Australian Native Plants Society (Australia) Inc.

ACACIA STUDY GROUP NEWSLETTER

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From The Leader

Dear Members,

What a dramatic start to spring we have had down south. The locals here are wondering if we are ever to see a dry day again. Melbourne recently braved some of the strongest and most damaging winds in years with gusts up to 100 km/h and 130 km/h on the Alps while bringing torrential downpours to much of the state. Despite being one of the wettest September's this century, I was amazed to see the abundance of wattles bursting into full bloom, as if to say, it's now or never! Those wattles that flower early, flowered in September. Those wattles that flower late, flowered in September, turning my entire garden into a glorious blaze of golden yellow.

The Australian Plants issue on Acacias is well and truly printed, though I'm sorry to say, has taken a little longer than expected. Those who subscribe to Australian Plants will receive their issue shortly (March, June & September 2010 issues will be sent together). The Acacia Study Group has purchased extra copies, therefore, if you do not subscribe to Australian Plants but would like a copy of this particular issue, please contact Bill or myself with your request. To cover these costs, the copies are $6.00 each which includes postage (in Australia).

A big thank you is in order to all the members who have promptly paid their subscriptions, as this makes life easier for all of us involved. The financial statement and an updated seed list are also included in this month's newsletter.

Cheers,

Esther Brueggemeier

Welcome

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

Massimo Cola, Rome, Italy
Lyn Reilly, Runaway Bay, Qld

Lyn has rejoined the Study Group. She is one of the voluntary Directors of Myall Park Botanic Garden near Glenmorgan on the Darling Downs in Qld (www.myallparkbotanicgarden.org.au). Since the late Dave Gordon AM began the Garden in the1940s it has specialised in plants from arid and semi-arid parts of Australia, especially acacias, eucalypts, grevilleas (*G*. 'Robyn Gordon' etc), hakeas and eremophilas. One of their current projects relates to the restoration and replanting of threatened acacias especially those from the Darling Downs region.

From Members and Readers

Judy Barker (Hawthorn East, Vic) writes (27 Aug 2010):

"Congratulations on the recent June newsletter. I liked the historical references. Mr Maiden sounds just like my cup of tea.

My single specimen of *Acacia imbricata* produced a lot of seed over summer. I collected much of it but it looked a bit small and sad. I have recently sown it after heat treatment and am watching closely for seedlings. If they do appear it will be another species that produces seedlings without cross pollination (unless they are hybrids). The original plant is beautiful now it is in flower and has a nice shape and interesting foliage even if it is not flowering."

Christine Wadey (North Eltham, Vic) writes (2 Sept 2010):

"The garden is looking wonderful this year after the very good winter rain, and the procession of acacia flowerings is well under way. I am currently particularly enjoying *A. chinchillensis* and *A. flexifolia*."

Sue Bradford (Caboolture, Qld) writes (21 Sept 2010):

"My wattles are finished flowering for this season after putting on a lovely show. In a few weeks my *Acacia complanata* will start flowering with its big bright yellow balls. Then in about December, *A. conferta* and my hybrid I mentioned years ago will start flowering for months."

June Rogers (Horsham, Vic) writes (30 Sept 2010):

"Aren't the wattles lovely this year? The local ones are so happy for the extra rain and the garden ones also. In particular, *A. chinchillensis* and *A. acinacea*, of unknown origin, are good examples."

Origin of Acacias in Australia

Dr Wolf Achim-Roland (Germany) writes as follows:

"Recently I bought a book by Prof. Richard Pott of Hannover/Germany on General Geobotany. (Allgemeine Geobotanik, Springer 2005; ISBN 3-540-23058-0). On page 98 of that book he cites a study of M.E.White (1990): The Flowering of Gondwana - the 400 Million Year history of Australia's Plants; Princeton University Press, Princeton /NJ and writes (translation):

"A map of tertiary pollen finds in Southern Australia illustrates the relatively late appearance of an endemic flora, especially regarding the today dominant Eucalyptus and Acacia vegetation, the pollen of which can be registered continuously "only" from the middle Oligocene on - 30 million years ago."

As Australia was separated from Gondwana 46 million years ago, the Australia Acacias would therefore not be descendents of the African Acacias.

Until now, I was always certain, that acacias have their worldwide origin in Eastern Africa, and that they have adapted to Australia after it broke away from Africa forming specific species for the Australian climates.

Maybe someone could comment on this subject."

We sought views on Wolf's question from a couple of experts, and are advised that molecular evidence shows that the Australian Acacias are in fact not very closely related to the African ones. Although the African and Australian Acacias share a common ancestor, it must be quite an old split because the nearest relative of the Australian species is a member of the tribe Ingeae (not in Acacieae as originally thought).

Would anyone else like to comment on Wolf's question?

Acacia scirpifolia

We have had an enquiry from a reader of our Newsletter in Geraldton, WA, regarding *Acacia scirpifolia*. The enquirer notes that he has one of these plants growing on his block in Geraldton, and he is seeking information in relation to it. He is particularly interested in how to grow the plant, what the ideal conditions are, the life cycle etc.

He understands that it is a perennial, has a relatively short life span, is difficult to propagate, is very fast growing, is found in the mid west of WA and likes sandy soil.

Is there a Study Group member who has knowledge of this species that we could pass on to our enquirer – please let

Bill Aitchison have any comments that you may have and we will pass them on.

Interestingly, a photograph of this plant can be found in a new book that has just recently been published – Wildflower Country, by Stanley and Kaisa Breeden (Fremantle Press 2010). This book is a celebration of the flora of the south west of WA, and features some absolutely stunning photography (apart from *A. scirpifolia* the book also has photographs of *A. acuminata* and *A. erinacea*).

Acacia glaucoptera

In Newsletter No. 109 we included some comments from **Colin Jackson** on this species, including his struggles with propagating it. Colin has now provided an update, and advises that he has now been able to get cuttings to grow since he has been using bottom heat. There is still no seed set on his plant, but he advises that he only has the one specimen so it may be that this is one of those species that requires another separate plant for cross pollination to occur.

Colin reiterates that the "backlighting" of sunlight through the foliage is a feature the he enjoys for most months of the year, while the flowering period, although spectacular, is relatively brief.

Elizabeth George (Alexander Heights, WA) comments (26 Aug 2010) on her *A. glaucoptera* and compares it with her *A. spathulifolia*:

"I agree with Colin Jackson about *Acacia glaucoptera*. This year my plant is flowering prolifically for the first time - being 2 metres tall and almost as wide. Its sculptural habit and large golden flower balls produce a glorious specimen in the garden. With luck I may find some seed on it this year. My *A. spathulifolia* has finally reached its original size again. About the same height as *A. glaucoptera* and a bit wider, its graceful arching branchlets are covered with just opening intensely golden flowers. Although only half the size of those of the other Acacia their dense colour and cover provide a spectacular display. The flowering of both species seems to be about a month later than usual, most likely due to the lack of normal rainfall and the large number of mornings of 5C and below we have experienced this season. It has been suggested we could have a wet September and if so the results could be interesting to observe."

Acacia with part red flowers

Phil Hempel (Diamond Creek, Vic) recently sent to us the following photo. Phil writes as follows;

"On a recent trip into the bush south west of Coober Pedy I came across an acacia with part red flowers on half of the open flowers. I have attached photos of the acacia with the part red flowers, are you able to identify the species from these photos and if so are the part red flowers normal? The acacia was a bush about 2m high and 2m wide, very prickly with the phyllodes (needle shaped, 4cm long) easily broken off if slightly bent."

Our thanks to **Bruce Maslin** for identifying the Acacia in Phil's photo. Bruce advises that the species is "a common arid zone one called Karara (*Acacia tetragonophylla*)." Bruce also advises that he has observed this red/yellow phenomenon a few times on *A. tetragonophylla* plants in the field, and the red flowers co-occur with normal yellow ones. Bruce recalls that the red stamens are sterile (ie they have no anthers) but he does not know what causes this phenomenon.

Banish the winter blues

by Tony Cavanagh, Ocean Grove, Vic

I was looking out our bedroom window the other morning and it was another grey day, dull, overcast and cold. Now this is pretty typical for southern Victoria in winter but it was the third day in a row, and then it began to rain. When I looked again, I took more notice of our flowering *Acacia acinacea* (we always knew it as "*A. rotundifolia*" but I understand that this is now part of acinacea). Even in the rain, it seemed to glow and if anything, the dull conditions only enhanced it. It is in full flower, the flowers a cheery, intensely bright yellow and the attached photo was taken while it was raining. Later in the day, I wandered around the garden and most of our wattles were a picture, patches of cheerful yellow in otherwise dull and fairly drab surroundings. So the next time winter gets you down, go and have a look at your flowering wattles. They are sure to cheer you up as they have that wonderful ability to look bright and glowing when almost everything else isn't. Here are a few pictures of what I saw that wet winters morning.

Acacia acinacea (rotundifolia) **Photo: Tony Cavanagh**

Acacia chrysocephala and A. continua **Photo: Tony Cavanagh**

Acacias and Allergies

by Bill Aitchison

We have referred to the subject of Acacias and Allergies on a number of occasions in this Newsletter. In an article in Newsletter No. 101 (June 2008), it was noted that *Acacia* pollen is a very small component of total pollen in the atmosphere of Brisbane, Darwin, Sydney and Melbourne (based on pollen measurements taken in those cities).

A paper has recently (September 2010) been published which sets out the results of a recent study of pollen in the atmosphere of Hobart. This study shows that *Acacia* pollen represents a very small proportion of the total pollen in the atmosphere – the average *Acacia* annual pollen count measures 45 grains/m^3, or 0.5% of the total pollen.

The paper makes the general observation that in Hobart "native plants play a minor role as pollen contributors". *Betula* (birch) pollen dominates the atmosphere of Hobart (accounting for 25% of total pollen), being about twice that of the *Cupressaceae*, the second most dominant pollen type (at 13% of total pollen).

It is suggested that the "inordinately high concentration of *Betula* pollen could be due in part to the presence of *Betula pendula* (silver birch) trees in built up areas of Hobart." It also notes that "this is of concern because birch is a major allergen implicated in respiratory disease in Europe".

The paper also notes that *Alnus* (alder) and *Salix* (willow) "exhibited a higher atmospheric pollen concentration in Hobart than in other Australian cities", and comments that this is notable, given that "*Alnus* pollen is a major allergen" and "Salix is known to be allergenic". It suggests that *Salix* "might be a significant cause of hay fever in Hobart, considering its abundance as a weed in Tasmania."

Reference: Tng DYP, Hopf F, Haberle SG and Bowman DMJS (2010) Seasonal pollen distribution in the atmosphere of Hobart, Tasmania: preliminary observations and congruence with flowering phenology. *Australian Journal of Botany* 58, 440-452

Wattle as a symbol of safety

The 100th anniversary of Wattle Day on 1 September 2010 was celebrated in various ways across the country, but at the University of New South Wales it was celebrated by the unveiling of a bust of Gandhi on the Library Lawn. The bronze sculpture and a collection of books were a gift from the Government of India to the people of NSW and to the University.

The Pro Vice-Chancellor (International) Jennie Lang stated that "Wattle is to be a lasting symbol of student safety at UNSW," and advised that wattles will be grown around campus. "It is an example of something living in harmony, which will build goodwill on campus."

It was also noted that wattles are usually the first plants to rise from the ashes of bushfires and provide protection for other seedlings. One of the aims of the University is to maintain close relations with the Indian community and to provide a safe environment for Indian students.

(l-r); NSW Treasurer Eric Roozendaal, UNSW Vice-Chancellor Professor Fred Hilmer and Indian Consul-General Amit Dasgupta
Photo: Susan Trent/Gasbag Photography

Insects and Acacias

by Warren Sheather, Yarrowyck, NSW

Unfortunately we cannot identify the insect eggs photographed by Esther in the last Newsletter but we have observed more mature insects feeding on some of our Acacias.

In April 2010 we found what appeared to be a small hairy snake near our house. On closer inspection the snake turned out to be 13 very hairy caterpillars crawling in procession. A silken thread is laid by the leading insect that is followed by the other caterpillars. The caterpillars feed on Acacia foliage, usually favouring those species with phyllodes.

A few years ago processional caterpillars defoliated a large *Acacia neriifolia*. The tree recovered in a few months. The procession illustrated had been feeding on an *Acacia implexa* and had travelled 200 metres from their food source.

Processional caterpillars **Photo: Warren Sheather**

Mature caterpillars burrow into the ground to pupate. Brown moths emerge in late October. Dr Tony Young wrote in the last Newsletter that the nests and caterpillars should be avoided as their hairs will cause nasty, itchy rashes.

Neola semiaurata is known as the Wattle Moth. When we first observed a Wattle Moth caterpillar we thought we had discovered a double-headed caterpillar. Closer examination revealed that the lower end of the insect was a "pseudo-head" that came complete with eye spots to confuse predators and curious gardeners. When upset the caterpillar raises both head and tail. This is when the eye spots are revealed. This is another caterpillar with hairs that will cause skin irritation.

Neola semiaurata **Photo: Warren Sheather**

The Wattle Moth, as the name implies, feeds on Acacia foliage. In our garden they have been observed feeding on *Acacia baileyana* "purpurea", *Acacia filicifolia* and *Acacia spectabilis.* They are not exactly in plague proportions in our garden. In 15 years we have only sighted 3 caterpillars.

Common Imperial Caterpillar **Photo: Warren Sheather**

Last year we found several clusters of small, reddish-brown caterpillars on an *Acacia parvipinnula*. The caterpillars were covered in small black ants. The caterpillars were the larvae of the Common Imperial Blue Butterfly. The ants protect the caterpillars and are rewarded by nectar that is secreted by both caterpillars and pupae.

Common Imperial Butterfly **Photo: Warren Sheather**

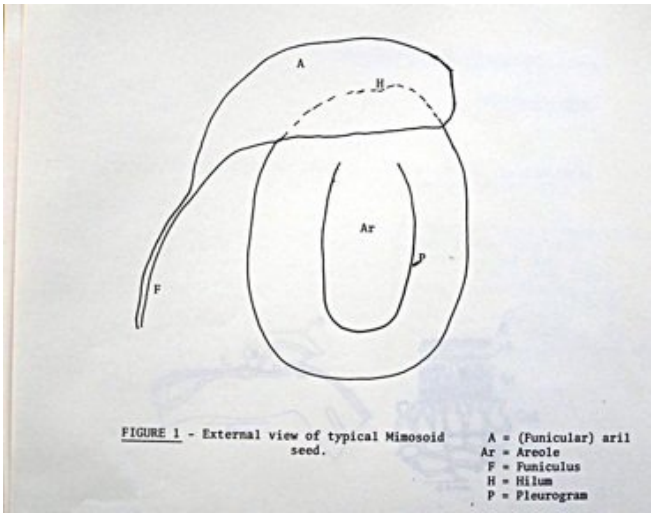
We were fortunate to photograph a butterfly that alighted on anther wattle. The butterflies have metallic, greenish-blue central areas on the forewings and orange-red spots and fine black tails on the hindwings. This is only the second time we have observed these insects. The previous occasion was in a previous garden in the Blue Mountains over 40 years ago.

The Germination of *Acacia* seeds – the Technical Side

by Tony Cavanagh, Ocean Grove, Vic

Have you ever wondered when you are pouring hot/boiling water over your *Acacia* seed to enhance germination, just what affect this treatment might be having on the seed? Many years ago and in another life, a friend, Dr. V.N. (Win) Tran and I asked this very question. As we were respectively an electrical engineer and a metallurgist/mechanical engineer, you may well wonder what possible interest this could have for us. It's a long story.

In the mid to late 1970s, the use of microwave energy to heat objects was in its infancy. There were no microwave ovens and there was considerable research being carried out. Knowing of my interest in native plants, Win asked me if there were any Australian plant seeds that we might experiment on. I suggested *Acacia* and we moved on from there. In fact, we were the second people in the world to use microwave energy to improve *Acacia* germination, being pipped by a couple of months by researchers at the Weed Research Centre of the U.S. Department of Agriculture. In the end, while microwave energy worked and gave results



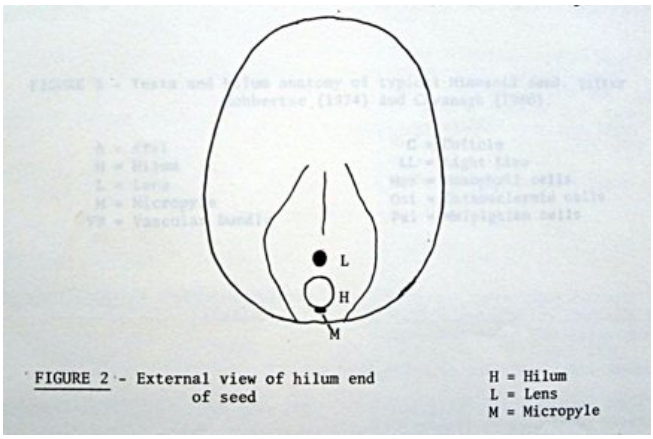


Figure 3: Colourful Arils

The *Acacia* seed (see Figures 1 - 3)

similar to those achieved by dry heat and hot water, it did not offer any particular advantages over conventional practice and required experimentation to ensure that seeds were not overcooked. But what intrigued us most was that in all the papers we read on germination of Acacias, no one had ever asked the question "what does treatment do to the seed?, ie how does heat treating (the most popular method) work? It proved a fruitful and fascinating field of research and we published a number of joint papers and three substantial reviews, but much remains unknown and there are still quite a number of aspects of *Acacia* seed germination which are little understood even today.

I guess that few of us have ever examined an *Acacia* seed under a microscope or even with a X10 lens. Seeds are generally dark brown to black and range in size from a couple of millimetres (eg *A. lateriticola*) to perhaps 20 mm in the northern *A. dunnii.* They generally have two flat sides on which is found a horse shoe-shaped groove known as the "pleurogram". This is the first unknown – no one seems to know if this serves any purpose. At the top of the seed, is an area known as the "hilum", often in a depression, which is the area where the seed was attached to its seed stalk or "funicle" (Figure 2). The funicle is rarely seen on mature seed as it usually breaks off although some seeds have a large, fleshy, colourful swelling attached to the top of the seed known as an "aril" (Figure 3). The aril is rich in oils and fats and probably is a seed-dispersal mechanism. Ants (and possibly birds) collect such seeds and eat off the arils, with the ants storing the otherwise undamaged seeds in their nests. After a bushfire, "clump" germination of wattles is sometimes seen from these buried seeds.

The area of most interest is the hilum. Figure 4 shows the hilum area of *A. suaveolens*, seen under a scanning electron microscope at around 75 times magnification. Most but not all *Acacia* seeds show the features marked – the hilum **H** (as above), the "micropyle" **M** (the point where the pollen tube penetrated the ovule to fertilise it and begin the development of the seed), and the most important of all, the "lens" **L** (sometimes mistakenly called the "strophiole"). As its name implies, the lens is convex in shape and for many years, while its presence was noted by seed anatomists, its function was unknown. In our original work, we eventually tracked down some foreign-language papers (including one from South Africa in Afrikaans) which suggested that the lens could be a point of weakness in the seed coat. It ruptured under the stresses caused by hot water treatment or dry heat and thus allowed water entry to the seed and the germination process to begin. It wasn't hard to verify this. We treated a batch of 50 or so large seeds with boiling water (large seeds were chosen purely for ease of handling) and split them into two batches. One group received no further treatment, in the other we covered the whole of the hilum area with either Vaseline gel or Araldite glue, the purpose being to stop water access to the lens area. Both groups were germinated on moist filter paper in an incubator under controlled conditions. The results were astoundingly conclusive – almost no germination for those with the hilum/lens covered, over 90% for the uncovered group. So that was another mystery solved.

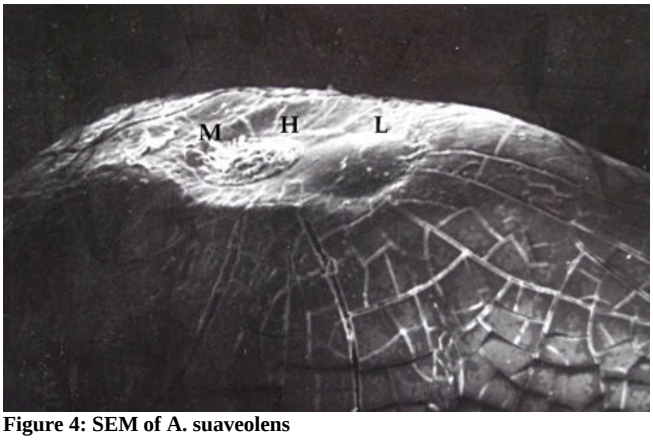


Figure 4: SEM of A. suaveolens

The *Acacia* seed coat (see Figure 5)

Most of us have heard the term "hard seed" which is usually applied to legume seeds. It is used because most seeds of this group are "mechanically" hard but it is also usually means they are water impermeable and require some form of treatment to damage the seed coat to allow water to penetrate and begin the germination process. Many commercial legume crops such as beans and peas, clovers etc have been bred so they no longer have a water impermeable seed coat but most wild legume seeds still do and must be treated. The technical term is that they are "physically dormant". We were interested in what feature(s) of the seed coat might be responsible.

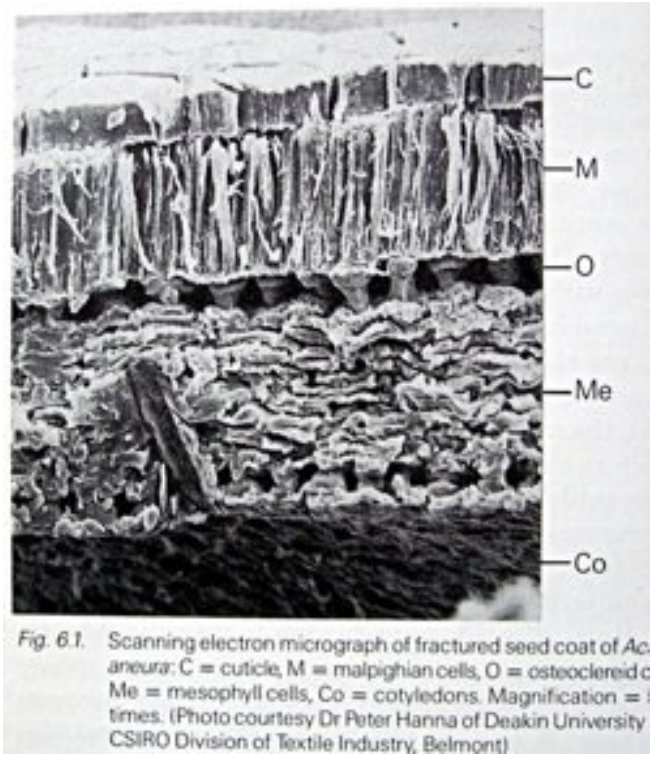


Figure 5: Cross section of seed coat

And it is indeed a remarkable water resistance. *Acacia* seeds have been soaked in seawater for more than 10 years and were still capable of germinating after treatment. Seed buried in the ground shows similar resistance. In a case in South Africa, an area was originally sown with *A. mearnsii* (black wattle) and cultivated for 16 years before the wattles were pulled out and the area was sown with maize. Maize was cultivated for 44 years and the area was then abandoned. Within a few years, wattle seedlings began to appear and within a decade the field was covered in *A. mearnsii*.

Even in large seeds, the actual thickness of the seed coat is quite small, perhaps as little as 10% of the seed thickness. In smaller seeds, it may be less than 50 microns (compare this with typical human hair which ranges between 50 and 120 microns). The coat structure is quite complex and although its general features were known to anatomists for over 100 years, even today there is no clear understanding of precisely what causes water impermeability. I have always felt that such an understanding could have immense practical applications for water proofing compounds but I guess that no one will ever take it up. As Figure 5 shows, the coat consists of several layers, the outer "cuticle", thin, water permeable and structureless, is responsible for the glossy appearance of some seeds. The next layer is critical for water impermeability. Known as the "macrosclereid layer", it consists of tightly packed, elongated cells which are impermeable through their entire length. What this means in theory is that you only need to damage the coat to below this layer (with a file, sandpaper or other abrasive technique) to effect germination. In practice of course, you have no idea how thick the layer might be but nicking or chipping seeds is a useful technique when you only have a few to treat. The layers below the macrosclereids are water permeable and play no part in preventing germination.

The effect of treatment on *Acacia* seeds

It was interesting to see in the last Newsletter several references to hot/boiling water treatments for *Acacia* seed with Bill raising the question about a "standard" method. In the early days, this also puzzled us – surely a "standard" technique existed which would give optimum results. Well, the answer is no, there is no such thing. Some species such as brigalow (*A. harpophylla*), *A. argyrodendron* and *A. cambagei*, require no treatment and unless stored in a refrigerator, brigalow seeds lose viability in less than a year. Sometimes it is possible to sow immature, green seed (which requires no treatment) and achieve moderate germination. Some tropical *Acacia* seeds such as *A. aulacocarpa*, *A. holosericea* and *A. rothii* can show high susceptibility to fungal attack after hot water treatment and it is probably better to use nicking or chipping. Others are killed by boiling water but give good results with water at 80 to 90° C. (eg *A. suaveolens*, *A. sylvestris*). Seed of some species can be boiled for five to ten minutes with no ill effect and others can be heated in an oven at 100° C for 30 minutes or longer and still remain viable. Standard practice in the South African Wattle Industry where *A. mearnsii* is grown is to soak seed in 2 kg lots in water at 90° C for 30 to 60 secs. What really brought home the uncertainty was a paper where the authors had collected seeds of *A. melanoxylon* from some 17 locations in Victoria and gave them all the same treatment of boiling for 30 seconds. Germination results ranged from 10% to 92%! It pays to be a little cautious and my recommendation is to use water off the boil and leave the seed soak overnight or for up to 24 hours. If you have a large quantity to process, do a few preliminary experiments beforehand to try to establish just how much "off the boil" the water should be.

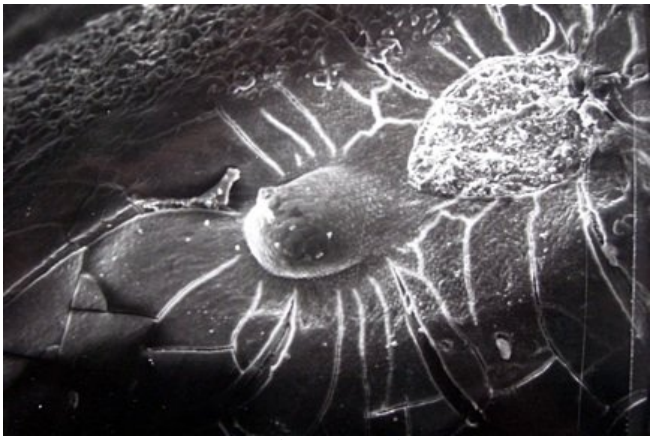


Figure 6: Raised lens and surface cracks after treatment

What does heating, dry or wet, do to the seed? Dry heat in particular causes a network of surface cracks and popular wisdom was that heating "cracked" the seed coat and allowed water penetration. Unfortunately for this theory, sections through treated seed showed that the cracks never penetrated the macrosclereid layer. Examination of treated seeds under both an optical microscope and a scanning electron microscope did reveal that the lens was damaged by heat, becoming raised and appearing white or golden, or in extreme cases became cracked and/or lifted off completely (Figures 6 and 7).

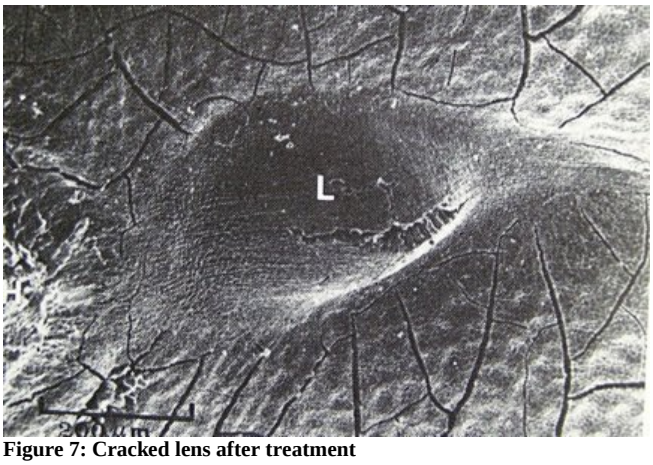


Figure 7: Cracked lens after treatment

The seed coat is much thinner at the lens than anywhere else so this small feature is a point of instability which ruptures

under stress and allows water entry and enables germination. In the wild, *Acacia* seed can exist in the soil for decades, remaining viable and ungerminated, until an outside event such as disturbance or a bushfire can result in a flush of germination. The lens might thus be thought of as an ecological control valve which "turns on" germination in the right circumstances.

Well, that is the story from my point of view of a little understood process which is critical to us growing some of our favourite plants, the wattles. Unfortunately, it is not the whole story as there are still unknowns, not least of which is 'how do water impermeable seeds which do not have a lens germinate?" There are some non-Acacias in this category and I have no idea of the answer. Perhaps someone in the future will look at the problem and come up with another mechanism.

Myrtle Rust Fungus

In April this year Myrtle Rust (*Uredo rangelii*) was detected at a cut flower growing facility on the Central Coast of NSW, this being the first detection of this in Australia. This is a fungal disease that attacks plants in the Myrtaceae family, and in this first discovery it was found on *Agonis flexuosa* (willow myrtle), *Syncarpia* (turpentine) and *Callistemon* (bottlebrush) species.

Unfortunately, a report in The Daily Telegraph newspaper on 12 August 2010 stated that "native plants like wattle, bottle brush and gum trees are under threat from the outbreak of an exotic overseas fungus". This report was incorrect in its reference to wattles. We did seek confirmation of this from the Department of Agriculture, Fisheries and Forestry, and they have advised that, in relation to the fungus, "the host range is restricted to Myrtaceae spp. and not found on Acacia spp."

Further information on this rust can be found on the Department's web site (www.daff.gov.au). The Nursery and Garden Industry Australia (NGIA) has prepared an information sheet (including photographs of the rust) and this is available at www.ngia.com.au/files/news/Pest_Alert_and_Factsheet.pdf

Books

by Bill Aitchison

Mimosas et Acacias
By Gérard Cavatore
Published by Édisud 2008

It has been quite some time since any new books have been published relating to the cultivation of Acacias, so a new publication is noteworthy. At the outset it should be noted that it is a French book, although I found that with just my schoolboy French of many years ago, I was able to understand most of the text.

This small book (of 93 pages) is written by Gérard Cavatore, an expert nurseryman who specializes in Acacias. At the very beginning of the book, he explains that Mimosa is the common name applied to these plants, whereas Acacia is the botanical name (so that where we in Australia use the term Wattle, the French use Mimosa).

After some introductory sections covering topics such as geographic distribution, historical introductions, general description, methods of propagation, pests and diseases, and cultivation (both in the ground and in pots), the book then has a section covering individual species and varieties. About 95 species and varieties are covered, in each case with notes on origin, description of the plant, frost tolerance (with an actual temperature range shown) and propagation. The notes are accompanied by colour photographs.

Nearly all of the species included in the book are Australian (except for about three), and most of the cultivars included have been developed in France.

Thanks to Henri Descimon for forwarding the book to us. Henri notes that Wattles (Mimosas) are very commonly grown in France, along the Mediterranean coast and some privileged parts of the Atlantic coast – although the range of species grown is restricted (and apart from Gérard Cavatore, few people have tried to extend the range of species).

Perhaps not surprisingly, the book does not appear to be available in Australia, although it can be purchased on the Internet. The price of the new book is € 14.50 and mail from France to Australia should be about €5 – but the prices I have seen quoted on the Internet are rather more than this.

The Little Giant – The Life and Work of Joseph Henry Maiden
By Lionel Gilbert
Published by Kardoorair Press 2001

The recent references to Joseph Maiden in our previous Newsletter No. 109, relating to his role in the Wattle Day movement a century ago, prompted me to chase up and read this biography, published back in 2001.

This meticulously researched and lengthy volume of 429 pages covers Maiden's life from his birth in London in 1859 to his death in Sydney in 1925. The book certainly confirms Maiden's expertise in Acacia, and his role in relation to the Wattle Day movement. From an Acacia point of view, I was interested in the references to various individuals who were known to Maiden and who have their names commemorated in the naming of Acacia species – I made up a quick list of about 33 such people referred to in the book.

I understand that the book has just recently gone out of print – so you may need to search for a second hand or library copy.

Correction

Thanks to Marion and John Simmons for pointing out an error in our previous Newsletter No. 109. *A. simmonsiana* was in fact once a variant of *A. halliana*, not *A. hilliana*, as incorrectly stated in the Newsletter.

The species name *halliana* honours Norman Hall (1906 – 2005) who was author of the book Botanists of Australian Acacias.

Seed Bank

An updated list of species held in our Study Group's Seed Bank is included in this Newsletter. Requests for seed should be directed to Esther.

18 packets maximum in each order (negotiable). Limit of 3 orders per member per year. Please include $2 in stamps to cover the cost of a padded post bag and postage.

Wattle Stamp

Over the years a number of stamps issued in Australia have featured wattle, and we now have another wattle stamp. On 19 July 2010 Australia Post issued a number of new stamps in its Special Occasions stamp series, and one of these was a 60 cent wattle stamp.

I haven't been able to find out whether this wattle stamp was issued to mark the special occasion of the 100th anniversary of Wattle Day – but this certainly is a special occasion.

It seemed very appropriate that we should post this issue of our Newsletter in envelopes bearing this stamp – so those of you in Australia who receive a hardcopy of the newsletter will note that there is a wattle stamp on the envelope! Unfortunately overseas members miss out as do those who receive the newsletter by email.

Study Group Membership

Acacia Study Group membership for 2010/11 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
Membership Officer
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)

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NOTE: Annual membership fees for 2010/11 are now due, we would very much appreciate it if you could attend to this (or advise us if you do not wish to renew your membership).

ANPSA ACACIA STUDY GROUP FINANCIAL BALANCE SHEET 2009-2010			
INCOME	**Balance at 1.7.09**	$531.45	
	Members' subs and donations	$1,263.75	
	Total Income	$1.795.20	$1,795.20
EXPENSES	Stationery	$114.14	
	Printing	$204.00	
	Photocopying	$138.00	
	Postage	$150.25	
	Seed & Equipment	$383.90	
	Archive/Library	$24.00	
	ASGAP 2009	$300.00	
	Sundries	$160.40	
	Total Expenses	$1,474.69	-$1,474.69
BALANCE	**Balance at 30.6.10**		$320.51

ACACIA STUDY GROUP SEED LIST SEPTEMBER 2010

acanthoclada
acinacea
acradenia
acuaria
aculeatissima
acuminata
acuminata (narrow)
adenophora
adsurgens
adunca
aemula ssp aemula
aestivalis
alata
alcockii
alleniana
amblygona
amoena
ampliceps
anaticeps
anceps
ancistrocarpa
andrewsii
aneura
var macrocarpa
angusta
anthochaea
aphylla
aprepta
argyraea
argyrophylla
arida
arrecta
ashbyae
aspera
assimilis
atkinsiana
attenuata
aulacocarpa
aulacophylla
auriculiformis
ausfeldii
axilaris
baeuerlenii
baileyana
baileyana aurea
baileyana prostrate
baileyana purpurea
bakeri
bancroftii
bancroftiorum
barattensis
barringtonensis
baueriana
baxteri
beauverdiana
aff beauverdiana
beckleri
betchei
bidentata
aff bidentata
bidwillii
biflora
binata
binervata
binervia
bivenosa
blakei
blakelyi
boormanii
brachybotrya
brachyclada
brachystachya
brassii
browniana
var browniana
var intermedia
brownii
brumalis
brunioides
burkittii
burrowii
buxifolia
bynoeana
caerulescens
caesiella
calamifolia
calantha
calyculata
cambagei
camptoclada
cana
cardiophylla
caroleae
celastrifolia
chamaeleon
cheelii
chinchillensis
chisholmii
chrysella
chrysocephala
cincinnata
citrinoviridis
clunes-rossei
cochlearis
cognata
colei
colletioides
cometes
complanata
concurrens
conferta
consobrina
continua
coolgardiensis
sp aff coolgardiensis
ssp effusa
coriacea
var sericophylla
covenyi
cowleana
craspedocarpa
crassa
crassicarpa
crassiuscula
cultriformis
cupularis
curranii
curvata
curvinervia
cuthbertsonii
cyclops
cyperophylla
dawsonii
dealbata
deanei
ssp deanei
ssp paucijuga
debilis
declinata prostrate
decurrans
deficiens
delphina
demissa
dempsteri
denticulosa
dentifera
dictyoneura
dictyophleba
dielsii
dietrichiana
difficilis
difformis
dimidiata
diphylla
disparrima
divergens
dodonaeifolia
donaldsonii
doratoxylon
drepanocarpa
drewiana
drummondii
ssp affinis
ssp candolleana
ssp drummondii
ssp elegans (yellow)
ssp elegans (lemon)
ssp grossus
dunnii
elata
elongata
empelioclada
enervia
ssp explicata
enterocarpa
ephedroides
eremaea
eremophila
var variabilis
ericifolia
aff ericifolia
erinacea
eriopoda
estrophiolata
euthycarpa
everistii
excelsa
exilis
exocarpoides
extensa
falcata
falciformis
farinosa
farnesiana
fasciculifera
fauntleroyi
filicifolia
filifolia
fimbriata
flagelliformis
flavescens
flexifolia
flocktoniae
floribunda
faragilis
frigescens
gemina
genistifolia
georginae
gilbertii
gillii
gittinsii
gladiiformis
glaucescens
glaucissima
glaucocarpa
glaucoptera
gnidium
gonocarpa
gonoclada
gonophylla
gracilifolia
gracillima
grandifolia
granitica
grasbyi
gregorii
guinetii
gunnii
hadrophylla
hakeoides
halliana
hamersleyensis
hamiltoniana
hammondii
handonis
harpophylla
harveyi
hastulata
havilandiorum
helicophylla
hemignosta
hemiteles (Goldfields)
hemiteles (Wheatbelt)
hemsleyi
heterochroa
ssp heterochroa
heteroclita
heteroneura
hexaneura
hilliana
holosericiea
holotricha
horridula
howittii
hubbardiana
huegelii
hyaloneura
hystrix
idiomorpha
imbricata
implexa
inaequilatera
inaequiloba
incurva
inophloia
intricata
irrorata
iteaphylla
ixiophylla
ixodes
jamesiana
jennerae
jensenii
jibberdingensis
johnsonii
jonesii
jucunda
julifera
juncifolia
kempeana
kettlewelliae
kybeanensis
laccata
lanigera
lanuginosa
larasina var larasina
lasiocalyx
lasiocarpa
var lasiocarpa
var bracteolata
var sedifolia
lateriticola
latescens
latipes
latisepala
lauta
lazaridis
legnota
leichardtii
leiocalyx
leioderma
leiophylla
leprosa
leptalea
leptocarpa
leptoclada
leptoloba
leptoneura
leptopetala
leptospermoides
var leptospermoides
leptostachya
leucoclada
ssp argentifolia
ligulata
ligulata (narrow leaf)
ligulata prostrate
ligustrina
limbata
limbata prostrate
linearifolia
lineata
lineolata ssp lineolata
linifolia
linophylla
littorea
loderi
longifolia
longiphyllodinea
longispicata
longissima
longspinea
loroloba
loxophylla
luteola
lysiphloia
mabellae
macdonelliensis
macradenia
maidenii
maitlandii
mangium
maranoensis
marramamba
maslinii
mearnsii
megacephala

ACACIA STUDY GROUP SEED LIST SEPTEMBER 2010 (cont)

megalantha
meiosperma
meisneri
melanoxylon
melliodora
melvillei
menzelii
merinthophora
merrallii
microbotrya
microcarpa
mimula
mitchellii
moirii
  var dasycarpa
mollifolia
montana
monticola
mooreana
mountfordiae
mucronata
  var longifolia
muelleriana
multisiliqua
multispicata
  aff multispicata
murrayana
myrtifolia (NSW)
myrtifolia (SA)
myrtifolia (VIC)
myrtifolia (WA)
myrtifolia v angustifolia
nematophylla
neriifolia
nervosa
neurophylla
  ssp erugata
nigricans
nitidula
notabilis
nuperima
  var cassitera
nysophylla
o'shanesii
obliquinervia
obovata
obtecta
obtusata
obtusifolia
oldfieldii
olsenii
omalophylla
oncinocarpa
oncinophylla
oraria
orthocarpa
oswaldii
oxycedrus
oswaldii
oxycedrus
oxyclada
pachyacra
pachycarpa
palustris
papyrocarpa
paradoxa
paraneura
parramattensis
parvipinula
pataczekii
patagiata
pellita
pendula
penninervis
pentadenia
perangusta
peuce
phlebocarpa
phlebopetala
pilligaensis
pinguiculosa
pinguifolia
platycarpa
plectocarpa
plicata
podalyriifolia
polybrotrya
polyfolia
polystachya
prainii
pravissima
preissiana
prominens
pruinocarpa
pruinosa
ptychoclada
ptychophylla
pubescens
pubicosta
pubifolia
pulchella
  var glaberrima
  var goadbyi
  var pulchella
  'Kamballup Dwarf'
pustula
pycnantha
pycnostachya
pyrifolia
quadrilateralis
quadrimarginea
quadrisulcata
racospermoides
ramulosa
  var linophylla
redolens
redolens prostrate
resinimarginea
restiacea
retinodes
retivenia
rhetinocarpa
rhigiophylla
rhodophloia
receana
rigens
rivalis
rossei
rostellifera
rotundifolia
rothii
rubida
rupicola
ruppii
sabulosa
saliciformis
salicina
saligna
schinoides
scirpifolia
sclerophylla
  var lissophylla
  var teretiuscula
sclerosperma
semilunata
semirigida
semitrullata
sessilis
sessilispica
shirleyi
sibina
siculiformis
signata
silvestris
simsii
sophorae
sp 'Hollands Rock'
sparsiflora
spathulifolia
spectabilis
sphacelata
  var recurva
  var sphacelata
spinosissima v robusta
spinescens
spondylophylla
spongolitica
squamata
steedmanii
stenophylla
stenoptera
stereophylla
stipuligera
stowardii
striatifolia
stricta
suaveolens
subcaerulea
subflexuosa
subglauca
sublanata
subulata
sulcata
  var planoconvexa
  var platyphylla
sutherlandii
synchronicia
tanumbirinensis
tenuissima
teretifolia
terminalis
tetragonocarpa
tetragonophylla
tetraptera
tindaleae
torulosa
trachycarpa
trachyphloia
translucens
tratmaniana
trigonophylla
trinervata
trineura
triptera
triptycha
triquetra
tropica
trulliformis
truncata
tumida
tysonii
ulicifolia
ulicina
umbellata
uncifera
uncinata
uncinella
urophylla
validinervia
varia v parviflora
venulosa
verniciflua
verricula
verticillata
vestita
victoriae
viscidula
wanyu
wardellii
wattsiana
wichhamii
wildenowiana
wilhelmiana
williamsoni
xanthina
xanthocarpa
  aff xanthocarpa
xiphophylla
yorkrakinensis
  ssp acrita