

The Dryandra Planting at the Cranbourne Annexe of the Royal Botanic Gardens:

It was a typical dull cold May morning when Alf Salkin and I and my son David arrived at the Cranbourne Annexe to begin the rather daunting task of planting out 185 assorted Dryandra species. We were joined later by John Topp and set to work organising the plants and planting them, before the rain set in. It was all over by 4.00 pm which was just as well as the rain which had been threatening all day, finally started; it didn't last long, however. The winter has been relatively dry and mild and I was a little concerned that a dry spring and summer could cause a high loss. Fortunately October has been quite wet so the surviving plants have been given a flying start for summer.

The annexe consists of some 246 hectares, much of which is still under a natural heath vegetation of Hibbertia, Pimelia, Ricinocarpus and Leptospermum, together with numerous species of pea plants and orchids. The southern part of the park has been heavily "mined" for sand and at present contains little or no vegetation as the sand is constantly moving. In fact on a recent visit I was amazed to see that the ground level around our Dryandras had "dropped" about 2 - 3 cm through sand being blown away. Some attempts at stabilisation are being made by covering unstable dunes with cut ti-tree branches. It is hoped that the branches will hold the sand until seedlings and natural regeneration will gain a permanent footing and thus vegetate and stabilise the area.

This mined area is also where various study groups such as ourselves have experimental plantings. A Western Banksia area, and areas for planting Hakeas and Persoonias adjoin us. Alf has also planted up a similar mined area at the northern end of the park with many species of Eastern Banksia from May 1977 onwards and the oldest of these plants are now some 2 - 3 m high. A number have bloomed prolifically and set seed. It was also fascinating to see how quickly natural regeneration occurs once the area stabilises and numerous Leptospermum myrsinoides (white and pink forms) were scattered through the Banksias.

The Dryandra planting is laid out in rows for ease of access with a spacing of about 2 metres between individual plants and between rows. The full list of plants is shown in the attached pages and it will be seen that as many as ten of some species were available. The planting itself was very easy as the "soil" is essentially sterile acid sand and bottomless - in fact because of the lack of watering facilities, the Dryandras were simply planted in the dug holes, tamped down and left to their own devices. At this stage (early November) losses are less than 5% through it will be interesting to see the survival rate over summer when no watering will be available. I will give a fuller report in May next year but essentially most species are growing well with no obvious "failures". Dryandra nobilis in particular was very healthy and growing well. The plants themselves are fairly "hard" looking and, apart from one or two exceptions, have not made very rapid growth. The area, while in full sun, is relatively exposed and cold winds blow regularly as they tend to do in Southern Victoria. Hopefully, the hardier species will eventually provide at least some wind-break protection for the others.

We will be aiming to plant every year in May and eventually hope to have all the currently named varieties. Some species are obviously going to be difficult to obtain and I appeal to members to assist by growing plants particularly of uncommon varieties. On the plant listings I have indicated

the plants we have a major need of and the approximate number required. Even one or two plants will help and if you can supply any, please let me know by about April 1981 - they should be forwarded, freight collect, to my address.

Finally, I would like to thank the many people who helped in various ways with our first effort - Alf Salkin for collecting Dryandras from several parts of Melbourne; both he and John Topp were of great assistance in the planting. The following supplied either plants or seed - Kieth Alcock, Den Stuckey, Bruce McDonald, Doug McKenzie, Pat Urbonas, Trevor Blake, Alf Salkin, John Topp, Don Yates and Tom Fawcett and I am very grateful for their interest and support.

Seed Available:

It is heartening to see that several of the major seed suppliers now stock at least a small number of Dryandra species. Nindethana Seed Service this year had 12 species listed while the Western Australian Wildflower Society had 16 Dryandras. Between these two, 20 species, some of them of very choice or uncommon plants, were available. I managed to obtain seeds of some species which we do not as yet have for the Cranbourne planting but unfortunately a number did not germinate. Keith Alcock has recently supplied seed of a number of species for the seed bank and these are available to members. Seeds of a limited number of named species are also available. If you require seed, please forward a stamped (28¢ stamp) self addressed envelope to me and I will endeavour to meet your requests.

Dryandras at Shepparton:

I am growing a number of Dryandras both in Shepparton and on a block I own some distance out of town. By and large, the conditions are quite severe with the "soil" being shallow and sandy over clay. Additionally, it is very dry in summer and particularly on the block, I am unable to do much watering once the plants have become established. The following is a list of Dryandras I am currently growing.

D.obtusa: Growing in Shepparton, approximately 3 years old but not flowered. Is watered about once a month in summer. The plant has lovely foliage and is healthy though only 15 x 40 cm.

D.nivea (Dongarra form): I have several of these on both blocks and the oldest at 4 years has flowered. This species also has attractive foliage and is seemingly quite hardy, not being watered for more than 12 months. Another form of D.nivea from the Perth/Northam area is apparently less adaptable as my plants, even though watered, are small and struggling.

D.bipinnatifida: is another species which despite watering is very slow. It has only achieved 16 x 16 cm in 2 years.

D.praemorsa: is another very hardy species and the several plants I have (one being grown from cuttings) are healthy and have flowered well despite lack of water. However, in the dry conditions, they have not made a great deal of growth, the oldest at 4 years being 80 cm x 60 cm.

D.formosa: I had two 7 year old plants grown from seed which have both flowered. One died in December 1979 while making fresh growth while the remaining one is still healthy at 2 m x 1.8 m. This is another species which grows reasonably well from cuttings and I have several plants 2 - 3 years old which are making good progress.

D.nobilis: For me this plant though healthy is quite slow and has not yet flowered. It has not been watered over the last 12 months and is approximately 45 x 12 cm.

D.quercifolia: is struggling despite watering and is still quite small though 3 years old.

D.proteoides: Of my five plants, 3 are healthy and 2 are struggling though all are watered. The largest is 45 cm x 45 cm at 3 years.

D.pteridifolia: Another hardy species, my three plants being up to 60 x 90 cm and are flowering well after 2 - 2½ years. They have not been watered for more than 12 months.

D.tenuifolia: was grown from a cutting and after 5 years is healthy and has flowered. It is not watered but has achieved 90 cm x 1.2 m.

D.armata: I fortunately still have this plant as I succeeded with cuttings before the original on the block died. It has not been watered for 12 months and is healthy at 60 x 30 cm though has not yet flowered.

Un-named species: I have, all told, 6 species and only one so far is about to flower. The parents of several of these were very interesting and I hope my plants will survive. My most disappointing loss has been my 2 plants of D.speciosa, the oldest of which was nearly 3 years. This is one species I am particularly anxious to grow and flower.

- DAVID SHIELLS -

Dryandras at Longford, Near Sale, Victoria:

I have been growing native plants for about 12 years now, formerly at Kallista in the Dandenongs and for the past five years at Longford. I have about 51 acres. The country is all black sand ridges and heathland tending to very acid with ph of 4.5. A lot of the country is heavily timbered with Banksia serrata and peppermints as trees and numerous smaller shrubs and orchids as the understory.

My aim is to grow plants (particularly Banksias and Dryandras) for the cut flower trade. Our normal rainfall is around 600mm (when we get it) but I have a very good bore - good quality water and fairly rich in iron. I have planted several hundred Banksia species, as well as Anigozanthos, Isopogon Chamaelaucium, Kunzea baxteri, Hakea bucculenta as well as a limited number of Dryandras. Regrettably the vagaries of mother nature have given us our share of problems. The extremely wet winter of 1978 was followed by very heavy rain in March 1979 and my original Banksia plantation was flooded and under water for weeks - I lost 50 of my most advanced plants, mainly B.prionotes and B.coccinea, some up to 2 m high.

At this stage I do not have a large number of Dryandras. I have bought some plants and raised a number from seed but until recently the potting on or planting out stage has generally resulted in substantial losses. I do all my growing in the open with no shade. The seedling media is 3 parts coarse,

washed river sand, 1 part peat moss and 1 part of sieved compost. In general I find Dryandras are a little slower to germinate than are Banksias and the germination percentage is perhaps somewhat lower. I feed the seedlings Maxicrop regularly and spray with zineb fortnightly.

My past practice has been to pot up into what was essentially my very acid black sand. Because of losses, I experimented with mixing a red, clayey loam from the Avon river flats with my sand in the ratio 1:1 or 1:3. So far, the mix appears to have been most successful and plants in this soil have outgrown those potted several months previously into the sandy soil alone. I think it contains more iron and general nutriment and a slightly "clayey" mix (ratio 1:1) seems to suit Dryandras.

Over the years, I have planted out seedlings at various sizes and ages. However, it seems to me that with my conditions and very poor leached soil, it is better to plant out fairly young, say at around 10cms, and mulch well with wood ash around the base. Even then, it sometimes takes up to 2 years before the plants really come away and make good top growth.

Some of the Dryandras I have growing are as follows -

D.formosus: A beautiful shrub, growing extremely well and about 2.5m after 3½ years. The single, large golden coloured terminal flowers are a delight. It has set seed very well.

D.patens (now D.hewardiana): This is a very vigorous plant for me and my best specimen, at a little over 3 years old, is 2 m high and is green all the way down. It has also flowered well. Another plant has a green top but some dead foliage below.

D.praemorsa: An allegedly pink form but turned out yellow. Stood still for 18 months but is now shooting out well and flowering.

D.polycephala: I have two plants of this and it really is a delight when in flower. My oldest plant is some 4 years old and has flowered profusely though taking several years to make the effort.

D.carduaceae: Bought this as D.falcata from a nursery. It has made slow growth and flowered once.

D.proteoides: is my current pride and joy. It was stationary for nearly 2½ years though in the last 12 months it has more than doubled in size and looks very healthy. I mulched it heavily with banksia leaves and newspapers last winter and it seems to have appreciated this.

Of the prostrate species, D.calophylla has now flowered after sitting stationary for a year. Both D.pteridifolia and D.fraseri are coming on quite well but have not made any outstanding growth.

- TOM FAWCETT -

CURRENTLY NAMED DRYANDRAS

NAME:	CRANBOURNE NO:	No. Planted May 1980	No. Promised 1981	No. Required.	DESCRIPTION	COLOUR ILLUS:
arborea C.A. Gardn.	1		2-3.	6	Ref. 1	
arctotidis R.Br.	2	8	2	1	Ref. 2	Ref. 2
armata R.Br	3	1+?4.	2	6	Ref. 3	Ref. 3
ashbyi B.L. Burt	4	1	-	9	Ref. 4	?
baxteri R.Br.	5	5	2	2		
bipinnatifida R.Br	6	.	2	8		
calophylla R.Br	7	4		5	Ref. 5	Ref. 5
carduaceae Lindl.	8	8	1	-	Ref. 6	Ref. 6
carlinoides Meissn.	9	1	1	7		
cirsioides Meissn.	10	3	2	5		
comosa Meisn.	11			9		
concinna R.Br.	12			9		
conferta Benth.	13			9		
cuneata R.Br.	14	8	1	-		
cynaroides C.A. Gardn.	15			9	Ref. 1	
dorrienii Domin.	16			9	Ref. 7	
drummondii Meisn	17			9	Ref.15	Ref.15
erythrocephala C.A. Gardn.	18			9	Ref. 8	Ref. 8 (leaves & flower parts only.)
falcata R.Br.	19	?3.		6		
favosa Lindl.	20			9		
ferruginea Kipp.	21			9		
floribunda (see D.sessilis)						
foliolata R.Br.	22			9		
foliosissima C.A. Gardn.	23			9	Ref. 1	
formosa R.Br.	24	6	-	2	Ref. 9	
fraseri R.Br.	25	10		-		
hewardiana Meisn.	26	6		3		
horrida Meisn.	27			9		
kippistiana Meissn.	28	1+?3	-	7		
longifolia R.Br.	29	4	-	5	Ref.10	Ref.10
mucronulata R.Br.	30	4	2	3		
nana Meisn.	31	?1	-	8		
nivea R.Br.	32	8	-	2		
nobilis Lindl.	33	8	1	1	Ref.11	Ref.11

obtusa R.Br.	34	4		5		
patens (see D.hewardiana)				9		
plumosa R.Br.	35					
polycephala Benth.	36	4				
praemorsa Meisn.	37	6	3	9		
preissii Meisn	38		2	7		
proteoides Lindl.	39	2	1	6		
pteridifolia R.Br.	40	9	-	-		Ref.12 Ref.1
pulchella Meisn.	41			9		
purdieana Diels	42			9		
quercifolia Meisn	43	6	1	2		
runcinata (see D.ferruginea)						
sclerophylla Meisn	44			9		
seneciifolia R.Br.	45	2		7		
serra R.Br.	46	1	2	6		
serratuloides Meisn.	47		2	7		
sessiles (Knight) Domin.	48	4	2	3		Ref.13 Ref.1
shuttleworthiana Meisn.	49		?2	7		
speciosa Meisn.	50	2	2	6		
squarrosa R.Br.	51		2	7		
stuposa Lindl.	52		2	7		
subpinnatifida C.A. Gardn.	53			9		Ref. 1
subulata C.A. Gardn.	54			9		Ref. 1
tenuifolia R.Br.	55	5	3	1		Ref.14 Ref.1
tridentata Meisn.	56	2	2	6		
vestita Meisn.	57			9.		

? = identity uncertain

OTHERS:

<u>Code:</u>	<u>No:</u>	<u>Code:</u>	<u>No:</u>
PU14	3	K10	1
PU19	1	K11	1
PU25	1	K13	3
PU35	1	K15	5
PU37	4	K16	1
PU63	1	K18	1
KKK3	9	K19	2
K5	1	K20	2
K9	5		

TOTAL = 185 plants

1. Gardner, C.A. 9 - Contributiones Florae Australiae Occidentalis XIII - J.Royal Soc. WA, 1964. Pp 58 - 59
2. - Curtis's Botanical Magazine, 69, 1843 (No.4035)*
3. - Ibid , 60, 1833 (No.3236)*
4. B.L. Burtt Kew.Bull, 1939, P.183.
5. - Curtis's Botanical Magazine, 125, 1899 (No.7642)*
6. - Ibid , 73, 1847 (No.4317)* refers to a plant D.carduacea var angustifolia Hook.
7. Domin, Karel. New Additions to the Flora of Western Australia, P.17
Gardner, C.A. 4 - Contributiones Florae Australiae Occidentalis VI. J.Roy Soc.WA 13, 1927. Ph. 63 - 64
9. Curtis's Botanical Magazine, 70, 1844 (No.4102)*
10. - Ibid 38, 1813 (No.1582)*
11. - Ibid 78, 1852 (no.4633)*
12. - Ibid 63, 1836 (No.3455)* (See also 58, 1831 (No3063) where "D.nervosa" is described. This is apparently a superseded name for D.pteridifolia).
13. - Ibid 38, 1813 (No. 1581)* (Under D.floribunda)
14. - Ibid 63, 1836 (No. 3513)*
15. Everard, B. and Morley, B.D. "Wildflowers of the World" Ebury Press and Michael Joseph. London 1970. Plate 134.

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NOTE: See Newsletter 1 for complete listing of descriptions and colour illustrations.

* Refers to number of plant description. These are run consecutively.