HAKEA STUDY GROUP

NEWSLETTER No. 6. 12th November, 1981.

Hello Everyone,

Spring in Melbourne has been warm and showery so far and my seedling hakeas are growing well – and so are the weeds! At the end of July, Tom and I went across to W.A. to try to find a particular pink flowering hakea which grows south of Eneabba and also to see as many hakeas as possible so that I would be able to identify more species easily. We were unlucky in our choice of season, we had rain every day but two, severe winds most of the time and the season for flowers was about three weeks later than usual. The special pink hakea eluded us and I soon came to the conclusion that in earlier trips I had identified all the "easy" species and this time I was meeting all the difficult ones, particularly those with needle foliage. Helen Lubke had supplied me with cards detailing hakeas she and Kaye Bartlett had seen on their trips and whenever possible I tried to confirm their findings but could not always do so. I hope in time to have lists of names for each area, already I have found some species occur outside the boundaries mentioned in the W.A. Catalogue of Aust. Plants.

The Hakea prostrata is common to most of the south-west of W.A. but we rarely found the upright form in the northern areas and in the south the prostrate form was not seen often. The H. multilineata group presented many headaches. Early on we found H. minyma and H. multilineata with its distinctive "open keel" fruit, but later we found so many varieties in foliage and fruit that we were unable to sort out the species at all. Another puzzle was the spike flowered H. graminea found in Kings Park which is not mentioned in the article on this group in "Australian Plants" Vol. 7, page 307. We were too early to see most of the plants in bloom but we found magnificent specimens of H. multilineata with deep pink flowers in the Lake Grace area. We also found some deep cream styles which gave an entirely different effect.

H. lissocarpha was very striking in the cerise-pink form, especially as it usually was very heavily honey perfumed. In the white form however, we found it hard to differentiate from some forms of H. varia, and often the white flowered shrubs had an unpleasant smell. H. varia really lets itself go in the Stirling Range and adjacent parts, it is almost true that if you cannot key out a species there, it will be H. varia! While in the South Stirling district we called on Malcolm Shoosmith, member of the H.S.G. He was very helpful and we look forward to him re-joining us after a year's absence as an exchange teacher overseas. I hope all the red tape was finally untangles Malcolm.

The most common hakea seen on our trip was H. scoparia, a winter flowering member of the sulcate group. We saw many forms, some never growing more than 1 m. high and others forming a long matted wall at least 5 m. tall. It flowers profusely and the blooms vary from all cream to purple or mauve with cream styles. As the flowers age they change colour, in some cases becoming an attractive pink and then dark red, sometimes orange. The big snag with this species is that you do not know if you are going to be blessed with a plant that smells like filthy sox or be lucky enough to cop a sweet one. Just north of Albany and then later in several places extending to the Cape Le Grande National Park, we found another hakea. with sulcate foliage and looking like a coarser version of H. gilbertii. The fruit was up to 4mm, long and much beloved by a predator that nipped the end off to get to the seed. We also found a needle foliaged hakea just over a metre in height with large dark fruit that would not key out and we were told that there are undescribed, but not unknown to the Herbarium, species in that part of W.A. The third one in this category was one we saw around Ravensthorpe, from 1 m to 1.25 m. high flat, leaves and masses of light yellow flowers.

Before we went to W.A., we visited the Murray Bridge and Parrakie Groups, in S.A. and thanks to Claire Lithgow, I saw many of the native plants of that section of S.A. Several of the gardens I saw were growing hakeas successfully, although it is obvious that owing to the soil conditions, great patience has to be exercised with some species. However, the hakea that took my attention was H, muellerana, which is native to that area. I found it a most attractive plant with a nicely rounded shape, needle leaves and red stems. Some were very large but in a garden situation they would give many good years before having too be removed. I was a little early to see them fully in bloom, but saw the cream flowers beginning to open. We tend to think W.A. is the home of the best hakeas instead of looking nearer home.

THE HAKEA SULCATA GROUP
(Extract from article by Dr. Byron Lamont, "Australian Plants", Vol. 8, page 298.)

The species concerned are Hakea sulcata, H, gilbertii, H, invaginata, H. scoparia, H. pycnoneura, H. subsulcata, H. meisneriana and H. lehmanniana. Though it is the only broad-leaved species, H. pycnoneura. has been included in the group because it is otherwise very similar to H, scoparia. At Mt. Ragged, 193 km east of Esperance, is a form with thin leaves which deserves closer study.

All species have-broad (oblanceolate) juvenile leaves which are replaced by needle (terete) leaves by the end of the first growing season. The plant reverts to juvenile foliage temporarily following severe damage to the canopy (fire, drought, grazing, bulldozing). Running longitudinally along the leaves are striations or sulcations (from. L. sulcus = a furrow), hence the name: the sulcate group. Even without their seasonal masses of flowers, the leaves and fruits of these species are a continuous source of interest as their foliage gives an overall impression of greyness or dark green, providing a contrast with other greens in the garden.

Typical of other hakeas, this group has attractive woody fruits which are retained on the plant unopened indefinitely. All species have rounded, ovoid fruits which taper to a point. The fruits of H. sulcata, H. subsulcata, H. meisneriana and H. invaginata are smooth, though "shot-holes" may be common in their surface. The surface of H. gilbertii fruit is covered in smooth or broken "warts", while its beak is "snub-nosed", like that of H. meisneriana. While the fruits of H. subsulcata taper to a point, those of H. invaginata, H. scoparia and H. pycnoneura have long constricted beaks which readily break off. The fruits of H. scoparia. and H. pycnoneura are identical in shape and presence of many black, corky warts, though the fruits of H. scoparia tend to be larger. The small beak of H. lehmanniana is almost lost among the many multiple-branching prickles of its bizarre, hedge-hog fruit.

All flowers are produced in clusters spread along stems produced the previous growing season with the exception of H. subsulcata whose isolated inflorescences are produced on the old bare wood, and sometimes H. gilbertii with a few clusters at the tips of the previous year's growth. The clusters of H. invaginata, H. scoparia, H. pycnoneura and H. subsulcata are globular and of various shades of pink, with the purple stalks arising along a short hairy support. The clusters of H. sulcata, H. gilbertii, H. meisneriana and H. lehmanniana with fewer flowers are parachute-shaped and cream-coloured (except H. lehmanniana which is unique among the Proteaceae in having distinctly blue flowers) with the flowers also arising along a short hairy support (of negligible length in H. sulcata).

KEY to separate species in the Hakea sulcata group based on leaves and fruits. Species are grouped according to their conjectured relationships such that the most closely related species are separated out last,. "Leaves," refers to typical adult leaves.

A. Leaves 3 nerved, fruits with ornate prickles — H. lehmanniana
A. Leaves 5 or 6 nerved, fruits smooth or warty

- B. new branches arise from base of inflorescences, fruits under 1.6 cm long .
  - C. fruits under 1 cm long and appear to lack stalks — H. sulcata
  - C. fruits over 1 cm long and stalks clearly present — H. gilbertii
- B. new branches, arise independently of inflorescences, fruits over 1.6 cm long
  - C. leaves with sunken grooves, fruits smooth — H. invaginata
  - C. leaves with open grooves, fruits very warty
    - D. leaves needle-like — H. scoparia
    - D. leaves strap-like — H. pycnoneura

A. Leaves 10 or 12 nerved, fruits smooth
- B. fruits narrow with tapering tip, leaves in bunches — H. subsulcata

B. fruit rounded with short bent tip, leaves-spaced out — H, meisneriana

From the distribution maps it is seen that only H. subsulcata, H. scoparia and H. invaginata venture outside the South-West Botanical Province into the dry Eremaean Province. On the other hand, all but H. sulcata, which is typically coastal avoid the wet, forested south-west corner. H. gilbertii, H. pycnoneura and H. lehmanniana reach coastal areas, but H. meisneriana, H. scoparia and H. invaginata are strictly inland. H. scoparia appears to cover the greatest area and its distribution overlaps those of H. meisneriana. H. subsulcata, H. invaginata and possibly H, pycnoneura. Generally these species ' occur on sandy or lateritic soils. H. sulcata is atypical in that it usually occurs in winter-water-logged soils, though it may spread to deep, dry sands. H. sulcata, H. scoparia and H. subsulcata may also occur on "better" soils - loans of higher nutrient content and water availability. H. invaginata may also be found on red sands typical of mulga country. Most soils are only able to support heath or scrub, and occasional woodland.

WELCOME TO NEW MEMBERS

NOTES FROM MEMBERS

Helen Lubcke, 6 Kintore Ave., Murray Bridge. We are going to experiment this year with the lower rainfall hakeas. One will get additional water, the other will have to get by on rainfall only. The reasons for this are that the Murray water salinity level is very high during summer and the survival of about nine different species of native plants transplanted from my sister's farm at Moorlands (they were about to crop the paddock). They were between 1" – 3" high and absolutely cooked in the high temperatures with no mulch and no water!

I have lost -plants previously through watering (using rainwater), so I am now convinced that some plants, depending on where they are collected, do not need or like extra watering even in summer.

Kaye Bartlett Wimpara Jervois 5259 writes: I should like to comment on seed germination. For many years, after trips during August and September, I would come home and plant seeds from September to November. I found that some would germinate in a month but a lot seemed to germinate in the autumn. Now I plant seed from the end of February to April and germination rates are excellent most appearing around four weeks but some earlier.

Last time Helen and I planted out seedlings, hers went into the ground in early August and mine in October. Helen's went ahead in leaps and bounds, but those planted in October found the summer too much as I could not keep the water up. The August -plantings seem to have survived very well and outgrown the ones planted the year before last, and we are convinced that August is the time to plant out in this area.

Tony Cavanagh Woodlands Drive Ocean Grove, 3226, would like two lists, the first of small, reasonably attractive hakeas (prostrate to 1 m high) and the second of larger shrubs to say 2.5m which have attractive flowers and are not too monstrously prickly.

This is a logical request and. I am working out these lists for future publication in the meantime I hope to give much more information with the Seed Bank list.

Malcolm Holmes, 11 Goldsworthy Road, Ethelton, 5015, writes that it is hardly necessary to fill in the questionnaire as our successes here with the species (and most other Proteaceae) are to say the least, dismal. Perhaps someone in the ranks has encountered the conditions that we are finding rather a problem.

Our home is on a block of reclaimed tidal estuary. This was discovered by superimposing old charts of the river drawn by Colonel Light in 1838 onto a street directory. We find that our block was part of the system that has since been surrounded by levees and had very little top filling added. We are a few inches above sea-level and have oyster shells in the topsoil! I have had a reasonable amount of success in propagating the species, but nothing promising to report after planting out as yet. Even H. laurina and H. petiolaris have perished after about six months in the garden, although these two grow well on ground a little higher up in the sand dune suburbs. Where top filling has been added a few houses away, two H. bucculenta that I have planted are still living after 12-18 months. As a matter of interest, various coastal banksias have been tried as well and all seemed to suffer the same fate, as did Dryandra formosa. It appears that once the roots hit the salt-water level they do not last long. As my experience is limited, I do not know what species will flourish under these conditions. Maybe someone in this group can come up with one that can satisfy interested people clamouring for hakeas in the neighbourhood.

The area is described as coastal-tidal- estuary and has a PH of between 7.5 – 8 and a salinity count of 58 parts per million. Any ideas?

Keith King, Skyline Road, Goonellabah, N.S.W. 2480, says - I suspect this Lismore area may be a difficult one for growing hakeas, with our combination of high rainfall humidity and rather heavy, though well-drained soil, not to mention phytophthora! Also, we seem to have very few species growing naturally in this district.

Norm McCarthy, c/o D.P.I., Box 102, Toowoomba; 4350, Queensland, comments - I feel overwatering and particularly overhead watering reduce the strike of hakea seed. I use 1 teaspoon of copper-sulphate per gallon of water and spray finely over all seedlings about every two weeks to discourage damping off

SEED BANK

Please send a stamped addressed envelope with requests for seed. If you have excess seed, I will be very glad receive it.

My thank to Alf Salkin for seed received and Gladys Holmes (Melaleuca Study Croup) .

H. arida Erect shrub 2-3m, terete foliage, white/yellowish flowers.
bucculenta Erect shrub 2-3m, narrow leaves, scarlet or deep pink "spike" flowers.
costata Small shrub about lm, short terete foliage, white flowers.
corymbosa Bushy shrub 1-2m, flat leaves, with sharp points at flowering time. flowers yellow-green.
crassifolia Shrub 1-3m, thick flat leaves, rusty cream flowers.
commutata Shrub 3-4 m, terete foliage, very small flowers, white with red pedicels. In cultivation can be less than 2m, numerous flower in November.
elliptica Shapely shrub, 3 or more metres, oval leaves, white flowers.
eriantha. Graceful leafy shrub or small tree, lanceolate leaves, white flowers.
ferruginea Approx. 2m, small heart shaped dark leaves, white flowers.
florulenta Queensland species, 2m, 3 nerved leaves, white flowers.
francisiana Tall shrub up to 4m, long narrow leaves, flowers in racemes, white to red.
gibbosa 1-m, foliage terete, white flowers.
incrassata Bushy shrub 1m, thick flat leaves, white flowers.
laurina. x petiolaris Shrub smaller than laurina, flower colour between parents.
laurina 3-7m tall, flat leaves, red and white flowers. Weeping form also.
leucoptera: Up to 5m, terete foliage, cream flowers, attractive burnished fruit.
macraeana Large shrub, weeping terete foliage, white flowers.
muellerana 1-3m rounded shrub, terete foliage, red stems, white flowers.
multilineata 3-7m, long flat parallel-nerved leaves, flowers white to scarlet.
microneura 3-5m, white flowers.
minyma 1-2m, sometimes taller, f1at leaves, flower cream, multilineata. group.
nitida 1-4m, foliage flat, entire or toothed, red stems, white flowers.
pandanicarpa Notable for having corky large fruit, flat leaves, sparse cream flowers.
petiolaris Up to 5m, glaucous ovate leaves, mauve or purple pincushion flowers.
platysperma Up to 2m, terete foliage, yellowish flower, “cricket ball” fruit.
plurinervia Lance- shaped leaves multi-nerved, white flowers, Q species.
prostrata. Prostrate to 4m, prickly stem-clasping foliage, red and/or yellow flowers.
pycnoneura Up to 3m, long linear leaves, small purplish pin-cushion flowers.
sericea Pink flowered form. Up to 3m, terete foliage, flowers profusely.
smilacifolia Up to 2m, flat incurved foliage attractively veined, white flowers.
stenophylla Up to 5m, very narrow flat leaves, fine yellow gold flowers.
ulicina Up to 3m, narrow flat leaves, white flowers.
undulata 1-3m, upright shrub with ovate oblong leaves, undulate and prickly toothed, cream flowers.

MEMBERSHIP

The following are the financial members of the Hakea Study Group. If you think your name should be on the list but has been omitted, please contact me.

Because postal charges are so high, I will not be sending out future newsletters to people who remain unfinancial.

This year has been a very busy one for me, mainly due to Tom's illness from which he is still recovering steadily. I had commenced to collate information for lists of species to help those people with difficult garden conditions. I hope 1982 will be more peaceful. May 1982 bring ,you all good gardening and good health.

HAZEL.