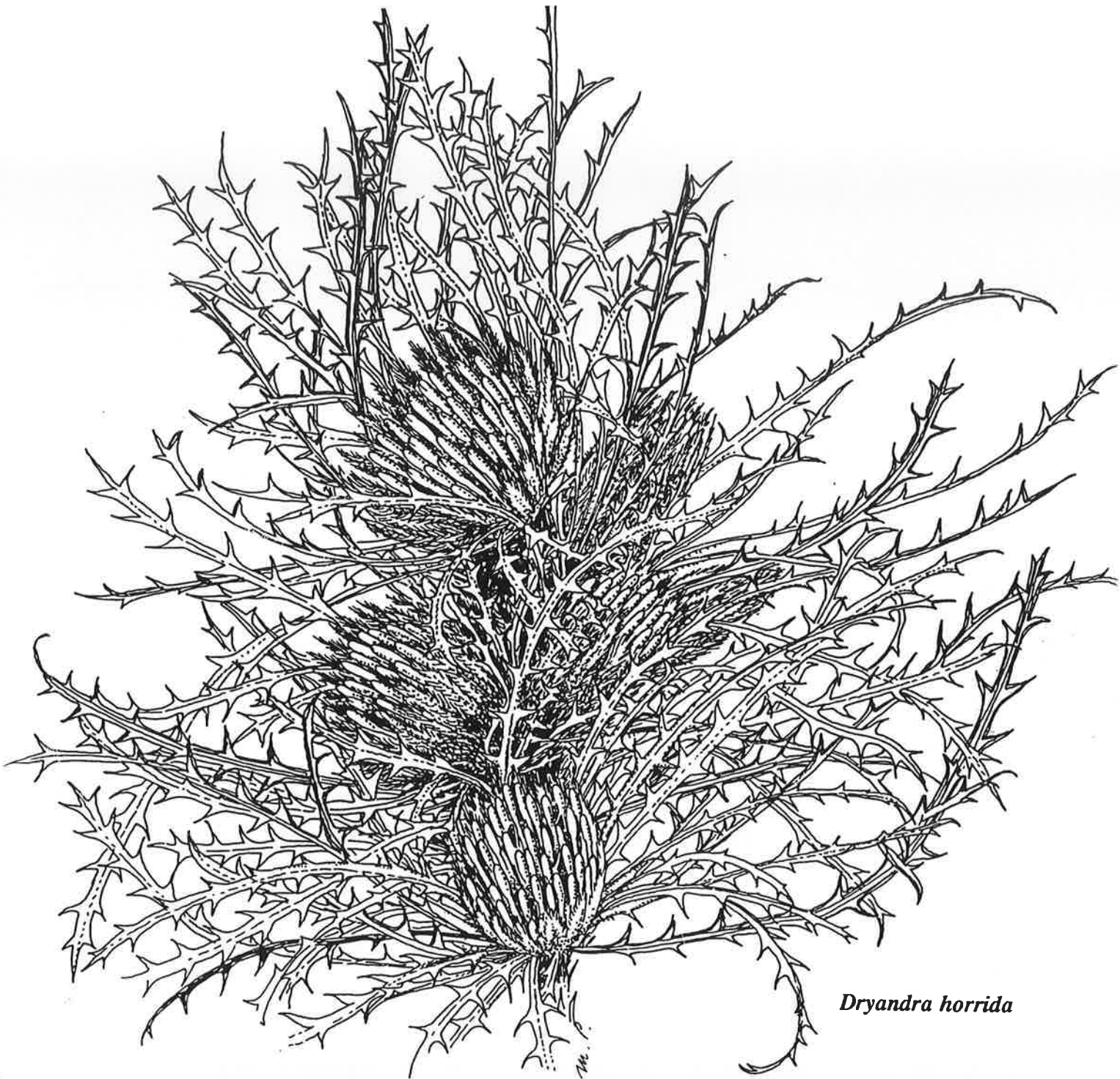


DRYANDRA STUDY GROUP
NEWSLETTER NO. 36



Dryandra horrida

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SOCIETY FOR GROWING AUSTRALIAN
PLANTS

Dryandra horrida Despite its unfortunate name this is not the prickliest of dryandras. The bright golden yellow flowers surrounded by orange-brown bracts are an eye-catching feature when practically nothing else is flowering. A bushy shrub to about 1.5 m high, it is restricted in the wild to the Corrigin-Quairading-Tammin area and flowers in April. It is not known in cultivation so far.

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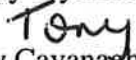
Welcome to the first Newsletter for 1999. I trust that everyone had an enjoyable break and that your gardens have survived what is often a trying time. We had two days "out of the blue" which were over 40°C and while my spring-sown seedlings survived (this year I took the precaution of putting them in the shade early in the morning) quite a number of my small dryandras less than six months old did not. I think that they had not developed a decent root system and probably "cooked" in the ground. Another casualty was my 20 year old *D. brownii*, grown from cuttings in the days when I knew nothing about propagation of dryandras! The hot days were too much for it but I discovered when checking it that it had indeed flowered some years back and I did not notice. This species is often a shy flowerer but may be we just don't see them as these were quite hidden in the foliage.

I must thank Margaret for her outstanding contribution of very interesting articles – they are a mine of information on dryandra associations and localities, with a great deal of botanical and horticultural information thrown in. And as I indicated in the last Newsletter, there is indeed another new species, *D. insulanemorecincta*, which Alex George will be describing more fully in the forthcoming *Flora of Australia* volume. Margaret's delightful drawings of this and the rarely-grown (and unfortunately named) *D. horrida* really bring out the features of these species.

Margaret gave me the list of species she and Elizabeth George had seen in their visit to South Australian gardens and I have put all the information into a table which I hope you find of interest. All told, there are 69 taxa listed, a very impressive effort. The mapping of the Cranbourne Proteaceae collection gave me the opportunity to see how this wonderful planting had progressed in 20 years. Thanks to Rob Cross's work, we now have a complete listing of all the dryandras, 115 taxa although I would be the first to admit that some of my identifications are a little tentative. The ravages of *Phytophthora* are all too depressingly evident but with seedlings re-establishing themselves, and research aimed at treating infected soil, there is hope that this disaster will be arrested.

I have also included some notes and observations from members. It is good to see some of the uncommon species being grown but it is a concern that dryandras do not thrive in New South Wales. There is also a list of members and a financial statement. As we are still financially healthy, subscriptions are likely to remain the same for 1999-2000. I hope that you continue to have success with your dryandras. Remember that Margaret is always glad of any spare seed and we are always interested in reports of successes (and failures).

Happy dryandra growing,


Tony Cavanagh

A 'New' Dryandra

Back in May, Brian Moyle brought me a specimen of a freshly-collected dryandra that had been brought into the herbarium, hoping I could identify it. One glance had me speculating about a new species but I restrained my excitement while we made more inquiries in case it was a "one-off" and so probably a hybrid. I was assured that there were several populations of identical plants and that they grew quite close to Perth- 80 kms. away, in the jarrah forest. Alex George had seen the specimen too, so the three of us arranged with the discoverer Abe van der Sand and Les Robson from the Kelmscott Office of CALM, to go out to see the plants. I was anxious to go as soon as possible in case we missed the flowering as was the case with *D. aurantia* some years ago. On the 28th of May we were too early but plants growing on the edges of one population, among the jarrah trees, were in bud so we went back on 22nd June to find these plants in flower. It was still flowering in early September.

The tallest plant barely reaches 1 m. It most closely resembles *D. conferta* but the main stem leaves are much larger and the crowded floral leaves are like miniature *D. conferta* leaves. The inflorescence is similar to *D. conferta* but smaller. The pale yellow flowers have brown hairs on the limb similar to the southern populations of *D. platycarpa*. Only one follicle is produced in each seed head. Unlike *D. seneciifolia*, *D. rufistylis* and *D. columnaris* which also have this characteristic, the bracts do not completely enclose the follicle which is light brown and hairy and is almost identical to that of *D. columnaris*, as is the seed. The separator differs, however, being woody instead of papery.

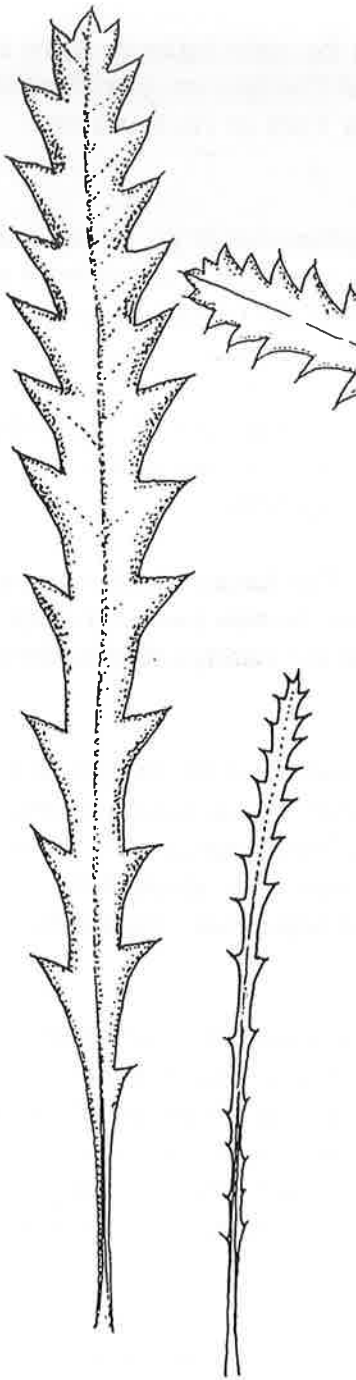
The plants of this new species grow around the edges but not close to , flat granite outcrops in clearings with other small to medium shrubs, except for the few plants mentioned which have encroached into the jarrah forest and were flowering earlier. Other dryandras growing in association with the new species are, in the clearings, *D. nivea* subsp. *nivea*, *D. lindleyana* subsp. *lindleyana* var. *mellicula* and *D. armata* var. *armata*. In the jarrah forest the only other dryandra is *D. lindleyana* subsp. *sylvestris*.

A full description will be published by Alex George in an imminent volume of 'Flora of Australia'. It will be named *insulanemorecincta* which means 'in an island surrounded by forest'.

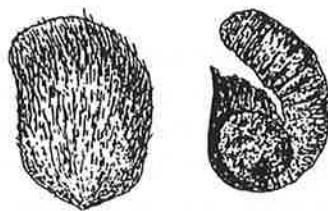
Margaret Pieroni
10th August 1998



D. insulanemorecincta
Inflorescence with floral and stem leaves



Stem leaf Floral leaf



Capsule Seed
× 2



Seedling

Dryandra Associations around Corrigin

This is in response to a request from one of our members for articles on 'good places to see dryandras in the wild'. He suggested a series of articles which would be of help to prospective visitors to Western Australia.

I recently had occasion to revisit one of my favourite dryandra locations at Corrigin, and to be shown some others, new to me, by an extremely enthusiastic local who is working, through Landcare and other authorities to care for the bushland resources. She is part of the recovery team that is successfully translocating plants of the 'back from the brink', *Grevillea scapigera*.

Corrigin is situated in the centre of the wheatbelt, sufficiently far from the main highways to be a worthwhile alternate route to Perth, as road verges and reserves around Corrigin are good for flora. From there a choice may be made to travel to Perth via Quairading and York or via Brookton Highway. Corrigin is 230 kilometres south east of Perth.

Approaching town from the west on Brookton Highway with about 2 kilometres to go, between the Dog Cemetery on the left and the tip on the right, is a sign on the right (south) to a scenic drive and lookout. This is the site I have often visited, being the location of three of the recently described dryandras, among others.

At the top of the hill, surrounding the look-out tower may be found:- *D. fasciculata*, *D. cirsioides*, *D. ferruginea* subsp. *obliquiloba* and *D. vestita*. Growing in the laterite gravel and cap rock across the parking area, behind a line of shrubs to the east is *D. lindleyana* subsp. *agricola*.

D. fasciculata resembles *D. conferta* in its columnar habit and foliage. The leaves are finer and softer and the stems are villous. The flowers, in July, are surrounded by many, narrow rusty-red hairy bracts. The flowers, similar in shape and colour to those of *D. conferta* are distinguished by the red pollen presenter.

D. cirsioides This is the dominant dryandra around Corrigin. Although perhaps not the typical *D. cirsioides* from Ongerup to Ravensthorpe and the Stirling Ranges, with its formal columnar habit, this is, I believe, the correct identification. Plants, though straggly and bushy, appear consistent. Further north, beyond Kellerberrin *D. purdieana* occurs and between them what appear to be intermediate forms have been found. The plants here were flowering in September. Typical *D. cirsioides* normally flowers earlier.

D. ferruginea subsp. *obliquiloba*. Restricted to the Corrigin area, this is a very attractive bushy shrub in the *D. ferruginea* complex. The blue-grey, deeply-divided, curving leaves make this species a distinctive and beautiful component of the dense 'kwongan' vegetation just below the top of the hill to the west. Here it is growing with another very attractive species in the Proteaceae, *Isopogon gardneri* which flowers at the same time, in October. The inflorescences, surrounded by long showy bracts are smaller but more numerous than subsp. *ferruginea* and somewhat hidden in the foliage.

D. vestita is distinguished by its greyish swirling leaves on rather stiff branches with softly-hairy new growth. Small, golden yellow flowers appear in summer.

D. lindleyana subsp. *agricola* This is one of the rarer subspecies, confined to the wheatbelt. The leaves are rather stiff and the underground stems form small clumps. The 'honey-pot' flowers are bright yellow and occur in September-October.

This is the home of *Grevillea scapigera*. A plant can be seen as you drive down the hill. That is providing the shire grader hasn't been driven a few centimetres to the left since the last time. At the entrance to the reserve where the one-way roads fork, there are a number of other interesting plants to discover including several verticordias.

Other interesting reserves rich in flora and varied in habitat are the railway reserves- we visited the south-western side of the railway line - and Hartleys Reserve on Corrigin South Road twelve kilometres south of the town.

Dryandras we spotted in the railway reserve were:- *D. cirsioides* and *D. ferruginea* subsp. *obliquiloba* once more and *D. horrida*.

D. horrida is a very attractive dryandra which has not been represented correctly in any publication as far as I am aware except for the small illustration in the Blackall & Grieve key. (How to Know Western Australian Wildflowers Part I 2nd edition). The involucral bracts are long, rusty-red and shaggy surrounding deep, golden yellow flowers similar to *D. vestita* or *D. cynaroides*. It flowers in April when not many travellers are in Western Australia. Charles Gardner Reserve south of Tammin is a good place to see this one.

Hartley's Reserve, vested in the local Landcare group, is well-worth visiting for a variety of interesting plants. Again, the *D. cirsioides* was dominant at the base of a laterite rise. Further up, *D. ferruginea* subsp. *obliquiloba* is found. Much to the delight of our guide I pointed out that not all of the 1m. X 1m. dense, mounded blue grey foliaged shrubs are this species. Growing among them were some of the best specimens I've seen of *D. octotriginta*, a species she had not recorded for the area. This is the former number 38, *D. aff. drummondii* which is quite widespread. The leaf-lobes are more sharply, narrowly triangular than *D. drummondii* and flowers occur along upright branches instead of in the distinctly mounded formation. It flowers in June-July.

Margaret Pieroni
October 1997

The Dryandra Planting at Cranbourne

During November and December, I visited the Dryandra planting at Cranbourne on three occasions to map the species. The work is part of an on-going project by Rob Cross, Senior Horticulturalist at the Royal Botanic Gardens, Melbourne, to map all the Proteaceae which are growing in the special research area of the Cranbourne Botanical Gardens. The number of both species and genera which are growing there is quite amazing. Alf Salkin, who was the instigator of the whole project, helped Rob with identification of the non-dryandra genera while I looked after the dryandras.

Rob's work has three purposes:-

- to create a database of all species in the research area as it has not been mapped previously
- to identify species with horticultural potential
- to investigate any patterns of resistance to cinnamon fungus (*Phytophthora cinnamomi*) and identify any species which might possess resistance.

The data collected is to be correlated with topography but Rob reports that the soil conditions vary tremendously across the site (and even within a few metres). We observed this variation during the plantings of the 1980s. A separate project in conjunction with the Botany School of the University of Melbourne is looking at ways of minimising the effects of *Phytophthora* in the field – the long-term aim is to see if methods can be developed to treat suspected or infected soil before planting out Proteaceae. I think that any results obtained will be of immense value to all growers of native plants.

The mapping is very high-tech. A Trimble GPS (Global Positioning System) is used, accurate to within one metre. Data are recorded on a hand-held recorder and then downloaded to a computer using Auto CAD software. The location of each plant can then be plotted by a computer-controlled plotter to coordinates of the Australian Mapping Grid. The data Rob recorded for each plant included: name; health of plant; type of plant (shrub etc); if flowering and also flower colour; horticultural potential (prickly, soft foliage etc.); and provenance if known. A sample print-out of the results is shown. However, as the site is several hectares, the mapping sheets are very large and it is difficult to gain an overview of the dryandra planting. Rob very kindly provided me with a print-out of all species recorded and I have included this as well. We have 115 of the 126 species, sub-species and varieties of Dryandra but, as I indicate below, there have been many losses in the last ten years and we have never been able to satisfactorily establish some species.

For newer members, information on the dryandra planting is available in earlier Newsletters (No. 19, p. 2-3 and No. 25, p. 2-3). Since the days of the early plantings in the early 1980s, cinnamon fungus has unfortunately destroyed many dryandras and other proteaceae, although many of the hakeas, which are in the highest and most windswept areas, seem to be surviving. It is heart-breaking to see large shrubs of *D. quercifolia* and the rare *D. anatona* among others, which had flowered and set seed, now dead, more especially as they were formerly very healthy. It appears that the problem arises as the shrubs grow larger and send their roots deeper because large shrubs which have died were often 10-15 years old. I was delighted to see seedlings of the following regenerating throughout the area – I only hope they survive. Seedlings include:

D. squarrosa (a weed! – everywhere), *D. armata* var. *ignicida*, *D. glauca*, *D. cirsioides*, *D. conferta*, *D. ? wonganensis*, *D. concinna* (great to see this), *D. hewardiana*, *D. cuneata*, *D. formosa*, *D. falcata*, *D. serra*, *D. nivea*.

Very few species were in flower but some seedlings of *D. formosa* had a few and *D. stiposa*, *D. plumosa* and one of the large *D. drummondii* were nearly at the end of their flowering.

The list of plants growing is quite impressive but those with sharp eyes will notice some anomalies. There are no *D. arborea* or *D. nana* and we have never had plants of some of the newer species such as *D. ideogenes* and *D. trifontinalis*. All the *D. praemorsa* var. *splendens*, *D. proteoides* and most of the *D. polycephala* are now dead, while *D. formosa* and *D. fraseri*, two of the commonest dryandras in the home garden, do not grow well at Cranbourne. It seems that deep sand, even if it has almost perfect drainage, does not suit all dryandra species. Some of the healthiest plants include:

D. drummondii, *D. longifolia*, *D. plumosa*, *D. mucronulata*, *D. conferta*, *D. hirsuta*, *D. columnaris*, *D. brownii*, *D. cirsioides*, *D. squarrosa*, *D. foliosissima*, *D. octotriginta*, *D. speciosa* and *D. nivea* (some).

There are anomalies here too. *D. cuneata* and *D. obtusa* from the southern sandplains and many of the species from the sandplains around Eneabba do not perform well at Cranbourne. Perhaps it is the cold and lack of winter sunshine but the Cranbourne planting demonstrates that there is no "universal" dryandra – some species are more reliable than others but which ones are "best" for a particular area depends on a range of factors.

Tony Cavanagh

Notes from Members

From David Lightfoot, Croydon Park, N.S.W.

I recently visited the Mt. Annan Gardens S.W. of Sydney and was disappointed to see that all of their dryandras had died (except for those in the nurseries). I had also been to the ANB in Canberra where they had also had losses. The two mature *D. squarrosa* are going great guns in the rockery but the *D. formosa* and *D. praemorsa* at the top of the Proteaceae garden have succumbed. They have recently planted some immature specimens of these species in raised sheltered gardens near their education buildings and these seem healthy. (Seems like New South Wales is not the best place for dryandras. . David is moving to Victoria for a couple of years and hopes to have more success here – ed.)

From Lloyd Carman, Eden Hills, S.A.

Some of the rarer and more uncommon dryandras are doing well. *D. aurantia* has been slow to put on new growth and I thought I would lose it last summer but it now (November) has a flush of new growth and has doubled its size. Also, *D. preissii* has spread its wings with new growth but is almost covered by *Dampiera alata* which will be pulled out now it has finished flowering. Following on from that, I took a young tip of *D. preissii* and grafted it on to *D. praemorsa* about 6-8 weeks ago. It appears to have taken as it has sent out a new leaf.

In late July, I tried out a new seed raising mix with a range of dryandras. The mix is 2 parts coarse sand, 1 part perlite and ½ part of coco-peat. The results have been good and the young plants are now ready for potting on.

From June Rogers, Horsham, Vic.

My *D. shanklandiorum* is now (July) in full bloom. It is one of my favourites, with its beautiful silver-grey foliage and delicate lemon-orange flowers. Near to it, *D. epimicta* has good sized buds lying on the ground. A *D. praemorsa* that always has lots of seedlings under it, has almost a carpet of little seed leaves poking through and some of last year's have hung on despite the dry. It is a wonderful season at the moment, but also for the weeds, cape weed daisy, smilax and others are growing very well!

Thelma Roach, Lucindale, S.A.

I have had mixed success with my seed plantings this year. Most of the species germinated with at least two plants and for some it was 100%. I still have trouble with damping off and I am wondering if spring might be a better time to plant. However, enough have survived for planting but I hope that we receive more rain this year. (Thelma, do you grow in the open ie not in a glasshouse or under shelter? I have always found this minimises damping off – ed.)

Dryandra Species at Cranbourne

Botanical Name		
	Dryandra erythrocephala	Dryandra octotriginta
Dryandra ?armata	Dryandra erythrocephala var. inopinata	Dryandra pallida
Dryandra ?borealis	Dryandra fasciculata	Dryandra platycarpa
Dryandra ?brownii	Dryandra ferruginea	Dryandra plumosa
Dryandra ?columnaris	Dryandra ferruginea subsp. ?ferruginea	Dryandra polycephala
Dryandra ?echinata	Dryandra ferruginea subsp. ?flavescens	Dryandra porrecta
Dryandra ?fasciculata	Dryandra ferruginea subsp. ?obliquiloba	Dryandra praemorsa var. splendens
Dryandra ?lindleyana	Dryandra ferruginea subsp. chelomacarpa	Dryandra preissii
Dryandra ?nivea	Dryandra ferruginea subsp. ferruginea	Dryandra proteoides
Dryandra ?nobilis	Dryandra ferruginea subsp. pumila	Dryandra pteridifolia
Dryandra ?pallida	Dryandra ferruginea subsp. tujanningensis	Dryandra pteridifolia subsp. pteridifolia
Dryandra ?pseudoplumosa	Dryandra fililoba	Dryandra pteridifolia subsp. vemalis
Dryandra ?purdieana	Dryandra foliolata	Dryandra pulchella
Dryandra ?seniciifolia	Dryandra foliosissima	Dryandra purdieana
Dryandra ?tortifolia	Dryandra formosa	Dryandra quercifolia
Dryandra ?viscida	Dryandra fraseri	Dryandra rufistylis
Dryandra acanthopoda	Dryandra fraseri var. ashbyi	Dryandra sclerophylla
Dryandra aff. Hewardiana	Dryandra fraseri var. fraseri	Dryandra seniciifolia
Dryandra anatona	Dryandra fraseri var. oxycedra	Dryandra serra
Dryandra arctotidis	Dryandra glauca	Dryandra serratulooides
Dryandra armata	Dryandra hewardiana	Dryandra sessilis
Dryandra armata var. ignicida	Dryandra hirsuta	Dryandra sessilis var. cordata
Dryandra baxteri	Dryandra horrida	Dryandra sessilis var. flabellifolia
Dryandra bipinnatifida	Dryandra kippistiana	Dryandra shanklandiorum
Dryandra blechnifolia	Dryandra kippistiana var. kippistiana	Dryandra shuttleworthiana
Dryandra borealis subsp. borealis	Dryandra kippistiana var. paenepeccata	Dryandra speciosa subsp. macrocarpa
Dryandra borealis subsp. elatior	Dryandra lepidorhiza	Dryandra squarrosa
Dryandra brownii	Dryandra lindleyana subsp. ?	Dryandra squarrosa subsp. squarrosa
Dryandra calophylla	Dryandra lindleyana subsp. ?agricola	Dryandra stenopriion
Dryandra carlinoides	Dryandra lindleyana subsp. ?lindleyana	Dryandra stricta
Dryandra catoglypta	Dryandra lindleyana subsp. ?pollostra	Dryandra stuposa
Dryandra cirsioides	Dryandra lindleyana subsp. lindleyana	Dryandra subpinnatifida var. imberbis
Dryandra columnaris	Dryandra lindleyana subsp. lindleyana var. lindleyana	Dryandra subpinnatifida var. subpinnatifida
Dryandra comosa	Dryandra lindleyana subsp. media	Dryandra subulata
Dryandra concinna	Dryandra lindleyana subsp. pollostata	Dryandra tenuifolia
Dryandra conferta	Dryandra longifolia	Dryandra tenuifolia var. reptans
Dryandra conferta/D. platycarpa	Dryandra mucronulata	Dryandra tenuifolia var. tenuifolia
Dryandra cuneata	Dryandra nervosa	Dryandra tridentata
Dryandra cynaroides	Dryandra nivea	Dryandra vestita
Dryandra cypholoba	Dryandra nivea subsp. nivea	Dryandra viscida
Dryandra drummondii	Dryandra nobilis	Dryandra wonganensis
Dryandra drummondii subsp. drummondii	Dryandra nobilis subsp. ?fragrans	Dryandra xylothemelia
Dryandra drummondii subsp. macrorufa	Dryandra nobilis subsp. fragrans	f
Dryandra echinata	Dryandra nobilis subsp. nobilis	
Dryandra epimicta	Dryandra obtusa	

Dryandras in South Australia

While Margaret was in South Australia at the ASGAP Conference in Adelaide in 1997, she and Elizabeth George managed to visit 11 gardens to see the dryandras being grown. The following lists indicate that dryandras seemingly do well in South Australia and thanks to Margaret's notes, the species being grown can be listed. Congratulations South Australia, this is a great effort.

Species	Gardens										
	1	2	3	4	5	6	7	8	9	10	11
<i>acanthopoda</i>											
<i>anatona</i>											
<i>arborea</i>											
<i>arctotidis</i>											
<i>armata</i> v. <i>armata</i>											
<i>armata</i> v. <i>ignicida</i>				✓						F	
<i>aurantia</i>											
<i>baxteri</i>				F						F	
<i>bipinnatifida</i> s. <i>bipinnatifida</i>											
<i>bipinnatifida</i> s. <i>multifida</i>											
<i>blechnifolia</i>											
<i>borealis</i> s. <i>borealis</i>											
<i>borealis</i> s. <i>elatior</i>											
<i>brownii</i>	F		✓	F		✓	F	F		F	✓
<i>calophylla</i>	F			F				F		F	F
<i>carlinoides</i>			F					F	F	F	
<i>catoglypta</i>											
<i>cirsoides</i>		F		F				F			
<i>columnaris</i>											
<i>comosa</i>				F							
<i>concinna</i>											
<i>conferta</i> v. <i>conferta</i>	F			F				F		F	
<i>conferta</i> v. <i>parva</i>										F	
<i>corvijuga</i>											
<i>cuneata</i>		F		F				F	F	F	
<i>cynaroides</i>											
<i>drummondii</i> s. <i>drummondii</i>			F	F		F	R	F	F	F	F
<i>drummondii</i> s. <i>hiemalis</i>	F										
<i>drummondii</i> s. <i>macrorufa</i>								?F			
<i>echinata</i>				F						F	
<i>epimicta</i>											F
<i>erythrocephala</i> v. <i>erythrocephala</i>				✓				F			
<i>erythrocephala</i> v. <i>inopinata</i>											
<i>falcata</i>									F		
<i>fasiculata</i>											
<i>ferruginea</i> s. <i>ferruginea</i>				F				F		F	
<i>ferruginea</i> s. <i>tutanningensis</i>					F	✓		F			
<i>ferrugines</i> s. <i>pumila</i>											
<i>ferruginea</i> s. <i>obliquiloba</i>											
<i>ferrugines</i> s. <i>chelomacarpa</i>										F	
<i>ferrugines</i> s. <i>flavescens</i>											
<i>fililoba</i>											
<i>foliolata</i>											
<i>folosissima</i>	F	F		F	F			F		F	

<i>serratuloides s. serratuloides</i>	F						F	F		F	
<i>serratuloides s. perissa</i>				✓							
<i>sessilis v. sessilis</i>									F		
<i>sessilis v. flabellifolia</i>	F							F			
<i>sessilis v. cordata</i>											
<i>sessilis v. cygnorum</i>				F							
<i>shanklandiorum</i>	F			F		F		F			
<i>shuttleworthiana</i>											
<i>speciosa s. speciosa</i>											
<i>speciosa s. macrocarpa</i>		F	F	F	F	F		F		F	
<i>squarrosa s. squarrosa</i>	F						F	F		F	
<i>squarrosa s. argillaceae</i>											
<i>stenoprion</i>										F	
<i>stricta</i>	F			F						F	
<i>stuposa</i>										F	
<i>subpinnatifida v. subpinn.</i>								F			
<i>subpinnatifida v. imberbis</i>	F									F	
<i>subulata</i>											
<i>tenuifolia v tenuifolia</i>		F		F			F		F	F	F
<i>tenuifolia v. reptans</i>					F					F	F
<i>tortifolia</i>				?F						F	F
<i>tridentata</i>									F	F	
<i>trifontinalis</i>											
<i>vestita</i>											
<i>viscida</i>											
<i>wonganensis</i>	F								?F	?F	
<i>xylothemelia</i>											

Notes: ✓ = species grown; F = flowered.

Gardens

- 1 = Max Ewer, Avenue Range.
- 2 = Frank Hartley, Victor Harbor.
- 3 = "Manawooka", north of Victor Harbor.
- 4 = Barbara Parsons, Parsons Beach, S.W. of Victor Harbor.
- 5 = Vandapeers, Houghton bush block.
- 6 = Vandapeers, Tea Tree Gully.
- 7 = Warramong Sanctuary, Stirling.
- 8 = "Carwatha", Brenton Tucker, Tailern Bend.
- 9 = Thelma Roach, Lucindale.
- 10 = Stuckeys, Furner.
- 11 = Lloyd Carman, Eden Hills.

Dryandra Places and People Revisited

After a very enjoyable trip last year as far as Eurardy Station I planned to return about a month later this year, early in July to see some of the dryandras in flower that were only in bud in mid June. While organising the trip I was phoned by Royce Raleigh from Wartook near the Grampians in Victoria (see N/L no. 29 for a description of his wonderful garden.) He and Jeanne were booked on a trip to the Pilbara with a group from Kings Park and they had some time left afterwards for sightseeing. The timing was perfect and they were happy to fit in with my plans, having wanted to visit the Williams at Badgingarra and the Tinkers at Western Flora Caravan Park, for some time.

Expecting the weather to be warmer and, with luck, not wet, I thought it best to go as far north as the northern-most dryandra, namely the form of *D. fraseri* which grows at Eurardy Station. Royce was keen to see some hakeas and I assured him there would be plenty of time along the way, along with the dryandras. As it turned out, they were late flowering and there were fewer plants of all kinds in flower than last year which had been an exceptionally good one. Last year we missed the rain- not so this year, however. Shirley Loney kept me company in my car and the Raleighs followed in theirs armed with a detailed map so that they could stop if something caught their eye and we wouldn't be obliged to wait in case they missed a turn- and vice-versa. We made our way as far north as Geraldton mostly on unsealed back roads, always the best for stopping and looking at plants.

At the rubbish tip on North Road north west of Bindoon *D. drummondii* subsp. *hiemalis* was still flowering with its glowing golden inflorescences- a beautiful contrast to the dark blue-green leaves.

We had arranged to meet Don and Joy Williams at Lesueur National Park as Alex George wanted to see the Lesueur form of *D. fraseri* and he'd come from Perth for the day. Because the rainy weather was expected to worsen Don asked us to be there earlier in the day than I'd originally planned. Don had obtained permission to go into the national park and after washing the tyres of the vehicles with a solution provided by the Dept of CALM to avoid the possibility of spreading the dieback fungus we drove to where I'd previously seen the dryandra. Before reaching the location Alex spotted a plant and it proved to be one of another, new population. We were delighted to find some in flower despite the dry season and the fact that, later in July when I visited the spot a few years ago they were not yet flowering. This form is a small low-growing plant with leaves that are consistent, having very close short lobes. Other forms of *D. fraseri* particularly var. *fraseri* and var. *ashbyi* can be variable even within a population.

The following day was spent showing Royce and Jeanne the wonders of Hi-Vallee, Don and Joy's property with its 20 dryandras and so many other marvellous plants. *D. nobilis* subsp. *fragrans* was not yet in flower but *D. catoglypta*, similar to *D. drummondii* subsp. *hiemalis* in its flowers but with a different growth habit and shorter wider leaves was a great attraction. Royce was delighted to see so much *Hakea neurophylla*, also not yet in flower. Despite the rain and chilly wind we thoroughly enjoyed the tour, as always.

On the way to Geraldton we drove via Alexander Morrison and Tathra National Parks across to Mingenew and north along Burma Road. West of Three Springs we came across a magnificent stand of *D. borealis* subsp. *elator* on the roadside. Many plants were crowded together looking like one huge spreading plant in full glorious bloom. We made a few stops on Burma Road for various plants. *D. fraserii* var. *ashbyi* was in full flower. Its pale yellow flowers tinged with

pink go beautifully with the blue-green feathery-looking dense foliage. I was disappointed to find that the plants of *D. shuttleworthiana* with the attractive dusky pink flowers that I'd seen last year - only one plant flowering early, were even later this year. All the plants were still only in bud. After seeing some at Eneabba on the way home, also in bud but showing colour, I'm wondering whether the colour changes from north to south as these, and also plants at Badgingarra were red brown (i.e. the long limb of the cream flowers) and those at Regans Ford, at its southern limit are chocolate brown. Burma Road plants have narrower leaves and smaller flowers than those at Eneabba.

We were disappointed that the 4 day weather forecast we heard before we set off from Badgingarra so optimistically, was wrong. We were visiting farmers, however so we couldn't really complain about all the rain in their hearing!

We made a diversion to the *D. borealis* subsp. *borealis* on the road out to Kalbarri. All except for one plant were still in tight bud. The one covered in glorious golden inflorescences was growing almost in water in the ditch on the edge of the road. This is a magnificent species. The long bracts are golden yellow as well as the flowers and the style and its pollen-presenter are unusually long, standing well above the unopen flowers that still have their looped styles held within the orange-yellow limb.

I have often observed that, in a population or an area where a species occurs, just one plant will be flowering earlier than all the rest and, conversely at the end of its season, one will be later. Very convenient for human enthusiasts and no doubt beneficial in some way to do with pollination, for the plant.

At Eurardy Station, the following day, between the downpours, Margaret Quicke showed us around. The season is later and not as good this year but nonetheless we saw a good deal of various plants in flower including, their one dryandra, the tall-growing form of *D. fraseri*, one of which is 2.5 m. high and 5 m. across.

We then drove south to Western Flora Caravan Park. The Raleighs found some interesting places to stop on the way and on their arrival were pleased to make the acquaintance of Allan and Lorraine Tinker (ex-Victorians). Allan knew exactly where to find several hakeas Royce had on his list and the next morning was spent botanising around the caravan park and driving a little way north to a gravel pit where I'd seen some beautiful *D. fraseri* var. *ashybi* last year. The perianth is deep pink before opening fully and the limb is bright green. Very few flowers were open but then they are not as colourful as the pink fades.

Thank you very much to Don and Joy for allowing me to collect seed for the seed bank and to Royce and Jeanne for their company. They enjoyed seeing the dryandras so much that they have joined the study group. Welcome to you both. I'll look forward to re-visiting Wartook when the new dryandras are flowering!

After only two days at home Shirley and I were off again. This time we headed south west where the weather, (and the hakeas) were much better. If its any consolation, Royce, the weather down there, while we were up north the week before, was much worse than that we experienced.

We deviated from the main road from Brookton to Corrigin to have a look at a reserve where a dryandra has recently been collected that is rather a puzzle. It seems to be *D. pteridifolia* subsp. *vernalis* but it has just finished flowering. The botanist who found it commented on the fact that

the plants are geographically halfway between subsp. *pteridifolia* and subsp. *vernalis* and halfway also in flowering time.

At Hartleys Reserve south of Corrigin we found some plants of *D. octotriginta* flowering so I was able to take the photographs I needed. At Corrigin *D. fasciculata* was in flower.

When we stopped on the way to Jerramungup, south west of Newdegate to look at *D. idiogenes* ("It") we were very surprised to find it blooming so early. Also there, was *D. no 14* which I collected, as Alex George had not seen it in flower and has not so far described it. It is very similar to *D. fililoba* but instead of growing as a large mound, it has underground branches. The leaves are very much like *D. pteridifolia*, blue-grey and spirally twisted but like *D. fililoba* it has miniature floral leaves surrounding the "shaving brush" inflorescence. It has an unpleasant scent as has *D. idiogenes*. The latter makes up for it with its lovely flowers, white with a long red limb.

On the way to Mt. Barker the next day we drove through the Stirlings with deviations to the Bluff Knoll car park and the Mt. Trio one. I wanted to see whether any plants of *D. concinna* had survived the fire of 1991 and the subsequent dry years as, in 1994, the last time I was there, I could only find dead seedlings (*D. concinna* is killed by fire). I found three plants, about 50 cm. high flowering for the first time. They were on the edge of the track where they'd have received water from the concrete path as seedlings, but, as they grow they will probably have to be cut out, being so close to the path.

At Mt. Trio seedlings of *D. hirsuta* were only 15-20 cm. high after the fires of 1996. South of the Stirlings but still in the National Park *D. blechnifolia* was blooming for the first time since being burnt. The new leaf growth is blue-grey with narrow revolute lobes resembling those of *D. nervosa* which is a mounded plant unlike *D. blechnifolia* with its underground branches. Looking at, or photographing the inflorescences with their yellow flowers tinged with pink and orange brown limb, against the sunlight gives them the appearance of glowing lanterns.

Near the western end of the North Woogenillup Road, I collected *D. conferta* var. *parva* in flower as it had not been recorded for that area. The star attraction on that day was *Hakea cucullata* in full bloom.

Arriving at Kevin and Kathy Collin's Banksia Farm at Mt. Barker we found them busy planting out dryandras in a new area on a bank, in the open. After looking at the progress of the previously planted dryandras they took us to a location on the slopes of Mt. Barker where some very floriferous plants of what I took to be *D. lindleyana* subsp. *lindleyana* var. *mellicula* caught our attention. The little honeypot flower heads were of various colours and were quite conspicuous as the leaves are rather short.

Back at the Banksia Farm we went out by torchlight searching among the banksia flowers for honey possums which do live there. We didn't spot any so I have not yet seen a honey possum "in the flesh".

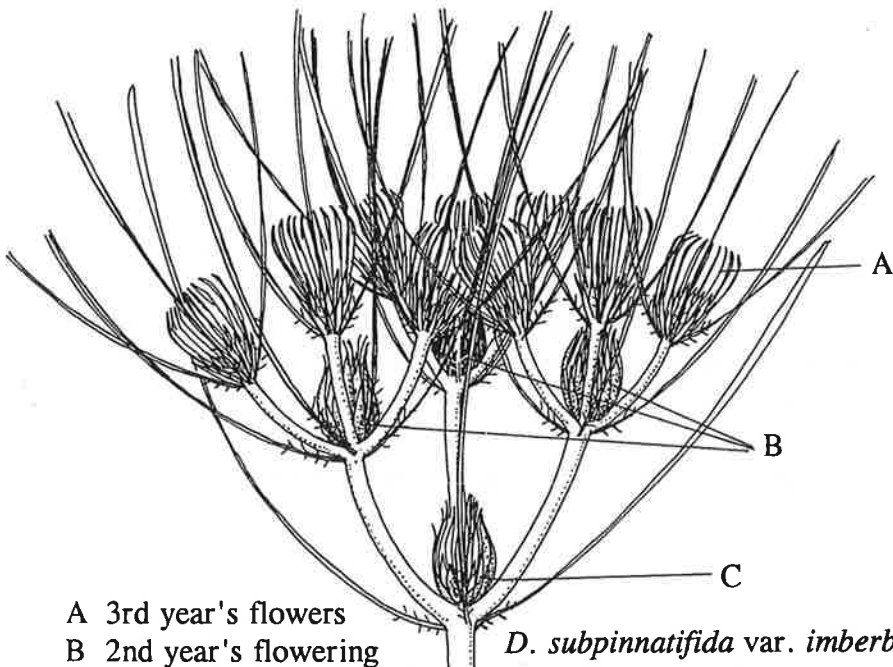
On our way back to Perth I took a back road north of Kojonup towards Woodanilling where we found a population of the "cascading" form of *D. tenuifolia*. (intermediate between var. *tenuifolia* and var. *reptans*) and on two gravelly rises a dryandra community comprising *D. acanthopoda* (a "new" location), *D. armata* var. *ignicida* and var. *armata* *D. nivea* subsp. *nivea*, *D. rufistylis* and *D. stiposa* - all except *D. nivea* were in flower. Next month I hope to return to

see whether the *D. nivea* has all-yellow flowers like the two plants I saw at the nearby gravel pit several years ago but have failed to re-locate on subsequent visits.

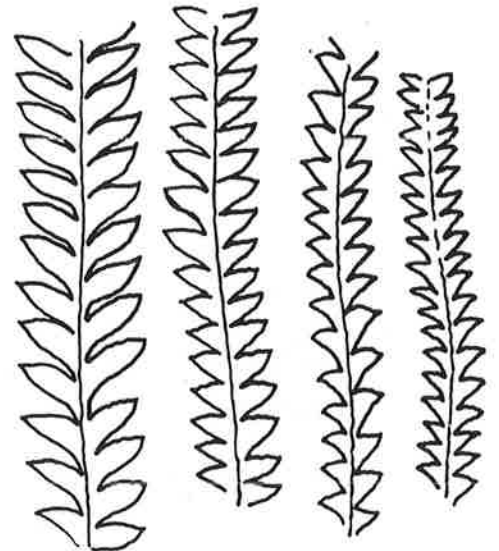
Since writing the above, on the 22nd August, accompanied by Keith Alcock I returned to Mt. Barker to meet up with Kevin and Kathy Collins again.

On the way we drove from Woodanilling along Orchard Road to River Road and across to the Albany Highway. We stopped at the gravelly hill top where I'd observed the *D. acanthopoda* among the others and Keith made an exciting discovery. Also in the population, growing near a *D. nivea* subsp. *nivea* with light yellow flowers that we were photographing, were several plants (or perhaps just one?) of *D. lepidorhiza*. Some of the leaves were much longer and wider than I've seen previously. While searching for seed follicles under the ground I unearthed a flowerhead with some open flowers. It was completely covered by almost pure laterite gravel - and flowering earlier than usual. The normal time is not until November.

That afternoon Kevin took us to visit some sites on private property north of North Woogenillup Road, that is, between the Stirling and Porongurup Ranges. We were hoping to find a match for the supposed *D. brownii* X *nivea*. that I wrote about in newsletter No. 35. What we found were many plants, some probably "pure" *D. brownii* and others with narrower leaves and more triangular lobes. No two plants were alike however. There were even some exceptions to the usual dark blue-green colour of the leaves - a few plants were a mid-green colour. All of them were in full flower. The inflorescences were large and all more or less dark pink like *D. brownii*. One plant, in particular, flowering for only the second time, was spectacular. The habit was that of *D. nivea* (see diagram) It has a compact formal mound with densely crowded flowerheads of the size and colour of *D. brownii*- the perfect combination. Unfortunately there were no seeds set on any of these plants nor on adjacent plants of *D. blechnifolia*. As the area was very wet, despite having quite a number of proteaceae, I wondered whether this had deterred the honey possums from visiting the flowers.



A 3rd year's flowers
 B 2nd year's flowering
 Bracts closed over seed capsules
 C 1st year's flowering
 Bracts closed over seed capsules
D. subpinnatifida var. *imberbis*



VARIATION IN LEAVES
 IN *D. nivea* X *brownii*
 WOOGENILLUP

GROWTH HABIT OF 'MOUND' DRYANDRAS

We looked at some more of the (possible) *D. brownii* X *nivea* closer to the location of Nindethana Seeds where I'd noticed one on our previous trip as I have reason to believe this is the source of our garden plants. Seeing them in flower for the first time made one wish, more than ever, that they would flower for us. *D. brownii* does not flower in many gardens, either, including mine.

The following day Kevin and Kathy took us to a nearby hill which had the *D. lindleyana* subsp. *lindleyana* var. *mellicula* still flowering in various colour combinations and many plants of *D. porrecta*. The area had been burnt and there were huge areas of *D. porrecta* covering the ground so densely that there was no gap between the upright fern-like leaves.

We drove through the western end of the Stirling Ranges on Red Gum Pass Road from Kendenup, on the way home as I was hoping to find *D. hirsuta* in flower in order to photograph the plants. This section of the National Park has escaped the ravages of fire for several years so the plants were quite large- to about 3 m. tall but had already flowered - early, like most of the flora in the region as I had observed previously.

Kevin had told us about a location on Albany Highway between Cranbrook and Kojonup where he had seen several prostrate dryandras. We stopped there on the way back to Perth and to our surprise Keith found *D. lepidorhiza* again. This population is quite a distance from the original location where, when it was described, it was thought was the only one. Also there, are *D. porrecta*, *D. preissii* and *D. armata* var. *armata*.

Since then I have taken part in two Wildflower Society bushland surveys. The first was on private property near Tincurrin with dryandras in abundance. The second at Bodallin yielded none but was nevertheless interesting and enjoyable. The highlight for me was seeing a malleefowl in the wild for the first time. The group surveying at Tincurrin was accommodated at Harrismith which is one of my regularly visited dryandra haunts. The tiny town is surrounded by a magnificent bushland reserve of heathland. There are eight dryandras in the reserve, most easily seen on a track which follows the railway line south of the town before crossing the line going west i.e. to Perth). They are: *D. ferruginea* subsp. *ferruginea*, *D. fililoba*, *D. cynaroides*, *D. conferta*, *D. rufistylis*, *D. aff. cirsioides* (a common dryandra which is probably intermediate between *D. cirsioides* and *D. purdieana*) *D. sessilis* var. *sessilis* and *D. nivea* subsp. *nivea*.

The Tincurrin block had all of these except *D. fililoba*, *D. ferruginea*, and *D. rufistylis* and also *D. cuneata*.

I was uncertain as to whether the *D. conferta* is var. *conferta* or var. *parva* so on the way to Bodallin, so as not to be completely "dryandra deprived", I collected *D. conferta* var. *conferta* to compare them. The plants at Harrismith and Tincurrin have smaller flowers and bigger, less hairy capsules, though the bracts are not more velvety but similar to those of var. *conferta*. I wonder if they are intermediate between var. *parva* and var. *conferta*?

Margaret Pieroni
10.9.98

S.G.A.P. Dryandra Study Group
List of members as at 31/12/1998

Keith Alcock, York, W.A. 6302
Elizabeth Brett, Corowa, N.S.W. 2646
Barbara Buchanan, Myrree, Vic. 3732
Lloyd Carman, Eden Hills, S.A. 5050
Tony Cavanagh, Ocean Grove, Vic. 3226
Anne Cochrane, Como, W.A. 6152
Kevin and Cathy Collins, Mt. Barker, W.A. 6324
Dennis Craig, Bunbury, W.A. 6230
Val Crowley, Darkan, W.A. 6392
Bob Drummond, Langwarrin, Vic. 3910
Max Ewer, Avenue Range, S.A. 5273
Alex George, Kardinya, W.A. 6163
Elizabeth George, Alexander Heights, W.A. 6064
David Kilpin, Tanunda, S.A. 5352
David Lightfoot, Croydon Park, N.S.W. 2133
Claire Lithgow, Parrakie, S.A. 5301
Shirley Loney, Daglish, W.A. 6008
Nei Marriott, Stawell, Vic. 3380
Max McDowall, Bulleen, Vic. 3105
Helen Morrow, Bulleen, Vic. 3105
Sandra Murray, Kulin, W.A. 6365
Ron Pearson, Mentone, Vic. 3194
Margaret Pieroni, Attadale, W.A. 6156
Royce Raleigh, Wartook, Vic. 3401
David Randall, Cobram, Vic. 3644
Peter Ray, Mahogany Creek, W.A. 6073
Thelma Roach, Lucindale, S.A. 5272
June Rogers, Horsham, Vic. 3401
Alf Salkin, Mt. Waverley, Vic. 3149
Hugh Seeds, York, W.A. 6302
Peter Shannon, Dalkeith, W.A. 6009
David Shiells, Shepparton, Vic. 3631
Jan Sked, Lawnton, Qld. 4501
G. Paul Stain, Bibra Lake, W.A. 6163
Dr. Rod Sutherland, Natimuk, Vic. 3409
Kath Sykes, Hawthorn East, Vic. 3123
Lyndal Thorburn, Queenbeyan, N.S.W. 2620
Hartley Tobin, The Gurdies, Vic. 3984
Brenton Tucker, Tailem Bend, S.A. 5260
Christene Wadey, North Eltham, Vic. 3095
Don & Joy Williams, Badgingarra, W.A. 6521
David Wyman, Warrandyte, Vic. 3113

Other groups and organisations

Library, Australian National Botanic Gardens, Canberra
Library, Deakin University, Geelong, Vic.
Library, National Herbarium, South Yarra, Vic.
Editor, *Australian Plants*, Sydney, N.S.W.
Editor, *Native Plants for New South Wales*, Sydney, N.S.W.

S.G.A.P. Regional and State Groups

Bairnsdale, Vic.
Blue Mountains, N.S.W.
Canberra, A.C.T.
Fleurieu, S.A.
Foothills, Vic.
Geelong, Vic.
Keilor Plains, Vic.
Maroondah, Vic.
New South Wales.
Queensland.
W.A. Wildflower Society.
Victoria.
Tasmania.

Dryandra Study Group

Financial Statement 1-7-97 to 30-6-98

Cash in hand 1-7-97		\$1992.22
Income		
	Members Subscriptions	\$270.00
	Donations	\$14.00
	Sales Occasional Publication No. 3	\$90.00
	Bank interest	\$2.17
	Total	\$2368.39
Expenditure		
	Newsletter Expenses	\$200.00
	Printing Information Leaflets	\$209.00
	Bank charges	\$2.10
	A.N.P.C. subscription	\$50.00
	Stationery, postage, photocopying	\$128.60
	Total	\$589.70
	Less petty cash in hand	\$14.80
	Net expenditure	\$574.90
	Cash in hand at 30-6-98	\$1793.49