AUSTRALIAN NATIVE PLANTS SOCIETY AUSTRALIA

HAKEA STUDY GROUP NEWSLETTER No. 58

June 2015 ISSN0727-7008

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Dear Members.

Winter has now arrived and here in Colac there are many more grey days than sunny ones. However, it has not stopped the Hakeas from continuing to grow although at a slower rate. Some of the ninety species are now a metre high even though they have not been in the ground a year yet. The battle with the Grevillea looper caterpillar continued through March and April. I continued to squash caterpillars day after day to prevent them from defoliating my precious Hakea plants. I do not know where they came from but they seemed to appear daily even though I had gone over the plants thoroughly the previous day. The cooler weather finally brought them to a halt.

The first two months of autumn have been very dry with only about 12 to 15 mm of rain each month, however in May we have had nearly 75mm which has started to soak down into the soil.

Colac tends to be a windy place and until I get some windbreaks established I will need to be careful that the taller Hakeas are well anchored into the ground. I have staked a few to ensure they are not blown out of the ground before the roots have been well established.

I did not expect any Hakeas to flower until they were at least two years old. However Hakea myrtoides, microcarpa, constablei and actites have flowered this autumn which gives promise that other species will flower early too.

**Propagating**

As I reported in the February newsletter only about half of the seventy species of Hakea seed germinated quickly or within the first two months. Nearly all the remainder sat there until about the end of March when nights became cooler and days shortened. At this stage germination of another 31 species started and continued coming through until the end of May. At Strathmerton due to the very hot summers and the requirement to plant in late autumn I tended to put seed in around April and September when the above conditions would have occurred. I had not thought much about it until I had this situation of seed not germinating in Colac. Species that germinated later where ulicina, varia, walgunyah, horrida, meisneriana, nodosa, clavata, anadenia, denticulata, ceratophylla, preissii (red flowered), psilorrhyncha, trifurcata, corymbosa, newbeyana, smilacifolia, carinata, erinacea, hastata, hookeriana, eneabba, cyclocarpa, cycloptera, auriculata, kippistiana, lasiantha, lorianthifolia, ferruginea, ruscifolia, standleyensis and collina. These have now been potted on into a Debco potting mix suitable for natives. I tend to put very little fertiliser with the soil as Hakeas do not seem to like being fertilized.

All being well with these seedlings the collection should reach about 140 species with the next planting in September. The challenge will then be to get the remaining 28 species as quickly as possible.

My plant of Hakea lorea ssp borealis which comes from the Kimberleys had been in a pot since we left Strathmerton two years ago. I did not like the idea of leaving it in a pot as you have to remember to water it and find a warm place for it in winter. I decided to take the plunge and plant it into silty sandy loam in a corner of the hot house. The hot house is always warmer than the outside in winter and so far the results have been encouraging as it has put out quite a bit of growth. I plan to deal with other tropical species of Hakea such as macrocarpa, pedunculata, persiehana and arborescens in a similar way. It is just as well that the hot house is 3m x3m x 2.4m high as it could be a bit tight with the propagating bench there as well.

**Wanderings**

This year on our trip north to see our sons in Grafton and Port Macquarie I decided to go through East Gippsland and up the coast to Sydney. This allowed me to visit half the Hakea Study Group members and see how their Hakeas were progressing. The past five months have been extremely wet (over 500mm) in this area so those Hakeas from drier climates were not enjoying the wet.

Graham and Denise Krake live at Brogo and have a beautiful property nestled around a curving creek in the hills. They grow some 140 species. Hakeas from the eastern hills area do very well but some such as lorea do not like the summer humidity or the cooler conditions in winter. A lot of them have to have wire guards and rocks around them to keep the kangaroos and wombats at bay. Graeme mentions he has struggled with the following species: ivoryi, adnata, leucoptera, preissii, eyreana, acuminata, aculeata, ceratophylla, auriculata, collina, arborescens, rhombales, minyma, pandanicarpa ssp. pandanicarpa, costata, stenophylla, lorea ssp. borealis, lorea ssp. lorea, ednieana and invaginata.( Most of these come from well drained soils with hot summers-ed.) .

The other property I visited was that of Catriona and Phil Trickett at Milton. Perched on a high hillside with magnificent views their garden gets plenty of sunshine but also experiences gale force winds. Many Hakeas grow well here in deep loamy soils and Phil is doing a lot of work on grafting Hakea species onto salicifolia to enable them to be more resilient to humid conditions and higher rainfall. He has had reasonable success doing this and probably has some ninety species in the ground. To overcome the wind forces he has cleverly driven a star steel picket into the ground beside the plant so that it is hardly visible in the foliage. For most of the time we were there it poured heavy rain and as we headed north through Sydney and Maitland it did not let up. We were probably lucky to get through as the storm conditions around Maitland caused a lot of havoc.

My big adventure in June was to walk part of the Larapinta track west of Alice Springs. I had not done any strenuous walking for some time so I was a bit anxious as to whether I could keep up with the younger ones. Despite going for daily walks around Colac it did little to prepare me for the walking on loose and jagged quartzite rock all day. However we did have ample time to stop and look at the flora and magnificent scenery. The guide knowing that I had an interest in native plants gave me time to talk about some of the plants we came across. There were not many in flower as the season had been dry, however above 800m on the Chewing Range there were many plants of Hakea grammatophylla, some of which were in flower. It is a very tough plant growing in quartzite in full sun. Why it grows only above 800m is a mystery to me as the Chewing Range has plenty of

quartzite below this height. It grew very well at Strathmerton on deep sand and flowered a month after a good fall of rain. If you want to see it in the wild then at Stanley Chasm take the track going up to the top of the chasm and you will find some very large plants.

Another Hakea that grows across the dryer inland areas of Australia is leucoptera. It is often called the needle Hakea as it has stiff upright needle pointed leaves. In flower it can be quite striking with masses of cream flowers. I saw plants of this Hakea near Alice Springs airport, at Ormiston Gorge and near Ayers Rock.

Other Hakeas with corkwood bark I saw were Hakea eyreana at Heathertree Gap at the entrance to Alice Springs. Its dense foliage of small compound leaves is quite noticeable. It tends to grow east of Alice Springs on flat country, but I believe it also extends out to Simpsons Gap. Hakea lorea ssp. lorea can be found throughout the Alice Springs region and beyond. It has mainly short grey green leaves held somewhat upright and was starting to flower with long racemes yellowy green in color made up of many individual flowers. I saw this plant at Ayers Rock and at Kings Canyon too. I did not go looking for Hakea standleyensis in the upper reaches of Standley Chasm this time as the trekking guide just did not allocate time to go wandering back into the upper gorges.

The last two corkwood Hakeas grow north of Alice Springs. However, you can see them in Alice Springs. Hakea divaricata has larger compound leaves than Hakea eyreana. There is a fine specimen in Chewing Street in the nature strip. The easy way to distinguish is to measure the distance of the compound leaf stem from the branch to the first leaf node. If it is more than 2.5 cm. then it is Hakea divaricata. The other Hakea which had begun to flower was Hakea macrocarpa. It grows more towards Tennant Creek and across into Western Australia on sandy soils. It has strap like leaves and more yellowy racemes of flowers. There are a number of plants in Olive Pink Gardens which being in the center of Alice Springs is easy to visit and walk around.

I also at last had the chance to visit the garden of Graeme and Roslyn Woods at Gisborne in Victoria. As Gisborne has a climate similar to Colac and sandy loam soils I was most interested to see how all the Hakeas, Banksias and Grevilleas were progressing as it would give a good indication of what I might achieve in Colac. Graeme and Roslyn have about 110 species of Hakea and most are growing very well. Some plants that caught my attention were a large plant of Hakea megalosperma that had hundreds of flowers but for some reason does not set seed. There were large plants of Hakea ceratophylla but again no sign of seed being set. I was also pleased to see Hakea petiolaris ssp. petiolaris, as this plant that grows to about 1.4m is a far more suitable plant for small gardens than the larger forms of Hakea petiolaris. Another Hakea they like growing is archaeoides which seems to be adaptable to a range of soil types and climates. Despite the cooler climate Hakea bucculenta and francisiana not only survive but flower quite well.

**Membership**

Membership runs from 1st.July to the 30th. of June each financial year. I am aware that many have paid up for a number of years so for those getting newsletters by post I will include a note as to how you stand financially. For those who receive newsletters by e mail, I will email you personally as to your financial position. Again I thank you for your support. We have approximately 100 members

**Financial statement**

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|---|---|
| Balance forward | 3150-25 |
| Income. Subscription | 10-00 |
| Expenditure. | |
| Printing and postage of newsletter No. 57 | 147-45 |
| Balance as of 30th. June 2015 | 3012-80 |

**Seed Bank**

I endeavour to keep seed of as many species as possible in the seed bank. I thank the members who have forwarded seed or who have let me acquire seed from their plants. Thanks to Dick Burns who sent seed of the rare Hakea epiglottis ssp. milliganii.

**Difficult to obtain, rare and endangered species of Hakea**

This continues to be a major task for me to get seed or plants to spread around. Again I will list the species we are seeking and hope that someone will be able to help. Many of these are dry inland or tropical species which shed their seed when it is hot and not conducive for us to be there. Seed is required of aculeata, ambigua, arborescens, chordophylla, collina, commutata, cygna ssp needlei, divaricata, ednieana, erecta, eyreana, fraseri, ivoryi, kippistiana, lasiocarpha, macrocarpa, pedunculata, persiehana, recurva ssp. recurva, rigida, standleyensis,

**Letters from members**

I always enjoy receiving news from members. Hans Griesser from the Adelaide Hills writes about the loss/recovery of Hakeas from fire: In my garden the effects of the January bushfires are showing more clearly with some plants. Whilst most Eucalypts and Callistemons started producing new shoots within a couple of months, despite summer conditions, other plants including most Hakeas waited a lot longer to reveal whether they might be alive or dead. Most of my Hakeas lost most or all their leaves even when they did not burn directly, it seems that the intense heat caused the leaves to dehydrate, turn brown and drop off.

Some Hakeas have started producing new shoots from the basal area of the plant (I don't think that is always a lignotuber). Among them is a plant of Halea purpurea which actually looked worse than most others, having been burnt right next to and halfway over a totally burnt Banksia blechnifolia, yet it was the first Hakea to reshoot. More recently others have re-sprouted from the base, nitida x3,florida, orthorrhyncha, horrida, mitchellii, rostrata, lissosperma, cycloptera and pendens for example. Sadly, however, the majority of my Hakeas plants still show no sign of life and seems safe to assume that the smaller plants are all dead, they probably just could not cope with the heat. Two plants of Hakea platysperma for example, both two years old and having grown to 0.5m height very nicely before the fire, died. The last poor little struggling H ednieana also perished, and on a recent trip to the Flinders Ranges I could not find any seed to replace it.

Whilst is was understandable that smaller plants might not cope with the heat, more surprising to me is how many well established mature Hakea plants seem to be dead, in many cases not looking too bad initially but then going backwards over the last few months; Hakea leucoptera x3, bucculenta, nodosa, gibbosa, dohertyi, oldfieldii, invaginata, carinata, commutata and several others opened their seed capsules, lost their leaves, including remaining green leaves at the top and are showing no sign of recovery. All of them did not catch fire, some didn't even have blackened marks at the base from the low intensity stubble fire amongst them. I think the burning bark and leaf litter on the ground below the nearby gum trees produced too much heat even though the flames themselves did not reach the Hakea plants. Maybe the species are programmed to regenerate from seed rather that re-shooting. Well it did enable me to collect a lot of seed, for example I now have a whole lot of seed of Hakea dohertyi in particular, if anyone might want it. By the way, just about all my Dryandras and Banksias reacted the same way, looking dead with opened seed capsules.

**DNA results**

The DNA testing of Hakea species has been completed. The thinking is that Hakea lies within Grevillea and that taxonomic change is needed at generic level. However there needs to be DNA testing of the Grevillea species and others within the sub tribe Hakeinae. I am assured that there are no proposed changes to the Hakea genus in the immediate future. The DNA testing has implications for classification within Hakea. Most obviously, it suggests sub generic division between a clade with leaves with obscure venation (unridged terete leaves or flat leaves with only the midvein strongly evident eg.Hakea sericea, Hakea nitida) and a clade with multiple prominent, longitudinal veins (eg. Hakea victoria, Hakea multilineata). It also suggests that the membership of many species in groups that Bill and Robyn Barker and Laurie Haegi recognised in their flora of Australia treatment need to be changed and some previously unnamed groups need to be recognised.

I hope you enjoy reading this newsletter. We could do with some sunny days down here. I have included photos of Hakea lissocarpha taken by Margaret Pieroni and of Hakea regeneration by Hans Griesser.

Cheers, Paul.

**Hakea lissocarpha. Salt River Rd**

Hakea lissocarpha, Kendenup

H. lissocarpha, Salt River Rd

Re-shooting of H. pendens

Re-shooting of H. nitida

H. cycloptera

H. lissocarpha