AUSTRALIAN NATIVE PLANTS SOCIETY AUSTRALIA

HAKEA STUDY GROUP NEWSLETTER No. 61

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Dear members.

How quickly the year is passing. The long dry summer has finally given way to milder autumn days and wet weather. In the first two weeks of May we have received 80mm of rain, which is more than all the rain we have had in the previous four months. I watered the smaller Hakeas sparingly over the dry period and now that the rains have come they should be able to survive on their own.

Our garden.

It has been rather hectic around here. The builders finally arrived to build a patio and pergola in the front of the house. At the same time construction of a proper driveway and brick paved paths to various parts of the garden commenced. I have already moved approximately 100 barrow loads of sandy loam soil to other parts of the garden to form more raised beds and there are still a lot more to move yet. I am confident the final landscape will look good. Keeping builders away from standing on plants is always difficult. Even roping off areas where special plants exist does not ensure that they will not find a reason to erect a ladder in that spot.

Our Hakea collection now stands at 145 species in the ground.

Travels.

Just before Easter Barbara and I set off for a trip through the eastern Victorian Alps and along the border to Bonang, then crossing into NSW to Bombala, Jindabyne, Canberra and Milton.

I had great plans to find the rare *Hakea asperma* in the high country east of Benambra, however the day we were there it poured rain and it was not feasible to take the car along unmade forest roads. So it will now have to wait till the early summer to have another trip.

However the scenery of the high country, the Little River Gorge and the Snowy River Gorge was most enjoyable, even though at times the road was only wide enough for one vehicle on mountain sides.

The late Geoff Cooke was successful in propagating *Hakea asperma* from cuttings and further trials are now underway.

News from members.

Phil and Catriona Trickett are continuing to propagate Hakeas mainly by grafting. After a wet beginning to the year they had only 30mm in April/ May, but the plants appreciated the drier conditions. They would have had a wet beginning to June as the big depression that went down the NSW coast would have precipitated at least 200mm!! (Ed)

Hakea crawl in Western Australia.

Plans for the Hakea trip are to meet at Kulin at 10.00am on Saturday 3rd. of September and then proceed east to Pingaring and then onto Lake King where we will stay the next two nights. The wheat belt of WA has great areas of bushland reserves where Hakeas can be found. The crawl will include a trip out to Frank Hann NP where *Hakea horrida* grows and to Pallarup reserve where *Hakea cygna ssp needlei* can be found. On the Monday we will progress further south towards Ravensthorpe before most will then head home.

However a few of us with Margaret Pieroni will stay on at Quaalup Homestead and explore the Fitzgerald NP for a couple of days before heading back to the Albany area. As previously the trip promises to be one of discovery plus good company.

New member.

We welcome Alex George from Perth in WA. Alex has a wealth of knowledge of Australian flora and we look forward to his input on Hakeas.

Financial.

Balance forward 29th. February	$3446-10
Income.	
Membership subscriptions	30-00
Expenditure	
Newsletter No. 60 printing and post	104-03
Balance forward 30th. June 2016	3272-07

Most members are already paid up for 2016/2017 financial year, however if your subscription is due I will contact you individually.

Propagating.

I would not say that I am proficient at propagating Hakeas. Like most of us we have a go with facilities that vary from modern hot houses to a small potting frame on a verandah. I am quite sure that some have green fingers and seem to have a lot of success even using very simple propagating facilities, however in all cases the potting mix used has been of a free draining type.

One of the most important aspects of growing on Hakea seedlings is the potting mix they are put into. I have in the past used Debco native propagation mix but of more recent times have felt the pine bark in it was getting coarser and was not retaining the moisture around the seedlings especially just after planting into it. A local nurseryman had a much finer mix but his added nutrients in the mix were just a bit too strong. To get a better outcome I have mixed equal parts of these mixtures and I now seem to have a free draining mix with the right proportions.

I am happy to report that there has been some progress on propagation of some of our rarer Hakea species. *Hakea fraseri*, which only grows in three river gorges near Armidale in NSW, is very difficult to access, due to it growing on cliff faces. Seed is difficult to obtain as it does not retain its seed and the black cockatoos also harvest the seed. Fortunately we have been able to obtain some cutting material and this is being grafted onto *Hakea salicifolia*. My original plant at Strathmerton was a grafted plant.

In looking up *Hakea pulvinifera* from near the Keepit dam in NSW on the internet I came across an article on propagation of this species. This plant is critically endangered and in an effort to get more plants back into the ground, Parks NSW has been propagating plants from cuttings and replanting them in areas near the original clone.

There has been some discussion on the germination of seed of *Hakea chromatropa*. I believe that in some of the Hakea species, seed only germinates when we have the combination of cold nights and warm days. That is when the temperature is in the range of 10 to 25 degrees C. I had no success with germination of *Hakea cygna ssp.needlei* until I put it in the refrigerator for a week and then kept it moist between kitchen paper towelling inside a closed plastic bag.

Tom Constant from Western Australia mentioned to me about finding *Hakea platysperma* in his travels. It has intrigued me that this Hakea and *Hakea megalosperma* both put out great quantities of flowers but set only small numbers of seed capsules. Is it lack of pollinators or as the seed capsules are so large that they conserve the number they produce to ensure the plant survives?

At present the seed bank has plenty of seed of many Hakea species. For those planning to propagate Hakeas in the spring, now is a good time to think about ordering seed from the seed bank.

Frost.

We have had one minor frost here, which seems to have done very little damage. I noticed *Hakea ceratophylla* is not looking too happy, but this could be for other reasons. It does grow in open forest where it would get some protection from frost. None of the sub-tropical Hakeas were affected nor was *Hakea clavata*. If you have Hakeas that have just been planted or are considered to be frost sensitive, then I would urge you to provide some cover using plastic, hessian or frost protection materials that can be purchased at your local hardware store.

Article by Alex George.

I am most grateful for Alex comments (below) on bud formation and whether the bud is a flowering one or just vegetative. Perhaps we could take a look at our plants in the garden and note when bud formation occurs and what the result is. It would also be interesting where there are subspecies to note whether all subspecies behave the same way in bud formation or differ. This could be another tool in helping to identify sub species.

Recording of Hakea plantings.

As the years pass we often forget what year we planted a particular species. Usually when it comes into flower for the first time we try to think how long it has been in the ground. At Strathmerton I kept records of planting and flowering which proved very helpful in building up information on a species.

Here at Elliminyt I have initiated the same process using month/year as the basis for the information.

I hope you enjoy reading this newsletter. With the coming of winter *Hakeas decurrens ssp decurrens* and *H verrucosa* are in flower, and hopefully many more as the season progresses. Down the street is a large flowering plant of *Hakea laurina*.

Cheers, Paul.

Budding in Hakea

Alex George, Kardinya, W.A.

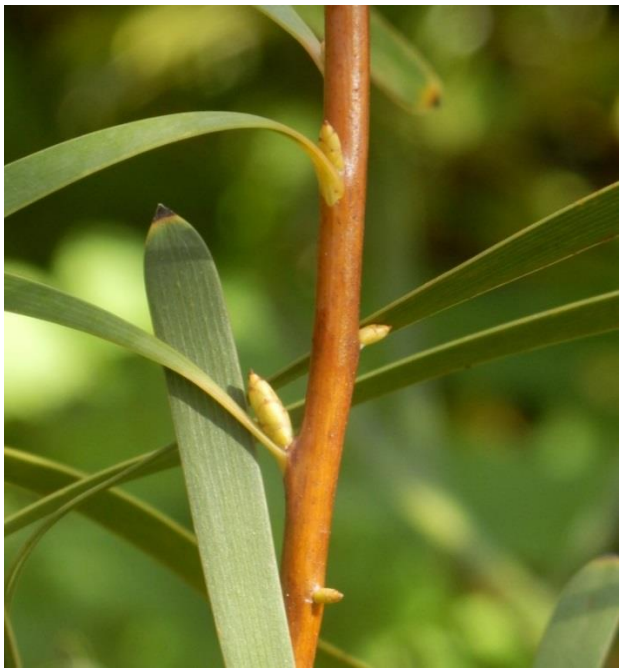
I have a wildflower garden in Kardinya, a mid-southern suburb of Perth. It covers about 0.3 hectare, on Spearwood sand, and has been developed from an old garden of exotics and lawn over the past 9 years. One part is Marri (*Corymbia calophylla*) woodland that has not been cleared though most of the understorey disappeared years ago. I have about 20 species of *Hakea*, all Western Australian, from the Swan Coastal Plain, Darling Plateau and farther inland. Most have been grown from seed that I collected, a few are from nurseries. I hand water them for their first summer, then they're on their own. I use no mulch or fertiliser. Although I'm familiar with them in the wild, being able to watch them daily has helped me to focus on some aspects that I hadn't specifically considered before.

One is the development of buds. Barker *et al*. (*Flora of Australia* 17B: 7, 1999) wrote that in *Hakea* 'Incipient vegetative shoots and inflorescences develop separately or sometimes together. It is not always possible to distinguish between a developing vegetative, floral or combined bud.' Quite correct. I have noticed that some species of *Hakea* produce flower buds that proceed directly to flowering, and in these it can be difficult to tell which will produce flowers and which a vegetative shoot. Other species initiate flower buds but then hold their development for some time, usually over summer; these can be much larger than vegetative buds. Early initiation is an interesting feature, given the long, hot summer that they have to endure, even protected by tightly enveloping bracts. Perhaps they have evolved to take advantage of good conditions in spring (especially adequate moisture in the soil), in case the following season has a dry start but they are ready to go when rain does arrive. I've made no measurements but the flower buds are much larger than the vegetative buds that may be formed at the same time and usually can be readily distinguished.

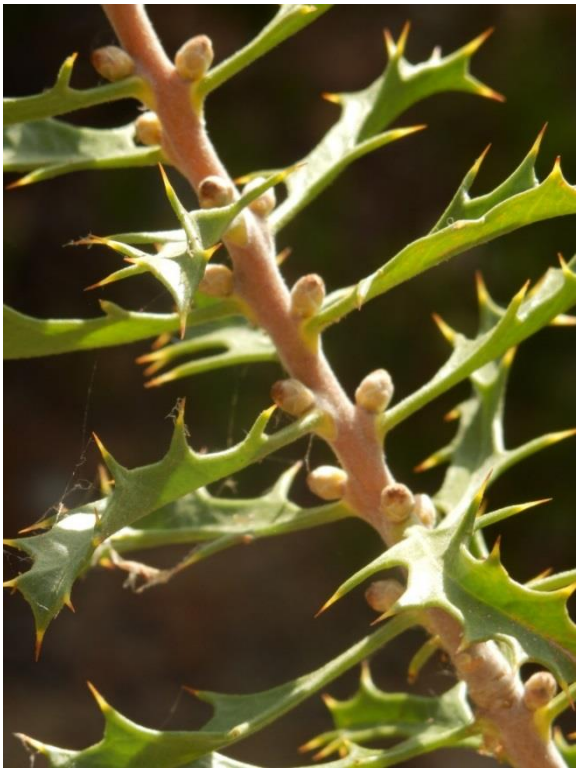
Hakeas in which I've observed early bud development include *amplexicaulis*, *bucculenta*, 'Burrendong Beauty', *chromatropa*, *costata*, *invaginata*, *lissocarpha*, *laurina*, *multilineata* and *petiolaris* subsp. *trichophylla*. Those that do not include *brownii*, *neurophylla*, *platysperma*, *psilorrhyncha* and *ruscifolia*. My *Hakea petiolaris* subsp. *petiolaris* has not yet flowered but I await with interest to see if it behaves the same way as subsp. *trichophylla*.

The early development of flower buds gives an indication of what flowering will be like the following season.

Photos: *Hakea multilineata*, flower bud (large) and vegetative bud (small); *H. costata* flower buds; *H. chromatropa* flower buds (these three photographed in summer in my garden); *H. amplexicaulis* flower buds (Castle Rock, near Cape Naturaliste, W.A.).



Hakea multilineata



Hakea chromatropa

Hakea costata

Hakea amplexicaulis