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AUSTRALIAN NATIVE PLANTS SOCIETY AUSTRALIA

HAKEA STUDY GROUP NEWSLETTER      NUMBER 40

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Dear members.

I will commence this newsletter following on from the last paragraph of the previous newsletter. The extreme heat of that day, 8<sup>th</sup>. of February, 2009 ( 46degrees C in the shade) and the scorching furnace like wind did immense damage to the Hakeas from the cooler areas of Australia. I did not loose any Hakeas from north or inland of Perth or inland Australia but the high country and southern coastal species just turned up their toes and died either immediately of leaf burn or gradually from heat and drought stress over the next three months. Never have I experienced such a horrific heat wave with ten days in a row of temperatures over 40 degrees C. I hope we do not see this condition again.

Before discussing my losses I should also say something about the drought conditions. After good rains in November and mid December the clouds disappeared and we went 20 weeks without rain. It was not till April 25<sup>th</sup>.when finally 43mm fell over two days and then a month later another 18mm. 61mm of rain in five months must be the driest on record. So these rains have only just wet the surface as the ground is so deficient of sub soil moisture. The outlook for the rest of the year is bleak. Below average rains are forecast, so our Hakeas here may be lucky to receive 200mm of rain for the year and hence the drought continues on. Oh, for those torrential rains that Coffs Harbour received this year, everyone would like to see the Murray River in flood.

The Hakeas that died quickly from leaf burn in the heat were bakeriana, ceratophylla, cucullata, drupacea, elliptica, falcata, ferruginea, lasiantha, lissosperma, nodosa, obliqua ssp parviflora, oldfieldii, pachyphylla, salicifolia ssp salicifolia, sulcata, ulicina, varia, and-tuberculata. Over the following three months Hakea aenigma (graft died), ambigua, cinerea, corymbosa, macrorrhyncha, pritzelii and pulvinifera (graft died). Fortunately I had more than one of each of the grafted species as they are very difficult to reproduce.

It is interesting to note that Hakea dohertyi from the high Blue Mountains in NSW and Hakea megadenia from Tasmania showed no effects at all from the heat and continued to flourish with a bit of moisture from the hose.

Many of the Hakeas that perished where from the Albany area in WA. This region seldom sees days over 35 degrees C as the coastal breeze tempers the inland heat. In the past the Hakeas at Strathmerton have survived temperatures of 40 degrees C but when it goes above this plants from cooler areas just die from the extreme heat. In replanting I have given much more thought to putting these plants in semi shaded areas to try and reduce the heat stress. I asked Graeme Woods from Gisborne how his Hakeas faired in the heat and he has reported that all survived. The temperature there would have been at least 4 degrees C cooler and that would have made a big

difference. After the Adelaide plant sale he added another ten species and now has 140 + species in his garden.

Fine leaf forms of *Hakea salicifolia* and *eriantha*.

If you come across narrow leaf forms of *Hakea salicifolia*, it is sometimes difficult to identify which sub species they are. *Salicifolia* ssp *salicifolia* has leaves greater than 7mm in width whereas *salicifolia* ssp *angustifolia* has leaves only 4 to 7 mm wide. Ssp. *salicifolia* can be found from the Qld./NSW boarder to Jervis bay in wet sclerophyll forests and ssp. *angustifolia* in river systems between Hornsby and Helensburgh in the Sydney region on sand or sandstone. There is also a fine leaf form of *Hakea eriantha* which has leaves from 1 to 4mm wide and extends from Southern Qld. to Eastern Victoria. *Hakea eriantha* has boat shaped follicles whereas *salicifolia* has globose shaped follicles with blunt warts.

*Hakea fraseri*.

Max Ewer has been successful in germinating the seed from our grafted plant of *Hakea fraseri*. The plants are only small yet but the distribution has begun with the plants going to those with large *Hakea* collections. The remaining ones are to go to gardens in the northern NSW where people responsible for introducing it into our gardens will have a plant on its own roots instead of the solitary grafted one in Armidale Botanic gardens which is not looking healthy. It has been an exciting time seeing an endangered plant being brought into cultivation.

New hakea?

Neil Marriott has mentioned that Bill Molyneux has found a new *Hakea* on the Nunninong Plateau in Eastern Victoria. I have no details as yet but some years ago Geoff Cooke and Mike Beamish gave me a sample of a *Hakea* that came from the Moroka River area that had similarities to *Hakea dactyloides*. They went back to find the plant later on but could not locate it. Fortunately Mike and Geoff have it growing in their gardens, so if it is anew species we will be able to propagate it easily.

*Hakea* list.

As promised in the last newsletter, I have included a list of all the *Hakea* species including the species name recently from WA. I have also included a sample of a spread sheet from Cliff Wallis which gives details of each *Hakea* planted and its progress. I recommend it as a means of keeping accurate record of a plants growth and if " F6/09" was used as a symbol and date when it flowered and likewise "S " when seed was set I believe it would be a very good recording system. It also allows me to give some reasons why plants have died or not grown well.

Getting seeds to open.

*Hakea neurophylla* seed capsules are often difficult to open. They seem to not even open when dried out. I have found by cutting back into the rear of the seed capsule without damaging the seed has made them crack open readily.

Notes from members.

Hans Griesser reports that *Hakea prostrata* showed some outer leaf burn from that heat wave in February, otherwise his *Hakeas* have all survived with little damage. Hans commented on the ability of the plants vascular system to pump up

moisture quickly enough to the leaves in days above 40 degrees C and perhaps that is why plants from cooler climates collapsed with heat burn to leaves.

Cliff Wallis from Merimbula says his grafted *Hakea bucculenta* flowered at two years of age, also *Hakea linearis* flowers for a long time. He now has 130 species. Some that he is having trouble to get going are *Hakea stenophylla* ssp *notialis* and *cygna* ssp *needlei*. With his sandy soil I would have expected both to have survived. Cliff tends to do what Hans does, water in, mulch and then leave the plant to survive. We congratulate Cliff on his marriage to Sayaka Milhara in December, 2008.

John Edmonds- Wilson from Coonalyphn in SA wrote that they had 75mm of rain in one day in November followed by a heat wave. Many of his native plants have suffered badly in the long hot summer but a grafted specimen of *Hakea lorea* ssp. *lorea* has flowered in the spring of 2008. John is a wheat farmer and I hate to think what the rain did to his crop.

I asked Graeme Woods of Gisborne how his plants of *Hakea stenophylla* ssp *stenophylla* were surviving in a cooler climate. He said so far they were growing satisfactorily. This plant comes from a warm temperate to sub tropical climate in north western WA. They have proved to be difficult to get going here at Strathmerton. Max Ewer has small plants surviving at the Avenue Range in SA on sandy loam. Royce Raleigh has lost many established *Hakeas* (some 20 years old) during this summer. He has no water available, so the plants just have to survive as best they can. Newsletter improvements.

I am in the process of looking for a new computer to be able to put colour pictures into the newsletter. About one quarter of the members replied saying they would like to receive their newsletter by e mail. So I have plans to update the newsletter with colour photos from the November issue onwards. It will be a great leap forward and a steep learning curve for me. So as soon as the ASGAP 2009 conference and seminar is over I will turn my attention to it.

#### Subscriptions and financial statement.

Balance forward.	\$1615-34
Subscriptions	85-00
Expenditure.	
Printing and postage, issue No. 39	61-70
Balance as at 8 <sup>th</sup> . June 2009.	\$1638-64

The subscriptions for the 2009/2010 financial year will be \$5 for newsletters sent by e mail and \$10 for those sent by post. In sending your subs please include your e mail address if you want the newsletter sent to you by e mail. If you have a red dot on your newsletter it is a reminder that your subscriptions are due.

The removal and clean up of dead plants has been completed, and the replacement plants have been planted, but with much more thought to position to give them more shade in summer. I will leave some of the taller dead *Eucalypts* as places for birds to sit and as a reminder than plants from cooler environments are really not suited to this area. The mulcher has been in use, so there are piles of mulch ready for the summer period. The northern *Hakeas* have been covered with hessian and plastic to protect from frosts which so far have not eventuated. The weeds are starting to appear, so that will be my next task with my aluminium hoe to remove. *Hakea petiolaris* ssp *angusta* is in flower and *Burrendong Beauty* and *pycnoneura* will be out shortly. The flowering season is late but I hope more moisture will encourage others to burst into flower. May your efforts in the garden bring you much pleasure, regards, Paul.

*Paul*

## HAKEAS

## C WALLIS - RECORDS

SCIENTIFIC NAME (no. planted)	BED	DATE planted	Comments Mar. 09	COMMENTS Mar-08
Actites	11	may.07		died
	21	Jan. 08	good	good
Aculeata (2)	3	may.07	lost one in winter	good
	21	Jan. 08	small	good
Acuminata	25	Jan. 08	good	good
Adnata	21	jun.07	died suddenly	very strong
Aenigma				
Ambigua	11	may.07	small	ok - small
Amplexicaulis	15	nov.07	good / small	ok - small
Anadenia	21	jun.07	very good	very good
Arborescens	25	Jan. 08	died suddenly	ok
Archaeoides	14	may.07	very good	very good
Auriculata	11	may.07	good	good
Bakeriana	17	may.07	good	good
Baxteri	3	may.07	small	good - dormant?
	15	nov. 07	good / small	good
Bicornata	21	jun.07	very good	very good
Brachyptera (?)	21	jun.07	died	coming back
Brownii	21	jun.07	died suddenly	good
Bucculenta(grafted)	11	oct.06	very strong - seeding	very strong
Burrendong Beauty	HSE	apr.05	very strong	very strong
Candolleana	25	jan.08	died suddenly	good
Carinata	15	may.07		died
	25	jan.08	good	good
(mt Crawford)	15	jan.08	died winter	good
Ceratophylla (2)	15	may.07	good	good
	21	may.07	died suddenly	good
Chordophylla	21	jun.07		died
Cinerea	25	jan.08	ok / small	ok
Circumalata	3	may.07	good	good
Clavata	14	may.07	very good	very good
Collina				
Commutata	24	jan.08	died suddenly	good
Conchifolia	15	may.07	good	good
Constablei	3	may.07	good	good
Corymbosa	21	nov.07	died suddenly	good
Costata	21	jan.08	didn't take	sad
Cristata	14	may.07	very good	very strong
Cucullata	15	may.07	very strong	very strong
(dwarf)	3	jan.08	small	good
Cunninghamii				
Cyclocarpa	15	may.07	very good	very good
Cycloptera	14	may.07	good	good
Cyigna ssp cygna	11	may.07		died
	24	jan.08	died	struggling
ssp needlei	11	may.07		died
	15	jan.08	ok / small	ok - small
Dactyloides (3)	3	Oct-06	good	good
	11	oct.06	good	good

# HAKEA

Hakea species showing natural growing climate and page number of the reference in "*Hakeas: A Field and Garden Guide*" (2005) by Ivan Holliday. Climate codes are:

C = cold      H = hot      ST = sub-tropical      T = tropical      W = warm  
 e.g. South Gippsland area is classified "cold".

SPECIES	CLIM	PAGE	STAT
actites	ST	192	
aculeata	W	8	Rare
acuminata	W	10	Rare
adnata	W	12	
aenigma	C	178	Rare
ambigua	C	14	
amplexicaulis	W	16	
anadenia	C	18	
arborescens	T	194	
archaeoides	W	208	
<i>arida</i> = <i>recurva</i> ssp <i>arida</i>			
<i>attenuata</i> = <i>varia</i>			
auriculata	W	20	
bakeriana	W	22	
baxteri	C	24	
bicornata	W	140	
<i>bipinnatifida</i> = <i>lissocarpa</i>			
brachyptera	W	26	
<i>brookeana</i> = <i>brooksiana</i> = <i>obliqua</i>			
brownii	W	24	
bucculenta	H	28	
candolleana	W	96	
carinata	C	32	
ceratophylla var <i>ceratophylla</i>	C	34	
chordophylla	ST	114	
cinerea	W	36	
circumalata	W	38	
clavata	W	40	
collina	H	128	
commutata	W	42	
conchifolia	C	44	
constablei	C	46	
<i>coriacea</i> = <i>francisiana</i>			
corymbosa	W	48	
costata	W	50	
<i>crassifolia</i> = <i>pandanicarpa</i> ssp <i>crassifolia</i>			
<i>crassinervia</i> = ? <i>petiolaris</i> hybrid			
cristata	W	52	Rare
cucullata	C	54	
<i>cunninghamii</i> = <i>lorea</i> ssp <i>borealis</i>			
cyclocarpa	W	56	
cycloptera	H W	58	
cygna ssp <i>cygna</i>	W	60	
ssp <i>needlei</i>	W	60	Rare

SPECIES	CLIM	PAGE	STAT
dactyloides	C	62	
decurrens ssp <i>decurrens</i>	W	64	
ssp <i>physocarpa</i>	W	64	
ssp <i>platytaenia</i>	C	64	
denticulata	W	66	
divaricata	H	68	
dohertyi	C	32	Rare
<i>dolichostyla</i> = <i>lasiocarpa</i>			
drupacea	C	70	
ednieana	H	72	
elliptica	C	74	
eneabba	W	48	
epiglottis ssp <i>epiglottis</i>	C	122	
ssp <i>milliganii</i>	C	122	Rare
erecta	W	76	
eriantha	C W	78	
erinacea	W	206	
eyreana	H	68	
falcata	C	14	
ferruginea	C	80	
flabellifolia	W	82	
florida	C	152	
florulenta	W	188	
francisiana	H	84	
fraseri	C	114	Rare
gibbosa	W	88	
gilbertii	W	90	
<i>glabella</i> = <i>prostrata</i>			
grammatophylla	H	92	
hastata	W	80	Rare
hookeriana	C	56	
horrida	W	94	
ilicifolia	W	94	
incrassata	W	96	
invaginata	H	98	
ivoryi	H	68	
kippistiana	W	108	
laevipes ssp <i>granitica</i>	C	62	
ssp <i>laevipes</i>	C	62	
lasiantha	C	100	
lasianthoides	C	100	
lasiocarpa	C	102	
laurina	W	104	
lehmanniana	W	106	
leucoptera ssp <i>leucoptera</i>	H	108	

SPECIES	CLIM	PAGE	STAT
leucoptera ssp sericipes	H	108	
linearis	C	110	
lissocarpha	C	112	
lissosperma	VC	192	
longiflora	W	206	Rare
loranthifolia	W	74	
lorea ssp borealis	H	114	
ssp lorea	H	114	
maconochieana	H	92	
macraeana	C	116	
macrocarpa	H	118	
macrorrhyncha	VC	116	
marginata	W	120	
megadenia	C	122	
megalosperma	W	124	Rare
meisneriana	W	126	
microcarpa	VC	128	
minyma	H	130	
mitchellii	W	132	
<i>morrisoniana</i> = macrocarpa			
<i>muelleriana</i> = mitchellii			
multilineata	W	134	
myrtoides	W	136	
neurophylla	W	138	
newbeyana	W	140	
nitida	W	142	
nodosa	C	144	
obliqua ssp obliqua	W	146	
obliqua ssp parviflora	W	146	
obtusa	W	148	
ochroptera	ST	116	Rare
oldfieldii	C	150	End.
oleifolia	C	152	
orthorrhyncha var filiformis	W	154	
var orthorrhyncha	W	154	
pachyphylla	C	166	
pandanicaarpa ssp crassifolia	W	156	
ssp pandanicaarpa	W	156	
pedunculata	T	194	
pendens	W	158	
persichana	ST	194	
petiolaris ssp angusta	W	160	
ssp petiolaris	W	160	
ssp trichophylla	W	160	
platysperma	W	162	
plurinervia	ST	62	
polyanthema	W	26	
preissii	H W	164	
pritzelii	C	168	Rare
propinqua	W	166	
prostrata	C	168	
psilorrhyncha	W	170	

SPECIES	CLIM	PAGE	STAT
<i>pugioniformis</i> = teretifolia			
pulvinifera	W	68	Rare
purpurea	W	172	
pycnoneura	W	174	
recurva ssp arida	W	176	
ssp recurva	W	176	
repullulans	C	178	
rhombales	H	158	
rigida	W	180	
<i>roei</i> = pandanicaarpa ssp crassifolia			
rostrata	C	182	
<i>rubriflora</i> = denticulata			
rugosa	C	184	
ruscifolia	C	186	
salicifolia ssp angustifolia	W	188	
ssp salicifolia	W	188	
scoparia ssp scoparia	W	190	
ssp trycherica	W	190	
sericea	W	192	
smilacifolia	W	44	
spathulata	W	20	
standleyensis	H	128	End.
stenocarpa	C	120	
stenophylla ssp notialis	H W	194	
ssp stenophylla	H W	194	
strumosa	W	196	
<i>suaveolens</i> = drupacea			
<i>suberea</i> = lorea ssp lorea			
subsulcata	W	198	
sulcata	W	200	
tephrosperma	W	202	
teretifolia ssp hirsuta	C	204	
ssp teretifolia	C	204	
trifurcata	C	206	
trineura	ST	208	
tuberculata	C	212	
ulicina	C	178	
undulata	W	210	
varia	C	212	
verrucosa	C	214	
victoria	W	216	
vittata	C	58	
<i>chromatropa</i>	W	-	Rare