsii* and *A. podalyriifolia*. Particularly in European gardens there have been some interesting hybrids. One popular variety has been described as *Acacia* x *hanburyana*.

The most closely related species seem to be *Acacia nano-dealbata* (dwarf silver wattle) and *Acacia decurrens* (green wattle/early black wattle) with the most obvious difference being the colour of the leaves, dark green rather than grey green.

Amongst these species there is also a lush prostrate cultivar, 'Kambah Karpet'. This selection was made in 1982 from a mature plant growing in a garden bed near the Health Centre in the Canberra suburb of Kambah by Mr. R.B. Hadlow of the staff of the Australian Botanic Gardens.

A low growing form of A. dealbata, at Maranoa Garden, Melbourne, Photo Bill Aitchison

Utilisation

Acacia dealbata is used in controlling **soil erosion** because of its excellent drought tolerant and root suckering properties. It has been used extensively for hillside stabilisation, gully erosion control and for **windbreaks**. Seed persists in soil for around 50 years.

Many studies show that soil nitrogen levels are dramatically increased where *Acacia dealbata* is planted. This is due to its natural role of **nitrogen fixation** in the nutrient cycle of the forest. For example Frederick et al. (1985) showed that in an *Acacia dealbata* stand the top 40 cm of soil contained an impressive 60% more nitrogen than under *Pinus radiata* and 40% more than under *Eucalyptus regnans*. Stelling (1998) also reports of *Acacia dealbata* as being an ideal '**nurse crop**' for use with slow growing eucalypts or other long-lived species in mixed woodlots.

Wildlife dependence on *Acacia dealbata* is considerably high. Many marsupials depend on the silver wattle for its winter carbohydrates including the Leadbeater's possum, the sugar glider, the squirrel glider, the mahogany glider and the yellow-bellied glider. According to Smith & Lindenmayer (1992) the Acacia gum contributes up to 80% of the Leadbeater's possum's daily energy requirements. *Acacia dealbata* is a valuable source of pollen for **insects and bees**. The young trees are also host to the 'Imperial Blue Butterfly' caterpillar.

Aborigines had many uses for *Acacia dealbata*. The wood was used for making **boomerangs** and axe handles. Gum was for **food**, including **medicinal** purposes and also used as an **adhesive**. The European settlers quickly learned from the knowledge of the indigenous people to use bark infusions in hot water as a remedy for indigestion and dissolve the gum in boiling milk to take for dysentery and diarrhoea, with good results.

In southern Europe *Acacia dealbata* is known as 'mimosa' and used commercially in the **cut flower trade**. The flowers are particularly valued in France for the production of **perfume** as the extract is recognised as a blender and 'smoothing agent' in high grade perfume.

Acacia dealbata is now used as excellent **fine timber** for furniture designers and manufacturers. The wood varies in colour from light brown to subtle pink with distinctive growth rings, creating an appealing stripped pattern when backsawn. The wood is fairly tough, available in both solid and veneer. When planed and dressed, it produces a very smooth surface for furniture and polishes beautifully. As one of the softer hardwoods that glues and pulps well it is also used as good quality **pulpwood** in Tasmania producing high grade paper and paperboard products.

The silver wattle is an excellent **fire retardant** and studies are continuing in this field. (See also n/l 100, Wattles and Bushfires by Alan Gray).

Cultivation Notes

Acacia dealbata tolerates a wide range of soil types and frosty conditions making it a much loved fast growing specimen tree. This species grows best in cool climates but is also drought resistant regenerating easily from seed or root suckers forming large thickets especially after fire.

Acacia dealbata ssp. subalpina, flowers and frost Photo Liesbeth Uijtewaal-de Vries, taken in The Netherlands

Propagation is quite easy from seed immersed in boiling water to break seed dormancy and then sown into containers. Usually two seeds per container to thin out later and good success is even found in direct seeding.

It seems the ideal height for seedlings to be planted out is between 20-30 cm. The larger have a greater survival rate and develop a better form than smaller plants.

There is a practice of topping some seedlings in nurseries but this is not advantageous to the silver wattle as form problems are usually increased.

The best time to establish seedlings is during the wetter months of the year to avoid foliage loss because of dry periods. Seedlings that retain their foliage also have a higher survival rate and develop lovely straight stems.

Pruning to shape is required about 1-2 years after planting (generally 2-3m height). Plants mature early setting seed at 4 to5 years.

Acacia 'Kambah Karpet' has also proven to be very hardy. All suckers arising from this plant retain the prostrate habit. Here the most successful propagation method is from firm (semi-hardened) material taken in autumn rather than spring or early summer.

Features of *Acacia dealbata*			
Acacia dealbata	ssp. *dealbata* Foothills Lower mountain slopes.	**Tree** to 30m high. Well developed rounded crown. **Leaves:** 5 - 12cm long, Slight to very grey green. **Pinnae:** 1.5 - 5.5 cm long **Pinnules:** 1.5 – 6 mm long	**Flowers:** Yellow, July - October **Pods:** to 11.5cm long **Fruits**: November – January, (sometimes to March)
	ssp. *subalpina* Tablelands Upper mountain slopes	**Shrub** or small tree to 5m high. Canopy often flat-topped **Leaves:** 1.5 – 8.5cm long. Grey green. **Pinnae:** 0.5 – 2.5 cm long **Pinnules:** 0.7 – 4 mm long	**Flowers:** Bright yellow, August - November **Pods:** to 9.5cm long **Fruits**: November – February (sometimes to April)
	'Kambah Karpet' *Cultivar*	**Prostrate** mound of approx. 20cm high growing to 3m across.	Features are as for *A. dealbata* ssp. *dealbata*
Most closely related with . . .			
Acacia nano-dealbata	Tablelands Upper mountain slopes	**Tree** to 12m high. **Leaves**: 2 – 11.5cm long, Dark green, paler beneath **Pinnae:** 1 – 3cm long **Pinnules:** 1 – 2.5mm long	**Flowers:** Yellow, August - October **Pods:** to 8.5cm long **Fruits:** January - February
Acacia decurrens	Tablelands Upper mountain slopes, coastal	**Tree** or tall shrub to 10m high. **Leaves:** 2 -12cm long, *Deep green* **Pinnae:** 4 – 7cm long **Pinnules:** 5 – 15mm long	**Flowers:** Bright yellow, July - September **Pods:** to 10.5cm long **Fruits**: November - January

Some Acacias from the Darling Downs in Brisbane

by Lorna Murray

I was very interested to see the article in Newsletter No. 99 regarding *Acacia handonis*, named after Val Hando of Chinchilla. Val is an expert on the flora of Barakula Forestry and nearby areas and has written books describing the plants. A recent publication, "Wildflowers of Southeast Inland Queensland", is a very handy guide to anyone travelling in these parts of Queensland and looking at the flora.

Val gave me seed of *Acacia handonis* many years ago that germinated well and a plant grew in my garden for some time, but died through lack of care while we were away from home. However this acacia is being grown by other members in Brisbane now and a flowering specimen was brought to a meeting in August last year.

The above newsletter article immediately reminded me of several other acacias from the same area that have grow very well in Brisbane, in spite of the much higher humidity here. Another one from Auburn Road north of Chinchilla and other nearby areas is *Acacia chinchillensis*. A plant of this acacia flourished for over 10 years in my garden and produced seed prolifically so that I was able to give some to our Seed Curator regularly. It is a most attractive species with the dainty bipinnate leaves, even when not in flower.

Acacia spectabilis, photo by Lorna Murray

Another species that should not be overlooked for Brisbane gardens is *Acacia spectabilis*. This wattle certainly lives up to its name when in flower every year in July and August. *Acacia spectabilis* grows to 3m or 4m high and is an attractive plant for the whole year with its bipinnate leaves and whitish bark. The first plant of this species lived for about 15 years in my garden and when it became unattractive due to old age and was removed seedlings soon took the place of the original plant. Over the years self-sown seedlings have appeared regularly and on several occasions one of these has been allowed to grow up to replace the previous plant.

Acacia decora is found over a wider area than the others mentioned above, sometimes in heavier soil. The original plant in my garden survived for over 28 years, flowering well every year. It took some pruning well and was kept to less than 1.5m high, although specimens to at least 3m can be seen on the Darling Downs. The common name Pretty Wattle is most appropriate, as masses of bright yellow flowers make a very good display in August and September.

Some other acacias that occur naturally in the Barakula area that have performed well in Brisbane include *Acacia amblygona* prostrate form, *Acacia rigens*, *Acacia lineata* and *Acacia semilunata*. *Acacia triptera* was planted on one occasion, but survived for only 15 months. As it also occurs naturally in drier areas further west, perhaps it does not survive the coastal conditions so well.

There are many acacias occurring naturally in SE Queensland east of the Range that are useful in local gardens, but others from inland areas can also be used very successfully.

Wattles and Tourism in Dalwallinu, WA

Our thanks to Dalwallinu Shire President Robert Nixon and Projects Officer Brent Parkinson for providing information included in this article, and for the photograph.

One of the highlights of a trip to Western Australia during wildflower season must surely be a visit to the Dalwallinu area. Dalwallinu is situated 254 km north east of Perth and is often described as "Wattle Capital of the World". In fact, within 100km of Dalwallinu, there are 185 species of Acacia.

As a celebration of this wonderful natural attraction of the area, an Annual Wattle Week Festival is held. This year's Festival, the 14th such event, is being held from 6 - 13 September. The Festival program includes both escorted and self drive tours, bush cuisine tastings, a bush walk with a World Wildlife Fund Officer and a Festival Dinner. In addition, from 11-13 September, a Wildflower Display is held at the Wubin Town Hall, some 20km north of Dalwallinu.

One of the projects currently being undertaken by the Shire is the building of a Resource Centre, which will include an Environment Centre focused on acacias in the region, including displays such as wattle and daub huts etc. This

project is still in its planning stage, and at one stage had been in limbo because of withdrawal of funding. However, funding has now been reinstated (subject to meeting formalities) and the Shire plans to call for and receive tenders by the end of July 2008.

Acacia anthochaera, or Kimberley's Wattle, named after botanist Bruce Maslin's daughter, is the Shire's floral emblem

In July 2001, the Shire co-hosted an Acacia Symposium on "The Conservation and Utilisation of Australian Dryland Acacia". After this Symposium, some funds were put aside for future use, and this year some of these funds have been allocated to the purchase of some equipment ($1,000) for their local herbarium at Wubin. In addition, the Shire had 2,000 acacia (comprising 10 local species) propagated from seed by a local person. Some were planted in an area adjacent to the Shire Administration Building as part of a long term plan to plant as many species as possible in one display area. Others were planted along the town highway bypass (Acacia Bypass). The rest were planted in a bush regeneration project of an old abattoir site in a bush conservation area west of the town.

This year there is the potential for a good wildflower season following good autumn rains (although only light rain since). At the time of writing (June) there are signs of wildflowers appearing and the wattles are good so far.

If you would like more information on Wattle Week or for any enquiries, contact June (jayence@bigpond.com or phone (08) 96611751) or Helen (phone/fax (08) 96681010).

Acacia tumida and chooks

by Ian Simons, Helidon, Queensland

This item refers to articles previously published in the December 2007 newsletter:

- Wattle we Plant for Scavenging Chooks Pt 2 – Ian Simons
- A Response to the Wattles and Chooks Article – Tony Rinaudo.

These articles looked at the eating preference of chooks for *Acacia tumida* seeds. 2007 tests showed that the preference for these wattle seeds rated "not eaten/ate reluctantly".

This was a surprise, since the literature quoted such glowing references as

"Shows promise, ... producing ... protein rich seeds for poultry feed"
"Excellent seeds for chicken feed".

Tony Rinaudo is not sure how to explain the poor response of the chooks to the *Acacia tumida* seeds.

As a result of the above, further tests were done using seeds obtained from the Australian Seed Company. Using conditions similar to the 2007 study, three 5g batches were tested on separate occasions. The results: "ate avidly". That is, each batch was eaten by the assembled birds within 9 minutes.

This is a good result. Not only are *Acacia tumida* seeds high in protein, they are also conveniently large, being about the size of wheat seeds.

Needless to say, the seeds from the Australian Seed Company source will be used to propagate seedlings for the chooks' food forest at Helidon, Queensland.

Acacia retinodes

by Bill Aitchison

Martin O'Leary from the State Herbarium of South Australia has carried out a review of *Acacia retinodes* and closely related species *A. uncifolia* and *A. provincialis*.

Martin recognizes that there has been confusion about the identity of *A. retinodes*. Following his review, *A. retinodes* is now considered to be endemic to the Mt Lofty Ranges of South Australia. *A. provincialis* has a discontinuous distribution in south-eastern Australia from the Mt Lofty Ranges and Kangaroo Island, South Australia, the Grampians and Glenelg River to near Melbourne, Victoria. *A. uncifolia*, which was previously treated as a variety of *A. retinodes*, has been raised to species level. It has a disjunct distribution in coastal areas from Kangaroo Island and southern Fleurieu Peninsula in South Australia, King and Flinders Islands in Bass Strait, and from Torquay to Wilsons Promontory in Victoria.

The Table below is reproduced from his paper (with permission), and sets out the principal morphological and habitat features distinguishing the three species.

In a recent communication, Martin notes that he would expect most plants in cultivation that have been labelled as *A. retinodes* to actually be *A. provincialis*. Even in South Australia, where *A. retinodes* occurs, it is rare to find a planted *A. retinodes*.

We would be interested to hear of Study Group members' experiences with *A. retinodes*, *A. uncifolia* and *A. provincialis* and also any photos you may have. We will include responses in the next newsletter.

Reference:

O'Leary, M. C. (2007). Review of *Acacia retinodes* and closely related species, *A. uncifolia* and *A. provincialis* (Leguminosae: Mimosoideae: sect. Phyllodineae) (J. Adelaide Bot. Gard 21 (2007) 95-109)

Species	***Acacia retinodes***	***Acacia uncifolia***	***Acacia provincialis***
Habitat	Hills and plains	Coastal sands over limestone	Wet soil, creeks and swamps
Habit, ability to sucker	Erect tree, suckering	Rounded multi-branched shrub to tree, suckering	Slender to dense erect tree, not suckering
Bark	Rough, black to dark brown	Smooth-fissured, grey to dark brown	Smooth, grey
Phyllode length	(50-)60-160 mm long	(25-)30-75(-80) mm long	Variable, 90-200 mm long
Phyllode spacing along stem	Crowded, 4-10 mm apart	Crowded, 4-10 mm apart	Uncrowded, 10-20 mm apart
Phyllode apex	Uncinate	Uncinate or greatly so (recurved)	Straight or uncinate
Pruinosity	Non pruinose	Non-pruinose	Often lightly pruinose
Flowering time: normal (sporadic)	December - February	September – January (throughout the year)	September – January (throughout the year)
Flower colour	Cream to pale yellow	Cream to pale yellow	Golden, rarely pale, yellow
Flower no.	(16-)18-30(-34)	(16-)18-30(-32)	(18-)30-50(-54)
Ovary	Glabrous	Hairy	Glabrous
Pod width	8-11 mm	5-7 mm	5-7 mm

Acacias and Allergies

by Bill Aitchison

The subject of Acacias and Allergies is one that has been raised in this Newsletter on various occasions in the past, most recently in 2003. Following a suggestion from Don Perrin (Kippa-Ring, Queensland), it seemed appropriate to look at the subject again, and in particular to consider any developments since 2003. But first we have reviewed some of the previous references in Acacia Study Group Newsletters.

Previous Newsletter References

The subject was first referred to in the December 1964 Newsletter. Dr Allan Keane, Foundation Leader of the Study Group, referred to the "widespread belief that wattle pollen causes hay fever". He then argued that this "does not stand up to any reasonable investigation" and "simply is not true". He noted that in his medical practice, over many years of referring people for hay fever tests, he was yet to find one sensitive to acacia pollen.

A 1965 Newsletter referred to an article in the March 1965 issue of "Your Garden" by Thistle Harris, a well known authority on native plants. This article stated:

"There is no truth in the old legend that wattle pollen is the cause of hay fever. Wattle pollen is very heavy and so not air-borne for long distances, nor does it stay suspended for long after a big wind has dispersed some of it."

More recently, the May 2003 Newsletter (No. 87) included a letter from Dr J G Youngman, Deputy Director-General (Health Services) in Queensland, to Don Perrin. This letter included advice that sensitivity to wattle pollen is estimated to affect up to 5% of the community.

The August 2003 Newsletter (No. 88) included various comments from Study Group members, and also a letter from the Queensland Minister for Health to Don Perrin, effectively stating that wattle pollen is not considered as being a major problem from an allergy point of view.

Developments Since 2003 - The Bad Image Continues

It seems that the belief that wattles cause hay fever is still held by many people. For example, Don Perrin advises that at Redcliffe Botanic Gardens, just north of Brisbane, "wattle day" is celebrated on the first Sunday in August, as part of an "open day" which attracts about six thousand people. "Wattle fairies" are stationed at the gates and offer each visitor a spray of wattle. A very large number of the visitors accept, but quite a few grumble about their hay fever.

Esther Brueggemeier recalls a recent visitor to her garden who started sniffling, and immediately blamed the wattles in the garden, despite the fact that there was not a single wattle in flower (and grasses in flower and currently being mowed next door seemed a likely culprit).

Apart from these anecdotal examples, there are also occasional media references. Wattles were the subject of a segment on the ABC's Gardening Australia program on 7 October 2006. This showed off some of our great wattles, but it was considered necessary to issue a word of warning: "some people get asthma and hay fever when they go near a wattle".

More recently, in Sydney's Daily Telegraph newspaper on 1 February 2008, there was an article headed Governor-General under Fire. This included a reference to Lord Thomas Denman, who was appointed Governor-General in 1911. The article noted that Denman suffered ill health for most of his time in Australia, and that "his hay fever and asthma were particularly troubled by Australia's national flower, the wattle".

Advice provided on some web sites also continues to list acacias as being unsuitable garden plants for people who suffer from allergies. For example, the web sites of the Asthma Foundation of SA[1], The Asthma Foundation of Western Australia Inc[2] and The Asthma Foundation of Queensland[3] all include wattles in lists of plants that should be avoided.

In the September 2005 edition of Australian Horticulture, there was an article "Pollen down for the count". This article noted that "most flowering garden plants fall into one of two categories: those pollinated by birds or insects, and those whose pollen is distributed by wind." It then noted that wind pollination involves each flower releasing large amounts of pollen into the air, and noted that "this group includes trees and shrubs such as wattles (Acacia species) …". This article can be accessed on the web site of The Asthma Foundation of Victoria[4].

So, it seems that acacias continue to be commonly blamed for causing hay fever and asthma. Are they unfairly maligned?

Insect, not Wind, Pollinated

The 2005 article in Australian Horticulture (referred to above) maligns acacias on the grounds that they are wind pollinated. This appears to be incorrect, since it is generally accepted that acacias are mostly insect pollinated. We referred the statement regarding wind pollination to Dr Graham Stone, who is Senior Lecturer in Animal Biology at the University of Edinburgh, and a leading authority on the pollination biology of Acacia. Dr Stone comments as follows:

"There is some limited literature from Australia suggesting that in the dry centre some pollen dispersal may be by wind. However, there is very little evidence for this (dispersal by insects was not excluded, and so seed set could have been a

result of insect dispersal). Generally, wattles are certainly insect pollinated, and the compound polyad (comprising 16-32 pollen grains fused together) that wattles have is very poorly designed for wind dispersal. It is certainly not true that most trees and shrubs are wind dispersed - though many certainly are, especially those with catkin-like male flowers. I would not imagine wattles to be major contributors to airborne pollen except very close to areas where very large numbers are in flower. I must emphasise, however, that I am no expert on hay fever, and I don't know how much pollen you need to trigger the symptoms."

Acacia Pollen Counts

It has often been noted that acacia pollen is heavy and readily falls to the ground, and does not remain airborne for long.

The following Table shows the average annual Acacia pollen count (measured as average annual grains/m^3), and its percentage of the total pollen count, in Brisbane, Darwin and Sydney.

	Brisbane[5]	**Darwin**[6]	**Sydney**[7]
Average Annual Acacia pollen count (grains/m^3)	10	100	90
% of Total Pollen Count	0.1	2.5	0.5

In Melbourne, there is a daily measurement of pollen during spring and summer each year. However, Acacia pollen is not routinely measured as part of this count. The most recent measurement of Acacia pollen in Melbourne was taken over the 2 year period ending August 1993 and reported by Ong et al, 1995[8]. This paper noted that:

"July - September is the main flowering period of Acacia trees, but the pollen count gave only low values since the trees are insect pollinated and the large compound grains do not travel long distances."

The various figures shown above confirm that Acacia pollen is a very small component of total pollen in the atmosphere in the cities listed (and in fact in Brisbane is barely measurable).

Some Useful References

Our Newsletter No. 88 (August 2003) referred to information provided by The Australasian Society of Clinical Immunology and Allergy (ASCIA). A recent review of the ASCIA website[9] shows that their views regarding Wattles have not changed. They make the following statement:

"Wattle is frequently blamed for early spring symptoms but allergy tests (skin prick tests) seldom confirm that Wattle is the true culprit."

Another useful reference is contained in the April 2006 Bulletin[10] of the San Mateo County Medical Association (which is based in San Francisco). This Bulletin is titled Hay Fever is Uninvited Visitor to Bay Area, and is written by Dr Maria H Serwonska, who practices allergy and immunology and internal medicine in South San Francisco. Dr Serwonska states the following:

"Contrary to common belief, pine, eucalyptus, and acacia trees do not cause significant allergy symptoms. They produce heavy pollens that tend to fall straight down from trees and don't fly with the wind."

In July 2003, the question "Do wattles cause hay fever?" was raised on ABC Science Online[11]. The conclusion here was as follows:

"Wattles are often blamed for triggering hayfever, but it seems they may have been unfairly maligned. A Canberra study found that pollen density ranges from three grains per cubic metre in July up to 17 in October. …. Few people tested directly with pollen grains have a significant reaction."

In our Newsletter No. 88 (August 2003), it was noted that the web site of Asthma Foundation NSW at that time advised that wattles can cause allergy problems. A recent search of this web site[12] shows that certain plants are listed as either being suitable, or unsuitable, for allergy friendly gardens. However, wattles are not included in either list - which might suggest that they now consider acacias non-allergenic. It is also noted that The Asthma Foundation of Victoria web site lists suitable and unsuitable plants for a low allergy garden, and here again wattles are not included in either list[13].

A Final Comment

Dr Ed Newbigin, from the School of Botany at the University of Melbourne, is Coordinator of the Melbourne Pollen Count. He provided the following comment, with which I suspect a number of members of the Acacia Study Group would be sympathetic.

"As to hay fever, I fall into the school that thinks acacia pollen has been unfairly maligned. I understand from my allergist friends that a small proportion of people do test positive in skin prick tests for sensitivity to acacia pollen, but I don't know how many of these actually develop hay fever in response to acacia pollen. My feeling is that most of those people whose hay fever comes on in late winter/early spring associate this with acacias because they are so obviously flowering at this time. However, they ignore the deciduous trees such as ash, elm, alder, etc, that are also flowering and producing copious amounts of pollen that is known to be highly allergenic. Being wind-pollinated, the flowers of these trees tend to be quite small and not very showy."

References

[1] http://www.asthmasa.org.au, accessed 31 May 2008 (Breathe Better Plants)

[2]http://www.asthmawa.org.au/files/factsheets/Low%20Allergen%20Plants.pdf, accessed 31 May 2008

[3]http://www.asthmaqld.org.au/content/?action=getfile&id=128, accessed 31 May 2008

[4] http://www.asthma.org.au/Default.aspx?tabid=235, accessed 31 May 2008

[5] Green, B. J., Dettmann, M. E., Rutherford, S. & Simpson, R. (2002). Airborne pollen of Brisbane, Australia: A five-year record, 1994-1999. *Grana*, 41, 242-250.

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Wattles and Bushfires – A Case Study

Our thanks to Mike Stevens from Parks Victoria for information provided in this article. Mike is Program Coordinator (Natural Values Management) for the Grampians National Park.

In our recent Newsletters there have been various references to the impact of bushfires on acacias.

A further practical example relates to a situation that has occurred in the Grampians National Park, a mountain area about 260km west of Melbourne.

Following a 1999 Mt Difficult fire at Roses Gap in the northern part of the Grampians, a significant infestation of *Acacia longifolia* has occurred. This infestation stretches at least 10 km along the roadside, and the plant grows in a thicket extending about 100m from the road, then spreading out into individual plants or clumps and losing its stranglehold.

The response to this outbreak has created a number of management issues for Parks Victoria, including the following:

Which species is it?

It is thought to be *A. longifolia* var. *longifolia*. However, the Department for Environment and Heritage in South Australia is currently doing work right across SE Australia to determine varieties, hybrids etc of *A. longifolia*, and this may clarify the situation.

Is it indigenous, or introduced to the Grampians?

Parks Victoria has declared it a weed in the Park based on historical research. The earliest record of the species being recorded in the Park is from the late 1800's and a lot of people had thought it was one of those weird range extensions of plants that the Grampians is known for. But, *A. longifolia* has been recorded as one of the earliest plants to be propagated with early Botanical Gardens records from the late 1790's and early 1800's showing the plant was being distributed and sold around the Australian settlements and being exported to the UK as a garden plant.

In addition, the plant is invading a significant open box woodland Ecological Vegetation Class (EVC) and Heathlands, but elsewhere in the Park it is not present in many of these EVCs.

Adding further weight to the argument that it is a weed is that the main infestation area that has sprung up post the 1999 fire is along the main Robe (SA) to Victoria gold mining route, and this was a station location for Government Troopers. It is suggested that the species was brought to the Grampians around the early to mid 1800's, and it then established for approximately 50 years prior to the naturalists' discovery of it in the late 1800's. On this basis, it has had around 200 years to establish seed stock in the Roses Gap area, and it is this seed that grew prolifically after the hot 1999 fire, with now a major infestation.

What action is being taken to control the infestation?

Parks Victoria has attempted to map and monitor the infestation, but are trying to fight it with a fire regime. In

relation to the mapping, they have trialled aerial photo mapping, and this looks very promising.

Wattle Day Association Activities

by Terry Fewtrell

Terry Fewtrell has recently taken on the role of President of the Wattle Day Association, taking over from Jack Fahy who had been President from 1998 to 2007. In this article, Terry tells us about the activities of the Wattle Day Association.

The Wattle Day Association continues the great tradition in Australia of promoting wattle as a symbol of our nation. In fact 2008 marks the 20th anniversary of the proclamation of *Acacia pycnantha* (golden wattle) as Australia's national floral emblem. That marked the formal point of recognition of a tradition that had begun in the mid 1800s, of identifying with wattle as a symbol of the native born.

It is also a hundred years since a previous Queensland Prime Minister, Andrew Fisher, intervened to ensure that wattle featured prominently in the coat of arms of the new nation. To add to the anniversaries it is also 20 years since National Wattle Day was gazetted as the 1st of September each year. The celebration of Wattle Day also has a long history, with 2010 being considered the centenary of the first formal celebrations of a day to mark the importance of wattle to our nation.

So the Wattle Day Association is keen to encourage the recognition of wattle as our national floral emblem. The aims of the Association are two fold, to promote:

- The celebration of National Wattle Day (including advocacy that it be a national holiday); and
- Wattle as our national floral emblem and as a unifying symbol for all Australians.

Each year the Association in Canberra organises a range of events around the time of Wattle Day, badging them as the Week of the Wattle. This year the Association will, as is now custom, organise for school children to present a bouquet of wattle to the Governor General. As Wattle Day falls on a parliamentary sitting day this year we will also be arranging for wattle to be presented to the Prime Minister and the Leader of the Opposition as well as other members of the Parliament. Other events include a dinner, walks and talks at the Australian National Botanic Gardens and the presentation of wattle to new citizens at a Citizenship Ceremony that is held annually in conjunction with Wattle Day.

This activity is only part of what the Association does. We are conscious of the need to provide good information and resources to community groups and especially schools. The Association's website is extremely popular with such groups and schools and receives lots of hits, especially in the lead up to Wattle Day. The website address is www.wattleday.asn.au. Good as the site is the Association is currently working on a refresh of the information and its presentation.

One of the great things about wattle and Wattle Day is that Australians around the country are interested in doing things to celebrate wattle as a wonderful statement of the beauty of our country and the resilience and diversity of our people. In that sense wattle is a metaphor for the nation. It is a symbol with no baggage. It speaks to and of us all and occurs across our land.

One group that each year joins in the celebrations of Wattle Day is the Riddiford Arboretum Committee in Broken Hill. Last year they held an open day at the arboretum on the 1st of September, showcasing its wonderful range of native plants and highlighting its wattles. The local Red Cross provided wonderful sprigs of wattle and the committee made up special badges for Wattle Day 2007, designed by the local TAFE students. Refreshments were provided by the Legacy mobile café. All of this was just a local community initiative, spurred on by the love that ordinary Australians have for our floral emblem. You can see photos of the activity at their website www.nsw2880.com

This example of community interest and support for wattle and Wattle Day is what the Association is all about. So all those wattle lovers out there, take your love for wattle to the streets. Engage with your local community or friends and this year celebrate National Wattle Day and wattle as a unifying symbol for all Australians.

Happy Wattle Day

Terry Fewtrell
President
Wattle Day Association

Wattle Day in Wangaratta

For several years, the local Australian Plants Society group in Wangaratta (in north eastern Victoria) has set up a stall each Wattle Day in the main street of the town (the stall being provided by the local Council).

The stall has been decorated with posters and a display of wattles in bloom and has been staffed by local APS members. Passers by have been given Wattle Day badges

and packets of wattle seeds, as well as information on APS activities and expert advice.

Helen van Riet and Jill Judd celebrate Wattle Day. Helen is President of APS Wangaratta, and Jill is a Committee member. Helen is a member of the Acacia Study Group.

The badges measure about 2.5cm x 3cm and feature a sprig of wattle on a black card, with a gold ribbon.

Note: The Wangaratta Group will not be operating the stall this year.

The Acacia Name Change Debate

Yet another paper has been published objecting to the 2005 decision taken in Vienna to conserve the name Acacia for Australian species. This paper appeared in The Linnean 2008 Volume 24(2).

We now have copies of a number of papers that have been published on this subject. If you would like to read any of them, please advise Esther or Bill.

Another article that may be of interest appeared in a South African newspaper, The Mercury, on 22 November 2007 (under the heading "The great acacia debacle"). This article can be accessed at the following web address:

http://www.acacia-world.net/html/namechange1.html

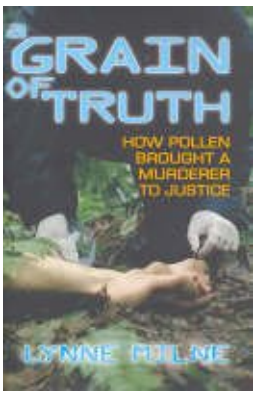
Books

by Bill Aitchison

A Grain of Truth - How Pollen Brought A Murderer to Justice
by Lynne Milne
Published by Reed New Holland 2005
RRP $27.95

This is a book that I only recently stumbled across, although it was published in 2005. It is a book that I think would be of great interest to anyone with an interest in botany, native plants, or acacias in particular. However, I suspect that it has been a rather well kept secret from this group of people. In fact I did a mini survey of just a few Acacia Study Group members, and not one had heard of the book - although two Queensland Study Group members had a recollection of the Sunshine Coast murder that the book relates to. Perhaps it has not been well known among native plant people as it seems to have been marketed principally to readers with an interest in crime stories. The introduction to the book states:

"This book is for anyone who has a passion for true crime stories, forensic investigations or a curiosity about the intricacies of detective work."



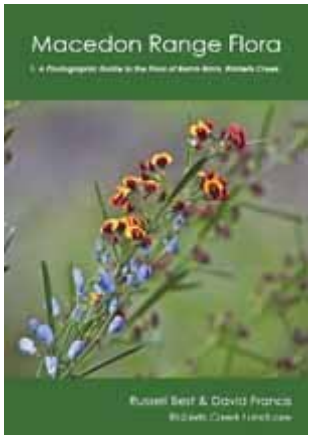
Specifically, the book tells the tragic story of a 1996 murder of a young mother who was murdered and her body dumped near Noosa in a bush area where there were three wattle species - *A. saligna* and *A. longifolia* ssp. *sophorae*, both in flower, and *A. aulaocarpa*, not in flower. In dumping the body, the murderer took away pollen from the Noosa crime scene, both on his clothes and in his car. Ultimately, it was analysis of these pollen samples by the forensic palynologist (the author of the book, Dr Lynne Milne) that resulted in the arrest and conviction of the murderer.

From the perspective of a plant person, it is probably the botanical aspects of the book that are of as much interest as the story of the murder. The author includes a general chapter on the sex life of plants, and more specific sections

on pollen - one chapter is titled Wattles and Their Pollen. The book addresses questions such as why plants produce enormous amounts of pollen, the nature of wattle pollen, how it varies from other types of pollen, how pollen from different species can be distinguished, how wattle pollen is dispersed (by insects, not wind), and how wattle pollen quickly falls to the ground.

As well as the 1996 murder, the book also gives a number of other examples of how pollen has been used in solving crimes eg one example relates to a multiple rape case in Western Australia.

Note : The Acacia Study Group has some copies of this book, which Members may buy at a price of $20 (which includes postage in Australia). If you would like a copy, please forward a cheque to Esther (made out to ASGAP Acacia Study Group) or you can also make a direct credit to our Bank Account (details shown below under Study Group Membership).

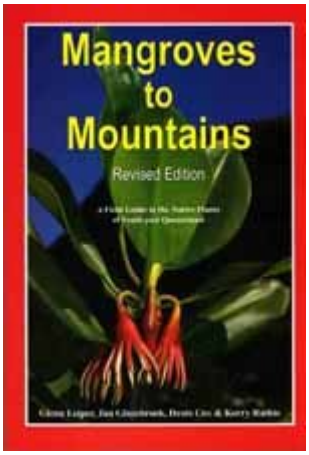


Macedon Range Flora
A Photographic Guide to the Flora of Barrm Birrm, Riddells Creek
by Russell Best and David Francis
Published by Riddells Creek Landcare 2008, RRP $15

One of the co-authors of this book, Russell Best, is a member of the Acacia Study Group.

The book provides a photographic guide to the flora of a relatively small reserve of about 250 hectares north west of Melbourne,

Although only small, the reserve boasts 14 wattles. All species included in the book are illustrated with high quality photographs and helpful notes describing the distinguishing features of each species.



Mangroves to Mountains
A Field Guide to the Native Plants of South-east Queensland (Rev Edition)
by Glenn Leiper, Jan Glazebrook, Denis Cox and Kerry Rathie
Published by Logan River Branch, SGAP Queensland 2008

This is a revised 544 page edition of two previous published volumes 1 and 2, and contains over 2200 species. Two of the co-authors, Jan Glazebrook and Denis Cox, are members of the Acacia Study Group.

The area covered by the book, from the NSW border to Fraser Island, and inland to the Great Dividing Range, is rich in wattles, with about 70 being included in the book.

Study Group Membership

Acacia Study Group membership for 2008/09 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:
ASGAP Acacia Study Group Leader
Esther Brueggemeier
28 Staton Crescent
Westlake, Victoria 3337

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 Esther by email (wildaboutwattle@iprimus.com.au)