ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

HAKEA STUDY GROUP NEWSLETTER NUMBER 18. ISSN 0727-7008 May 1992.

Hello Everyone,

Dr. Bill Barker, Robin Barker and Dr. Laurie Haegi are the three botanists engaged in the revision of Hakea at the State Herbarium, Adelaide. They are generous with their help to our group and so I hope that some of our members in turn will be able to help Bill with his request on Page 2.

From May until the shortest day in June seems to be the slowest growing period in the garden, not a good time to take cuttings or raise seedlings but very good for improving the soil in garden beds and tidying up generally. Do not prune at this time because so many hakeas are winter or early spring flowering, save your pruning until after the flowers are spent.

CLAY soils can be a headache if not treated but the cost of gypsum over a big area can be too great for some growers. Raising beds by as little as 23 cm. and adding plenty of compost can solve the problem in small gardens, but no-one could create enough compost in a reasonable time for large areas. The answer here appears to be to graft your hakeas on to H. salicifolia (saligna) stock. Hakea salicifolia is extremely hardy and handles heavy clay soils very well.

SEED BANK. I have not had a new list printed yet being uncertain how to cope with some of the new names of species. Unfortunately seed suppliers also appear uncertain, it will all work out eventually. In the meantime, request all the species you are interested in, and those of you who are unsure of names, write mentioning the height you would like, the purpose such as windbreak, low growing, around 1m or perhaps plants with certain colour flowers or decorative foliage and I will try to supply your needs. Hakea roei has always been a bit difficult to identify, possibly due to the fruit being absent when Bentham made his decision on species name. You will see this referred to in the explanations for name changes in this issue.

An odd snippet about Hakea verrucosa has come from Bendigo (Vic). I am told that in normal heavy frosts the flowers turn black. I have never had any reports of this happening before, in fact from your letters hakeas are remarkably frost resistant except under rare abnormal conditions. If you have suffered frost damage please tell me.

As requested, I am enclosing a list of members with this N/L. Cynthia Beasley's husband Ted offered to set this up for me and supply me with the lists and labels for posting. A fortnight later he became seriously ill and could not continue. He has slowly recovered and asked if he could still do this work for our group. I am very grateful for his assistance and wish him good luck and a full recovery.

During these dull days it is a pleasure to see H. crassinervia in full bloom. I may have mentioned before that my plant is now nearly 4 m. wide and a metre high and flowers twice a year, spring and late autumn. I thought this behaviour normal but while some people agree with me, I am hearing more and more from others who only have one flowering period. Another pink flowered species flowering profusely now is H. clavata. Hakea lasiocarpha (dolichostyla) has been out for some weeks and will continue, H. verrucosa has begun its winter season and Hakea marginata and H. cristata are just beginning. I now have 64 species growing and one of the joys of winter is watching them light up the garden all through the cold days.

Can you help with flower colour in *'Hakea trineura'*?

It has now been established for sure what some of you may have suspected: that two species have shared the name *H. trineura.*

The low shrub to 3 m tall of open Eucalypt woodland in the Marlborough - Rockhampton area of Queensland will retain this name. A new name will be given to the taller tree or shrub 3-7 m high wetter sclerophyll/rainforest in the uplands between Taree and Wauchope, New South Wales. As well as differing in leaf venation characteristics (the fine veins in the Queensland plant are more often joined) and in fruit (the Queensland plant has a larger fruit), indications from a colour slide and specimen notes are that the two species differ markedly in flower colour. In New South Wales the flowers have green tepals (the technical term for the four petal-like parts) and within them a red style (the slender central 'column' which terminates in the knob-like pollen-presenter). In Queensland the tepals are yellow and the style green.

If anyone can give me further information on flower colour, by way of a colour slide or a rough sketch of a flower with indication of the colour of the various parts, I would be very grateful. Ideally to make your observations scientifically useful you should be able to tell me what the wild source of the plant was and send a nicely pressed branch with flowers, fruits and seeds, but in this case only some of these requirements should establish which species you are talking about.

I also would like to know if the Queensland plants have a swollen woody subterranean base called a lignotuber. Some *Hakea* species, particularly those which are multistemmed or sucker, have them, others don't. The New South Wales trees are lignotuberous.

Please send information to: Dr W.R. Barker, State Herbarium, Botanic Gardens, North Terrace, ADELAIDE, S.A. 5000

NAME CHANGES

H. denticulata R. Br. instead of *H. rubriflora* Lamont

Unfortunately when Lamont (1973) described his new species of *Hakea*, *H. rubriflora*, he was unaware that it was conspecific with the earlier *H. denticulata* R. Br. This species was first described by Robert Brown in 1830 in his supplementary treatment of Proteaceae and the description was based on a William Baxter collection from King Georges Sound. The type material consists of branches which lack any flowers and consists predominantly of leaves which are much larger and more toothed than the normal range for this species. They coincide instead with the juvenile leaves of this species. The presence of a few appressed hairs on the leaves and stem of the type specimen and on another possible isotype is sufficient to indicate that the two are conspecific. No other species of the *H. prostrata* complex, to which these species belong (Barker, Barker & Haegi, in preparation), has appressed hairs, and none of the other species has so many teeth per side of an individual leaf.

H. drupacea (Gaertn. f.) Roemer & Schultes instead of *H. suaveolens* R. Br.

Amongst those collections of horticultural interest in Europe in the earlier part of the nineteenth century were a number of *Hakea* species (Cavanagh 1990, Nelson 1990). Consequently there are a number of obscure names within the genus which can sometimes on further study prove to be earlier than names we usually associate with the species. Such is the case with *H. suaveolens* R. Br.

The name *H. suaveolens* R. Br. is predated by the earlier *Conchium drupaceum* Gaertn. f. When Robert Brown (1810) described *H. suaveolens* he was obviously unaware that is was conspecific with *Conchium drupaceum* of C.F. Gaertner (1807). Roemer and Schultes (1818) made the combination *Hakea drupacea* although they were obviously unaware of the identity of the species as the entry was "?Hakea drupacea". Their publication was a mechanical listing of the species which belonged to *Hakea*, with the assumption that anything described under *Conchium* was a *Hakea*. Bentham (1870) appears to have been the first to suggest that *Conchium drupaceum* might be *H. suaveolens.*

Had he not misidentified it as *H. gibbosa*, Labillardiere, the collector of the type specimen of *Conchium drupaceum*, may well have described his collection as a new species, as he did for the rest of his collections of *Hakea*. In describing 3 new species of *Hakea*, Labillardiere (1804) made reference to differences between the new species and *H. gibbosa*, when presumably his comparisons were made with respect to what now has to be known as *H. drupacea.*

Two distinct species, *H. baxteri* R. Br. and *H. brownii* Meissn.

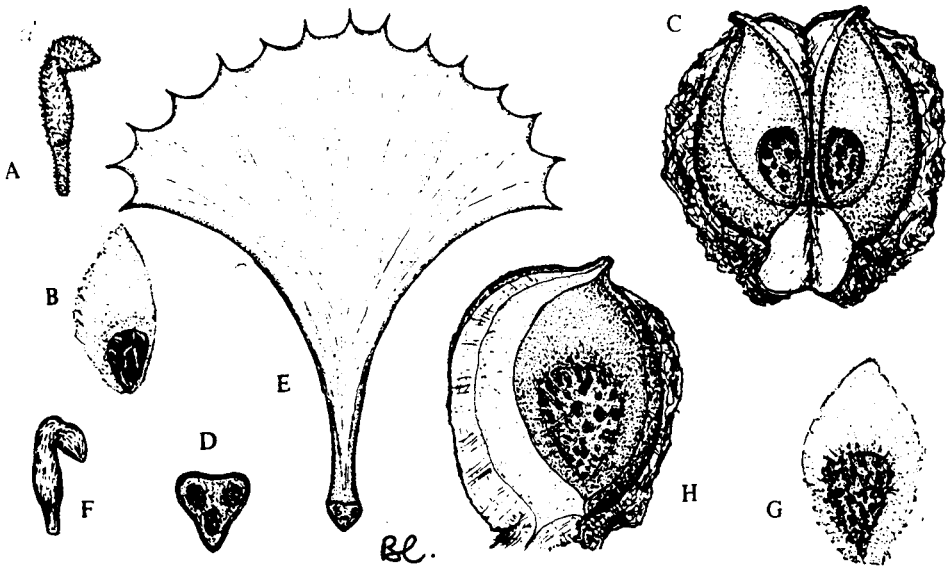

Fig. 4. Comparison of *H. baxteri* R. Br. and *H. brownii* Meissn. A-E, *H. baxteri*. A, bud, ×2 (*George 403*); B, seed, ×0.75; C, fruit, ×0.75; D, leaf scar, ×2.5; E, leaf, ×1; (all *Phillips CBG 016644*). F-H, *H. brownii*. F, bud, ×2; seed, ×0.75; H, fruit, ×0.75; (all *Purdie 5313*).

Two species of south-west Western Australia, both of which are characterised by fan-shaped leaves, and which cannot be distinguished vegetatively except on lignotuber differences, have usually been called *H. baxteri* R. Br. (Bentham 1870, George 1984, Blackall & Grieve 1988). However there are two distinct species which can be separated on floral and fruiting characteristics as well as distribution. A name already exists for the second species, *H. brownii* Meissn. *H. baxteri*, the rarer of the two species, is found in the Stirling Ranges area, while *H. brownii* is found in the sand plains and sand heaths north of Perth. *H. baxteri* has larger, 7-9 mm long vs. 5-7 mm long, flowers in which the ferruginous hairs are woolly tomentose rather than appressed as they are in *H. brownii*. Within the open woody fruits of *H. baxteri* (Fig. 4) there is a band of red-brown porous tissue along the suture; this band is very broad at the base of the fruit but narrows towards the apex. In contrast, the red-brown tissue in the fruits of *H. brownii* is narrower and of a similar width from base to apex. Furthermore, in *H. baxteri* the seed wing extends broadly and fully down one side of the seed-body and narrowly down the other, but it does not completely encircle the seed-body as it does in *H. brownii*.

H. baxteri is non-lignotuberous while *H. brownii* is lignotuberous (George 1984).

H. roei Benth.

The name *H. roei* still persists in the Western Australian literature (Blackall & Grieve 1988) and it has often been misapplied to *H. cygna* ssp. *cygna* (herbarium identifications). There is no doubt that the type is conspecific with *H. pandanicarpa* ssp. *crassifolia*.

H. lasiocarpa R. Br. instead of *H. dolichostyla* Diels

While the name *H. dolichostyla* Diels has erroneously been applied to *H. horrida* on herbarium specimens (see above) in the past, the true *H. dolichostyla* (Diels 1904) is conspecific with *H. lasiocarpa*, described much earlier by Robert Brown (1830). A part of the *H. varia* complex, this species is easily distinguished from the rest of the complex by its much larger flowers, up to 8 mm long, and by its much longer, 23-25 mm long, pistil. In the absence of flowers however, there is no way of distinguishing this species from *H. varia*. The type of *H. lasiocarpa*, collected by William Baxter from 'between the two ranges of mountains inland from King Georges Sound' is almost lacking in flowers but for a few old remnants amongst the leaves. Had these not been present it would have been impossible to apply the name *H. lasiocarpa* to a specific taxon.