AUSTRALIAN NATIVE PLANTS SOCIETY AUSTRALIA

HAKEA STUDY GROUP NEWSLETTER No. 62

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Dear members.

It is a week since I returned from a most enjoyable Hakea crawl in Western Australia. I was hoping for a dry September but in the past week we have had 120mm of rain and the garden soil is saturated. I just hope that most of the Hakeas can withstand the waterlogging that has occurred. Those in built-up beds look OK but I fear for those that have been inundated as once the sandy soils here become wet they take a long time to dry out. In one bed *Hakea scoparia ssp trycherica*, *Hakea pendens* and *Hakea microcarpa* have been in water for days. *Hakea scoparia ssp trycherica* grows in quartzite soils at the foot of the 600m high Mount Ragged in Western Australia. When it rains the runoff would be a raging torrent but I expect it would dissipate quickly into the surrounding soils. *Hakea pendens* comes from a low rainfall area south of Southern Cross and grows in well drained sandy soils. I am surprised it is still looking healthy. *Hakea microcarpa* grows in swampy soils so I am not too much worried about it surviving. Only time will tell just how durable they are to these wet conditions.

We now have had five months where the rainfall has been 100mm plus each month and for much of Victoria it has been one of the wettest winters for many years. If I have losses then I will have to consider raising garden beds that are at ground level.

In the latest downpour the Council drains overflowed in many instances and water flowed across gardens and around houses giving many residents a great fright. Our front drain held fortunately, but the back drain on the southern fence line ran 300mmm deep and was a raging torrent as water came from neighbouring properties.

Hakea expedition in Western Australia.

Nineteen people assembled at Kulin in early September on a sunny Saturday morning to take part in an excursion to look at Hakeas that grow in the lower wheat belt of Western Australia. It was pleasing to see most of the members of the Hakea Study Group from Western Australia present along with members from Tasmania and Victoria.

Our first stop was at the junction of Eighty Six Gate Road and the Williams- Kondinin Road some 12 klms. south west of Kulin. At this location *Hakea multilineata* was just finishing flowering with its deep pink small flowers tending to curve around the branch. The leaves are dark green. It is also easily identified by the keel down the middle of the seed capsule. Growing nearby was *Hakea erecta* with its erect leaves and oblong shaped seed capsules with a small pointed beak. Unfortunately it was not in flower.

The next stop was some further six klms. down the Williams- Kondinin road at the South Kulin Reserve. Here we were able to look at *H. meisneriana, subsulcata, scoparia, cygna ssp cygna, trifurcata* and possibly *lehmanniana* (no seed capsules to verify). Because *meisneriana , subsulcata* and *scoparia* are all in the *ulicina* grouping it was a good opportunity to talk about the identification of these species in respect to the number of grooves around the perimeter of the leaf.

Travelling on again down the Williams- Kondinin Road we stopped at another reserve which

is bounded by the road and the railway line. Whilst there is a large collection of Dryandras here, *Hakea gilbertii* is also present. It is a very prickly plant tending to be erect in growth habit and leaves tending to be horizontal with a sharp mucro. It has six grooves around the leaf.

After lunch we doubled back towards Kulin and turned into Commonwealth Road and stopped at Hopkins Reserve. At the western end we found old plants of *H. scoparia, pandanicarpa ssp. crassifolia, lissocarpha* and *brownii*. I will say more about the identification of Hakea *pandanicarpa* subspecies in the next newsletter.

At the eastern end in a more open area *Hakeas strumosa*, (the blue green leaf colour form) *corymbosa, newbeyana* and *prostrata* were found.

Commonwealth Road is a long road and goes right across to Pingaring where *Hakea petiolaris ssp. angusta* grows near granite boulders at the golf course. In my haste to get there I forgot to stop along Commonwealth road near salt lakes to look at *Hakea kippistiana*. However some of the members saw it and stopped to look at it. *Hakea kippistiana* tends to grow near salt lakes and depressions. Its terete green leaves are up to 150mm long and erect. The flowers can be pinky white which make it quite an attractive plant in flower.

Hakea petiolaris ssp. angusta is different from the other subspecies of *H. petiolaris* because its leaf peduncle is less than 5mm long and the leaves tend to be longer and narrower and end in a much longer pointed taper to the apex.

From Pingaring we took the North Varley Road, which took us through part of the extensive Draggon Rocks Reserve. At one stop in the reserve we came across our first plant of *Hakea horrida*. *Hakea horrida* is a tangled mass of pinnatisect leaves and can grow to 2m plus. Its creamy white flowers can be unpleasant to smell but it is a great plant for the birds to nest in.

Day two.

We started the day by looking at the cream-flowered form of *Hakea francisiana* growing at the back of the Lake King tavern. Most people go for the pink form but I do admire the cream form as its colour is quite distinctive.

Today we headed out into Frank Hann NP, bounded by that great area of wilderness that stretches nearly 200klms. towards Peak Charles and Norseman. This is a low rainfall area and plants tend to be stunted due to poor soils and low rainfall. However we were in for a surprise as the number of Hakeas growing out there is quite significant. At one place where we stopped to botanise we discovered *Hakeas laurina, horrida, marginata, scoparia, pandanicarpa ssp. crassifolia, corymbosa, newbeyana, lissocarpha, cygna ssp. cygna* and *multilineata*. Further on in a creek bed we came across *Hakea commutata*, which favours winter-wet areas. The day's excursion out into the wilderness had been a great success.

Day three.

After some getting up early to photograph a rare orchid, we finally assembled and headed south to the Lake Pallarup Reserve to look at the endangered *Hakea cygna ssp. needlei*. In previous trips I had not seen many plants but this time the reserve was full of creamy white flowering *Hakea cygna ssp. needlei*'s. When growing this Hakea at Strathmerton the seedlings had the same broad leaves as *cygna ssp. cygna* but as they reached about 300mm high the *needlei* form leaves began to appear and gradually replaced the broad leaves.

At Lake Pallarup Reserve the Hakea crawl ended and we said our farewells. However, some of us headed south to Ravensthorpe and Mount Desmond. At the bottom of Mount Desmond *Hakea verrucosa* grows beside road drains. Also growing there was *Hakea marginata*.

The next two nights were spent at Quaalup Homestead near Bremer Bay on the western end of the Fitzgerald NP. So we were able to have a day botanising in the NP and looking briefly at whales jumping out of the water at Point Ann. Again the number of Hakeas I came across was most interesting. We were now in a much higher rainfall area and closer to the sea. Here *Hakea victoria, obliqua ssp. obliqua, nitida, obtusa, denticulata, pandanicarpa ssp. pandanicarpa, corymbosa, incrassata, lissocarpa, prostrata, trifurcata* and *ruscifolia* were observed.

The second-last day of my Hakea excursion down south was spent along Sandlewood Road and Cheyne Beach Road. I had never been along Sandlewood Road before but by the time I had completed the 19 klm. return trip I had come across 24 Hakea species: *H. sulcata* and *cerataphylla*, flowering and growing in water, *varia, cucullata, brownii, pandanicarpa ssp. crassifolia, marginata, scoparia, corymbosa, prostrata, lissocarpa, ilicifolia, trifurcata, cinera, cygna ssp. cygna, denticulata, ferruginea, incrassata, newbeyana, nitida, ruscifolia, obliqua ssp. parviflora, drupacea* and *victoria*. However the biggest surprise was the discovery of another population of the endangered *Hakea lasiocarpha* growing in swampy ground nearby. In discussing this with Kevin Collins at Mount Barker it would appear that this new population is nearly 50klms.further to the east. At some stage in the future we may do a Hakea excursion in this area and across to Walpole etc.
In all I travelled just short of 3000 klms.in the hire car in just 16 days. In the February newsletter I will say something about the Hakeas I came across north of the Great Eastern Highway.

News from members.

John Boevink has emailed me saying the conditions on the north coast of Tasmania have been extremely wet and he hopes the Hakeas he has planted around the dam bank etc. will survive. I thank those members who have sent me photos, I will insert some of these into future newsletters.

Hakeas growing in Alex George's garden, see below. I thank Alex for his article. It is always pleasing to receive reports on what species members are growing. I understand Alex is growing Hakeas in sandy soils which have excellent drainage.

Hakeas in my garden

Alex George. Kardinya, W.A.

Some background to my garden was given in the previous newsletter. I should add that it has a fall of about 5 metres from north to south. Rainfall is about 800 mm, falling mostly from May to September. It's typical to have no or very little rain during summer. Frost is very rare.
The native garden is a rambling assemblage of species that I believe will do well in this environment and will need little maintenance once established—not *no* maintenance, as no garden can be so. Over the past ten years I have cleared the old parts, section by section, and planted natives. Currently I have 22 species of *Hakea*. Those grown from seed are sown in sand in autumn, just a few for my own garden. Germination seems better with rainfall than with tap or bore water. I plant them out as soon as they are large enough to handle (i.e. just after the cotyledon stage). Except as noted below, they are in the more open parts of the garden, though none gets full sun (by which I mean sunshine from dawn to dusk as is the case in our kwongan vegetation). For the first summer I insert a short length (10–20 cm long depending on the size of the plant, 15 mm diameter) of pvc piping near each plant and fill it with water twice a week, sometimes more in an extreme heatwave. A fallen Marri nut serves as a loosely-fitting 'cork'. As noted by Hans Griesser in *Newsletter* 39, my aim is to encourage the plants to put down deep roots. I use no mulch and no fertiliser except *very* rarely iron chelate to correct chlorosis. After that they're on their own. Overall my success rate has been around 75%. I have almost no problem with pests, probably because birds frequent the garden.
Following is a summary of the species. I should point out that my practice and comments are based on observation and gut-feeling from my knowledge of the species, not from scientific research.

H. brownii from seed, sown 2007 and 2008, one grew more vigorously and began to flower in 2012, then died in 2015; two others are healthy but have not yet flowered.

H. bucculenta nursery plant, planted 2009; first flowered 2011; flowered well 2012, 2013 and set fruit; in 2014 gradually shed its leaves and died. A second, planted in 2014, is growing well.

H. 'Burrendong Beauty' nursery plant, 2008; began to flower in 2009 and has flourished; no fruit.

H. chromatropa from seed, sown 2007; seven plants, grew at varying rates; several struggled and died; the most vigorous two started to flower in 2011 and have continued to flourish and set fruit;

two more have since flowered but not set fruit. Seed from the largest plant sown 2016, with good germination.

H. costata from seed, sown 2009; of four planted out, one was pulled up by a raven, one was damaged but survived, then died in 2011; the other two grew well and flowered in 2012, 2013 and 2014; one then died but the last continues to flourish and set fruit.

H. cristata from seed, sown 2014, planted in woodland, slow-growing (my experience is that species with a lignotuber grow more slowly than those without—presumably they are building up the lignotuber).

H. cyclocarpa from seed, sown 2012, 2016, planted in woodland, slow-growing.

H. invaginata nursery plant, 2010; first flowered 2013.

H. lissocarpha two nursery plants, 2007, 2009, both in semi-shade; first flowered 2012; have not set fruit.

H. laurina two nursery plants, 2013; both struggled and one died; the other is OK but slow-growing (I'm surprised, since this species usually does well in Perth).

H. multilineata seed, sown 2008, three plants; one died 2010; one is vigorous, first flowered 2011, has set copious fruit; the second showed some yellowing of leaves and application of iron chelate failed to correct this; I pruned off the affected parts and the plant continues to thrive, flower and set fruit. A third, planted in 2009, has grown, flowered and fruited well; expansion of older stems is enveloping the peduncles of early fruit.

H. neurophylla nursery plant, 2010; first flowered 2014; has not set fruit; a second plant from seed, sown 2011, has not yet flowered.

H. orthorrhyncha nursery plants, 2010, 2011, in semi-shade; growing well but no flowers yet. Also a plant from seed from a cultivated sprawling plant, germinated 2015.

H. petiolaris subsp. *petiolaris* from seed, sown 2012; two plants, in woodland; have not yet flowered.

H. petiolaris subsp. *trichophylla* nursery plant, 2010; first flowered 2014; has set fruit.

H. platysperma from seed, sown 2011; five plants, growing at different rates according to position (those in some shade are slower); three flowered 2015, four in 2016; the largest has set fruit.

H. prostrata from seed, sown 2003; flowered 2009, has set some fruit; a second plant (local transplant) 2008, planted in woodland, first flowered 2015.

H. psilorhyncha from seed, sown 2009; three plants, first flowered 2013; one died autumn 2014; another in 2014, the third is flourishing; has not set fruit.

H. ruscifolia from seed, sown 2007, 2008; two plants; both flowered 2012. One began to die back branch by branch and eventually (after some weeks) died. I pruned each dead branch and even burnt the stump lightly (the species has a lignotuber) but to no avail. A well-established plant of *Acacia arida*, a species also having a lignotuber, deteriorated in the same way and died, an unusual occurrence, as natives tend to die overnight or within a few days. Further seed germinated 2016.

H. stenocarpa from seed, sown 2016, planted in woodland.

H. trifurcata nursery plant, 2011; has not yet flowered or produced any flat leaves.

H. undulata from seed; first batch sown 2007, one seedling, died 2008. Second batch, sown 2011, two plants, in woodland; both started to flower 2014 and have set fruit.

Financial report.

Balance forward		3272-07
Income.		
Subscriptions	120-00	
Expenditure		
June 2016 newsletter print and post	114- 49	
Balance forward		3277-58

Hakea chromatropa.

Alex George has successfully germinated seed that has been planted in July. I believe the success to germinating this species is that it needs cold, nearly frosty weather to initiate germination. Alex is hoping his plants in the garden will set seed this year and some will be available to the Study Group next year.

Hakea newsletters on the internet.

Thanks to the ANPSA Study Group co-ordinator and the ANPSA web master back issues of Hakea Study group newsletters are now able to be viewed on the internet. If you type in http://anpsa.org.au/hakeaSG you should be able to access newsletters 29 to 58. The last three newsletters will not be put up until they are at least one year old.

Hakea ceratophylla.

There has been some discussion amongst Kevin Collins (Mount Barker), Margaret Pieroni, Neil Marriott, Keith Alcock and myself concerning a very fine leaf form of a Hakea found 13 klms east of Denmark. On my way back to Perth I took the opportunity to look at these plants growing in a winter-wet depression and after looking at the leaves and seed capsules came to the conclusion that it was still a plant of *Hakea ceratophylla*. I will have further discussions with Robyn Baker at the Adelaide Herbarium as to her determination of the Hakea.

Hakeas flowering at Elliminyt.

My two-year old *Hakea francisiana* put out one flower this year. I had been looking at the bud formation as per the information supplied by Alex George in the last newsletter and thought I would get a few more. However the cold wet weather probably was not conducive to entice flowering. Well, the sun is finally out, so it's time to get into the garden and pull some weeds that have appeared around the Hakeas. For the past fortnight the weather has been atrocious and I wish the rain and wind would go away.

Happy Hakea growing.
Cheers, Paul

Most of the participants of the Hakea expedition

Hakea cygna ssp needlei

Hakea horrida