

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

HAKEA STUDY GROUP NEWSLETTER

NUMBER 39

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Dear members.

Since I wrote the last newsletter we have had extremes in weather patterns. After four months of no spring rains and a hot October the clouds finally closed in and 150 mm of rain fell over November and December. The cooler days and moisture did wonders for the plants and we were able to witness a scene of green waving native grasses and plants putting out new growth. Many of the older Hakeas had shown die back on the tip growth which I had attributed to insect and grub attack, but after the rains fresh new growth appeared. The die back was probably more to do with the drought conditions than anything else. However I have continued to spray the smaller plants with DIPEL as it certainly kills the looper caterpillars and allows the new growth to develop.

Some of the Hakeas responded to the rains by flowering again or flowering quite out of season. *Hakea bucculenta* and *grammotaphylla* put out a new flush of flowers despite being a winter flowering plant. *Hakea pedunculata* from the banks of swamps around Cooktown flowered for the first time in early January which I believe was triggered by the moisture and then the heat. I had wondered if this species would ever flower being so far removed from its natural environment. If it sets seed it will be quite an amazing feat. Its normal flowering time is September. *Hakea brownii* is also flowering now some five months later than normal. *Hakea divaricata* from Central Australia doubled its size in a week by putting on 300mm of growth in December and then stopped waiting for the next good fall of rain. Such is the unusual growth pattern of these corkwood species.

Many of the Hakeas from the wetter climates did not bother to flower at all as a result of no spring rains. *Hakea ambigua*, *carinata*, *constablei*, *corymbosa*, *archaeoides*, *dactyloides*, *lehmanniana*, *lissosperma*, *macrorrhyncha*, *myrtoides*, *oldfieldii*, *teretifolia* and *varia* just remained dormant.

At the beginning of January 2009 the cloudy skies disappeared and the hot weather came in with a vengeance. On January 14th the temperature here reached 43 degrees C. and the best way to describe it as an awful day of burning heat. The inland and northern Hakeas seem to put up with it but some of those from cooler and coastal climates had leaves burnt. I had covered up *lasianthoides*, *lasiantha*, and *linearis* as they do not like very hot sun on them. The plants of *pritzelii*, *actites*, *archaeoides* and *salicifolia* ssp *angustifolia* were too large to cover and suffered scorched leaves on the outside of the plants which did not surprise me as they come from cooler and/or higher rainfall climates. 38 degrees C seems to be about their limit of tolerance and they need summer watering in our climate unless it rains. These plants seem to have a five to seven year life span because of our climatic conditions and hence there is the requirement to plant new ones every few years.

Hakea fraseri.

As reported in the previous newsletter *Hakea fraseri* flowered in mid October and initially I counted over 100 seed capsules being formed. Over a period of time many of these did not develop fully and fell off. However to my delight 15 seed capsules grew to maturity and as soon as they started to turn brown and crack I picked them and collected the seed. These are now being propagated and we hope to have plants to put in the ground later in the year.

Colour photos in the newsletter.

Whilst I would like to have many more colour photos in the newsletter, it does add considerable cost to the printing. A colour page costs around \$1.20 and by the time you add printing of four pages of typing and postage (\$1.60) the costs becomes \$2.80 per newsletter. In posting out three a year the total cost is \$8.40 per year which is well above our annual subscription of \$5. If we insert one colour page per year the cost becomes \$6.00 per year. So I am looking for feedback on what you would like and your reaction if the annual subscription was to be increased. If you have other suggestions on how to reduce colour costs please let me know.

Letters from members.

Hans Griesser writes. My property of 10 acres is at Gumeracha in the northern Adelaide hills, at 350 m elevation. I have been growing Hakeas for a number of years, at first only a few, the commonly available species, but over the last three years I have increased the number of species thanks to seeds sourced from various gardens. A key factor in my growing fonder of Hakeas were the hard frosts of 2006 and 2007, which, with temperatures as low as minus 10 degrees C, killed or stunted many plants in my garden, including most Melaleucas, Beaufortias and Eremaeas, and the majority of about 40 Banksia plants. Most Hakeas however came through the frosts with no or only minimal damage, the exceptions being *H. archaeoides* and *H. bakeriana*, but both of these were very young plants and perhaps not hardened off yet. (damage to stems that have not hardened enough seemed to be the major cause of deaths) In addition, Hakeas are doing better than Banksias and Dryandras in my soil, which is on the heavier side. Even *Hakea francisiana*, *coriacea*, (now the cream flowered form of *francisiana*), *purpurea*, *invaginata* and *multilineata* are growing well on their own feet, and all of these had no problems with the heavier than usual frosts, to my surprise.

And in summer when I refuse to water plants more than one year old ("Darwinian gardening", I call it), I find that Hakeas do very well, after I have encouraged them to grow their roots downwards rather than sideways.

One reason for my interest in the Hakea Study Group is to learn more about Hakeas from experienced growers. For example, frost resistance- which species would have difficulty even in a normal winter here, when the mercury goes to minus 6 degrees C on several nights. In our climate, for example, would Hakeas from Central Australia have a fighting chance here (*H. eyreana*, *lorea* ssp *lorea* and relatives), or would I waste my time trying? Learning from others would save me making mistakes that others have learnt from, or encourage me to try some risky species that others might have cultivated in spite of scepticism. I have plenty of space to try growing many plants, and the native birds appreciate what I have done so far. I'd love to learn now, and would hope to contribute my experience with Hakeas down the line.

Another reason for enquiring about the Study Group is that I'd like to increase the range of Hakeas species, but can't source the seeds. I have sourced various Hakea

seeds from the APS SA seed bank, but most of them were not viable. After failure to germinate, I peeled a couple of seeds from each lot, and most were yellowish and some shrivelled. Probably too old. Thus I would be interested to know whether the Hakea Study Group engages in swapping or providing seeds.

Hans second letter to me written some time later.

Thanks Paul for your email. Good to hear you had a great time in WA. I've been wanting to go for years but commitments to work and family prevent me at present. I have had very good germination from the seeds you sent me, planting two seeds from each packet 6 weeks ago. I have had both come up for the majority. One seedling for a couple of species and still waiting for the last two punnets to germinate. I also got some seed packets from Nindethana more recently. Waiting for these to germinate.

In the garden I had prolific flowering on Hakea invaginata even though it is still a young plant, less than half a metre high and only one year old. At present lots of flowers on Hakea platysperma and lots of buds and the first spike to open on Hakea francisiana. A few others have flowered over winter and less profusely as they are still too young. About 20 Hakea plants less than 18 months old are beginning to show plenty of new growth now with the warmer weather after some of them had suffered pruning by frost. All on their own roots even though my soil is a bit on the heavy side but the slope of the hillside helps with drainage and all the Hakeas are in full sun and exposed to the wind. Was not as bad for frosts as the previous two years although we got to minus 6 degrees on a few nights with crisp grass in the mornings and the chickens water bowl frozen over. (the thickness of the ice crust is a measure of frost for us) The Hakea species most effected by frost this winter were three plants of Hakea victoria all suffering damage to the top 10 cm or so of the plant about 30 to 40 cm high and with plastic frost protection sleeves around them. Most other Hakeas went without protection but I had lost two Hakea victoria the previous winter so I tried the sleeved treatment this winter. The plastic sleeves seemed to protect the younger plants and hopefully won't be necessary when the stems have hardened and thickened but I expect the tips to suffer damage. Two years ago the young Banksias were ringbarked by the frost but the older specimens suffered no damage.

Graeme and Ros Woods from Gisborne in Victoria wrote to me about their endeavours. They now have 250 Hakea plants equating to 135 species. Their average rainfall is probably around 700mm and they have twenty or more frosts down to minus 2 degrees C.

We have a 5.5 acre garden in Gisborne which is 50klms north west of Melbourne. We are at an elevation of 430m nestled at the foot of Mount Macedon. Our temperatures are about 4 degrees C lower than Melbourne with many frosts in the winter. We have excellent loam soil and good drainage and water is not a problem as we collect the rainwater and process all our grey water. We began as Grevillea collectors and we now have over 230 species.

Four years ago our APS group Melton and Bacchus Marsh visited the Kennedy arboretum at Strathmerton and were amazed to see all the Hakea species in one place. Our friends Bob and Beth Stewart from Daisy Hill are enthusiastic Hakea growers and this has rubbed off on us and we decided to get started with Hakeas in a big way. The Stewarts are having great success on heavy quartzite soils so we thought we should be able to do well. We have been to the Adelaide plant sales and managed to find 120 different species of Hakea for sale, thanks to the wonderful propagating efforts of Max Ewer. A visit to Max's garden is a must for all

“hakeaholics”. He is a marvellous character with enormous energy and charm. He has our list and will do his best to meet our requirements.

We know some of the northern species will be out of our reach because of the climate but we are having little trouble from frost as we water well before the frosts are due as we read somewhere that dry plants suffer more than plants that are kept moist. We certainly don't use Hans Griesser's watering method (Darwinian gardening). We water by hand when the plants need moisture. Many times we read about plants in the wild not flowering because of lack of rain in the region, surely water equates to more flowers and if water is available its use will be beneficial. Even Celia Rosser had to wait for rain in the West so she could find a flower to paint of the latest Banksia species named after her *Banksia rosseri*.

Well done on the newsletter, it is a big improvement and eagerly awaited.

Pauline Wickstead from Gunning in NSW has also written to me about frost limiting what Hakeas she can grow. I hope the comments within will help.

Study Group leaders comments.

Firstly I must apologise for not acknowledging Ros and Graeme's letter in the last newsletter. With winter ahead of us, the February newsletter is an ideal time to discuss the issue of frosts. There are two issues which arise from the letters. One is frost tolerance of Hakeas and the other is how much water should we give Hakeas. I have visited many gardens where frost can be frequent and severe. Most Hakeas can stand frosts down to minus 4 degrees C (moderate frost) and many to minus 6 degrees C (heavy frost) if not too frequent. The northern species are not tolerant of frost as well as those from the coastal zone north of Sydney. We have members growing Hakeas at Armidale where the temperature often reaches minus 9 degrees C in winter and at Tamworth where minus 6 degree C frosts can be frequent. The trick seems to be to cover the newly planted Hakeas that are considered to be frosts sensitive for the first three years until they become established and then they seem to be more hardy to frosts. Baid's McIntyre's garden at Tamworth is an outstanding example of how to change a frosty site by planting small Eucalypts and Acacias up to 4m tall in amongst her Hakeas so that the micro climate created means her Hakeas are no longer subjected to frost. For Hakea growers there is a lot to be learnt from visiting her garden. Barbara and John Nevin's garden at Armidale also uses taller plants to act as frost protectors for under story plants.

Many Hakeas once established are drought hardy, however in long dry spells a watering can keep the plant looking fresh. The approach by Hans and Ros and Graeme are at different ends of the scale. Hans probably has limited water supply and work and family commitments means that he does not have the time to water a large garden even if he wanted to. He is certainly proving that Hakeas in the main are drought hardy, however when it comes to growing Hakeas from the forest areas of the south west of WA and from the higher rainfall areas of the coastal zone of NSW and Queensland he will find that plants will not tolerate long periods of dryness and very high temperatures. I used to admire the Hakea collection of Thelma and Malcolm Vandepier at Houghton in the Adelaide hills where on a steep hillside they grew many Hakeas which received no attention year after year and grew into very large plants that seemed to flower every year regardless of rainfall. I would like to see Ros and Graeme dig a 1.0m deep hole in their garden in the middle of summer and see if there is any moisture in the ground. We did this here at Strathmerton and found moisture at 1.5m in the deep sand. It explained why so many plants were doing so well such as *Hakea oleifolia* which is now 5m high and still growing upwards.

Adding water made no difference. On a final note Dean Nicolle waters his new Eucalypts at his Currency Creek arboretum near the Murray River mouth for the first three years when necessary and then they have to survive on their own. We have done similar things here at Strathmerton but are very conscious of species climatic conditions.

It is probably a good moment to emphasize a number of other important criteria. The soil type is very important. The closer the soil type in your garden is to the natural soil type where the plant grows in its natural state the better chance you have of success. Some genera such as Banksias and Grevilleas are very soil specific, however Hakeas seem to be more adaptable to a wider range of soil types. Maximum temperature can also play a major role in the development of a plant. Days of over 40 degrees C will severely burn Hakeas plants from the forest areas of the South West of WA and coastal areas of northern NSW and Queensland and eventually they will die. Hakeas from these areas love to grow in dappled shade. I did have most of the Eucalypts from Tasmania growing here at Strathmerton, now very few remain because the level of heat is more than they can sustain regardless of how much water you give them.

Effect of prolonged drought. This probably has not been given much attention up to now, but after 13 years of well below average rain much of southern inland Australia (the grain crop areas) now has very low water tables and plants have been stressed out for years. It must have an effect on the health of plants in the long term and I noted in our garden some of the older Hakeas have shown die back of branches. I noted this also in the Eyre Peninsula of SA where Hakea francisiana was showing considerable branch die back because of lack of moisture.

My assessment is that Hans should be able to grow at least 50 species of Hakea successfully including the species from Central Australia. He could probably grow a further 30 species if he was prepared to water these in long dry spells or during extremes of hot weather. As for Ros and Graeme I would encourage them to keep adding to the collection and probably about 150 species maybe their limit. If they had some heat reflecting wall at night, then some of the northern species could survive. They should certainly try the southern Queensland form of Hakea lorea ssp lorea which Max Ewer has been able to grow and flower at Lucindale in southern SA.

Financial statement.

Balance at 30 th . November, 2008 as per newsletter No. 38	\$1807-14
Subscriptions received	\$10
Total	\$1817-14

Expenditure. Printing and postage of newsletter No.38	\$201-80
Current balance, 1st. February 2009	\$1615-34

South Australian Autumn plant sale.

This is being held on the 2nd. and 3rd. of May, 2009 at Wayville Showgrounds in Adelaide. Max Ewer will be selling Hakeas there and I hope to be there as well to give him a hand and meet up with Hakea Study group members.

Hakeas for sale.

Max Ewer has some 1600 Hakea plants on his bench at present!! If you want to purchase Hakeas please put your order in now as Max would love to reduce his stock. As usual there will be nearly 100 species available. You can discuss with Max

how they can be transported to you, however if you are coming to the Adelaide plant sale it is much easier to pick up.

ASGAP 2009

This conference and Seminar will be held from the 26th.of September to the 2nd. of October 2009 in Geelong. Registration forms can be obtained from Sue Guymer on e mail asgap2009@gmail.com or by telephone 03-98723583.

The ASGAP name is about to change to Australian Native Plants Society, Australia (ANPSA). However as we had to send out material prior to the approval of the change the new name will not appear till nearer the conference to avoid confusing members. There will be time at the seminar for Study group meetings, so depending on how many Hakea Study group members are present we may have a meeting to discuss issues you would like me to include in further newsletters.

Hakea seed.

Rather than having a large seed bank in envelopes which if not used after a few years loose their viability, I have resorted in the main to picking seed of garden plants to send to members who put in orders. This way the seed is fresh and should be viable. So if you are wondering why there is not a seed list it is because of the approach I am taking. Hakeas that do not retain their seed, will still be collected and placed in the seed bank with the hope that requests will come in early.

Hakea seed is required of linearis, lasiantha, lissosperma and any of the sub tropical and tropical species.

After putting all this together it has dawned on me that it is probably time to re issue the list of Hakeas with some climatic symbols included. Also the article in the September 2008 Victorian newsletter on Hakea distribution may also be beneficial to interstate members. I hope some of the other State newsletter editors insert it in their newsletter in the meantime. This may help members to get a better picture of where particular Hakea species come from and what ones will do well in your garden. So in the remainder of 2009 I will endeavour to include this information.

It is now Australia Day, and I feel proud that our garden is made up of those unique Australian plants. I hope February is a cooler month and we get a big down pour from a thunderstorm to clear the air of this heat and provide some welcome moisture. We have just had six days over 40 degrees C with more to come. I just wish we would have a cool change. The firey sun rises each morning and you can feel the blast of heat that comes with it. Oh, for that drumming of an army, that steady soaking rain. The only plant that looks happy is Hakea macrocarpa, give it water and heat and up shoots new growth week after week.

As I go to print the heat wave ended with a day of 46 degrees C and a blasting north wind. Never experienced anything like this before in my life. Discussing frost issues seems ridiculous when the plants are being burnt by heat. However it will be a month or more before I can assess the real damage as some plants will come back to life with cooler weather and moisture. The next issue will have reports on how extreme heat has affected Hakeas, so please let me know how your gardens coped. No bush fires in our area thankfully, but I feel for those down south who have been totally burnt out.

Happy gardening, regards Paul.

