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## DRYANDRA STUDY GROUP NEWSLETTER No. 81

AUSTRALIAN NATIVE PLANTS SOCIETIES (AUSTRALIA)



*Dryandra* sp. Jingaring

Margaret Pieroni

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Hello and welcome to newsletter no. 81.

I am still hoping that someone will step forward to take over the leadership of the Study Group. Last year, it looked as though the Study Group would have to close but my health is much improved and I will carry on as long as I am able.

After such a long time of not being able to go on field trips, it was wonderful to get away on three wonderful dryandra trips so far, this year.

It is very heartening to know that *Dryandra subpinnatifida* var. *imberbis* is still in existence. There will be a report on our recent re-visit to the Bowelling area and to the site of *D. sp. Collie*, in our next newsletter.

Lyn and Kevin are doing an excellent job with the Dryandra Lovers Group Facebook page. There have been some interesting photos posted of dryandras that we haven't been able to identify. They appear to be hybrids. The provenance is not always available – most plants having been purchased from nurseries and being grown in other states or even overseas.

Like me, you might have been wondering what exactly is Tim's "caveau" greenhouse. He has just sent me a description of it with several photos, which I will put in the next newsletter.

Many thanks to Tony for his article on the historic growing of dryandras in Europe and to Tim for his account of how he is growing them, these days. Thanks also to Lyn for her write-up of our wonderful April trip and to her, Kevin and Julie for their marvellous company on the trip. I can thoroughly recommend the itinerary, the time of year and the accommodation, having done this trip, or similar ones, many times over the years.

Finally, I'm afraid that quite a few members have not paid their subscriptions, lately. I understand that the future of the Study Group was a bit uncertain for a while but, as I said, I'm prepared to carry on. While most members get the newsletter by email, there are a few, (me included) who much prefer the printed version. I still have expenses though, because I have never learned to assemble the newsletter on the computer, I rely on someone at our local Community Resource Centre to do that from my layouts done on paper.

Best wishes

Margaret

## The First Hundred Years of *Dryandra*, Discovery and Cultivation

I recently gave a talk by Zoom (an interesting experience in itself!) to our local APS Group on “The early history of the discovery of Australia and her plants and their cultivation in Europe”. If you received your historical knowledge of Australia like I did, it would have been very British orientated and you might even believe that James Cook discovered Australia in 1770. My talk to our Group was very general and covered all species but I thought that it might be of interest to *Dryandra* Study Group members for me to summarise the early years of exploration from the first contacts in 1605 and then concentrate on what we know about *Dryandras* up to around 1900, with special emphasis on their cultivation in Great Britain and Continental Europe. It may well come as a surprise for you to learn that they have been grown as garden plants for around 218 years!

### Early Exploration

It came as a surprise to me to learn that by 1700, there had been at least 16 known contacts with and expeditions to Australia and that by around 1650, a Dutch map had been published of northern, western and some of southern Australia and Tasmania which showed with remarkable accuracy more than half of current Australia. The first Australian plant was collected on the first discovery voyage, that of Willem Jansz in the tiny ship *Duyfken*, who in March 1606 mapped more than 300 km of the west coast of Cape York Peninsula and collected samples of the tropical parasitic scrambling shrub now known as *Ximeria Americana*, later called “yellow plum”. No other species are known to have been collected until 1696 when the Dutch ship *Geelvinck* under Willem de Vlamingh reached the area of current Perth and some of the crew rowed up the Swan River. Two faded specimens from this expedition still exist, *Acacia truncata* and *Synapheae spinulosa*, our first three plants. The only other expedition on which plants were collected before 1700 was on William Dampier’s voyage in the *Roebuck* to Shark Bay and the Dampier Archipelago in 1699, and over 20 of Dampier’s specimens can still be seen at Oxford University. It appears that few of these were named but his best known is of the Sturt’s Desert Pea, now *Swainsona formosa*. Few other collections appear to

have been made before April 1770, when the small ex collier *Endeavour*, under the command of James Cook made landfall at Botany Bay, and the scientists Joseph Banks and Daniel Solander made the first scientific collections of our east coast plants, with over 220 species from Botany Bay alone. As we will see later, several of these Australian plants were in cultivation in Kew Botanic Gardens by 1771, 17 years before the First Fleet reached Botany Bay!

And where are *Dryandras* in all this? Sadly, it was around 90 years after Dampier that the first specimens were collected of what was later to be named a new genus. The planning for and establishment of the Botany Bay settlement in 1788 created world-wide interest in this new country. Indeed, within two days of the arrival of the First Fleet, two ships of a French exploratory expedition under La Perouse reached Botany Bay, causing consternation in the settlement. It was the disappearance of these ships in returning to France which prompted the French Government to mount a search expedition of two ships under d’Entrecasteaux, with the French botanist de Labillardiere on board. In late 1792 in Esperance Bay, he collected two specimens which he was later to name as *Banksias*, *B. repens* and *B. nivea*. The latter we now know as *Dryandra nivea*. But just one year earlier, in September-October 1791, and in the nearby waters of King George Sound, the surgeon-botanist Archibald Menzies on the Vancouver Expedition to the South Seas and North America collected among four banksias, the first two *Dryandras* ever seen by botanists. One, named by Knight as *Josephia sessilis*, we now know as *Dryandra sessilis*, and the other was named by Robert Brown in 1810 as *Dryandra blechnifolia*. These three species were the only *Dryandra* species collected before 1800.

### Other collections and collectors – the *Dryandra* family grows

What is often not realized is that from 1771 when Joseph Banks returned with Cook to England with a huge collection of around 30,000 seeds, plants and animal and mineral specimens, at least 1400 being new plants, there was a massive interest in the flora and fauna of this country.

There was a ready market for material for the numerous botanic gardens in the United Kingdom and later Europe, as well as from many well-to-do private collectors and large nurseries. In fact, if you lived in

London and some other large British cities in the 1770s, it is astonishing to realise that you could buy Australian plants in pots from some specialist nurseries! All growers required was a large, heated glasshouse and a willingness to use the special well drained soils these plants required. When the First Fleet arrived in 1788, there were already 11 Australian plants known to have been cultivated and by 1800, this number had exploded to around 300, thanks almost entirely to the activities of a number of botanists and gardeners on the ships sent by the British Government to survey many of the still relatively unknown northern and southern coasts. By far the best known of these was Matthew Flinders who with the botanist Robert Brown, botanical artist Ferdinand Bauer and gardener Peter Good was to circumnavigate Australia anti clockwise and collect seeds and plants of over 3200 plant species. And from the Flinders' expedition came the first known Dryandras to be cultivated, with nine being introduced in either 1803 or 1805 at Kew Botanic Gardens – *armata*, *cuneata*, *formosa*, *longifolia*, *nivea*, *obtusata*, *plumosa*, *sessilis*, *tenuifolia*. As we shall see, five of these had flowered by 1810. Brown returned to England with his huge collection in 1805 and rapidly became one of Europe's best known botanists, working extensively with Joseph Banks. It was Brown who created the new genus *Dryandra* in 1810, naming it after Jonas Dryander, Swedish botanist and friend of Browns who was librarian and herbarium curator to Banks and Librarian to the Linnean Society of London. The type was *D. formosa*, and the first thirteen named dryandras were – *armata*, *blechnifolia*, *cuneata*, *falcata*, *formosa*, *longifolia*, *mucronulata*, *nivea*, *obtusata*, *plumosa*, *pteridifolia*, *sessilis*, *tenuifolia*. Altogether, 23 of the names that Brown was to choose for the Dryandras he named are still current but in later years, other botanists were also to contribute, most notably John Lindley and Carl Meisner in the 19<sup>th</sup> century, and Charles Gardner and Alex George more recently. The full listing in order of naming is given as Table 1.1 in our book.

In the 1820s and later, several private collectors were to operate in the west, most notably William Baxter in 1823-25 and 1828-29, but also officials such as Charles Fraser and the Government Naturalist and Superintendent for the Swan River settlement James

Drummond. The richness of the flora in south-west Western Australia also attracted the attention of eminent European collectors and gardeners including Baron Karl von Hugel in 1833 and the prodigious German collector Ludwig Preiss who spent four years here between 1838 and 1842, and their activities explain why so many of the dryandras named in the 19<sup>th</sup> century were described by the eminent Swiss botanist Carl Meisner. But as Drummond botanized far and wide over southwest WA, he sent prodigious amounts of material including seeds to Europe, where Meisner was to use 20 Drummond specimens as types among the 23 (currently accepted) dryandras he named up to 1856. The *D. polycephala* and *D. conferta* named by George Bentham in 1870 were the last dryandras named in the 19<sup>th</sup> century, a period which saw around 50 new species identified. And, fittingly, most of these early players were to have dryandras (and other species) named after them – *baxteri* and *fraseri* in 1830, *brownii*, *lindleyana* and *preissii* in 1845 and *drummondii* in 1848. Surprisingly, no one has seen fit to name a *Dryandra* after Carl Meisner although he is commemorated in *Banksia meisneri*.

### Dryandras in Cultivation

Margaret and I have spent considerable time in the book discussing the cultivation of Dryandras in Great Britain and Continental Europe and the complete list is given in the attached table, some 37 discrete names, of which perhaps 28 can be identified with current names. The first Dryandras to be grown at Kew were from seed collected by the gardener Peter Good on the Matthew Flinders circumnavigation of 1801-02 and reached England in 1803 and 1805. These were the nine named above. By 1810, five of these had flowered, the first to flower in a garden situation – *D. cuneata*, *D. formosa*, *D. nivea*, *D. sessilis* and *D. tenuifolia*, how many of us can say that we have grown all of these? It is interesting to note that these species also tend to be relatively easy to flower in our gardens today. A flowering specimen of *D. sessilis* from a commercial nursery in a gardening magazine in 1813 was the first *Dryandra* to be seen in colour by the general public, along with that of *D. longifolia* in the same issue

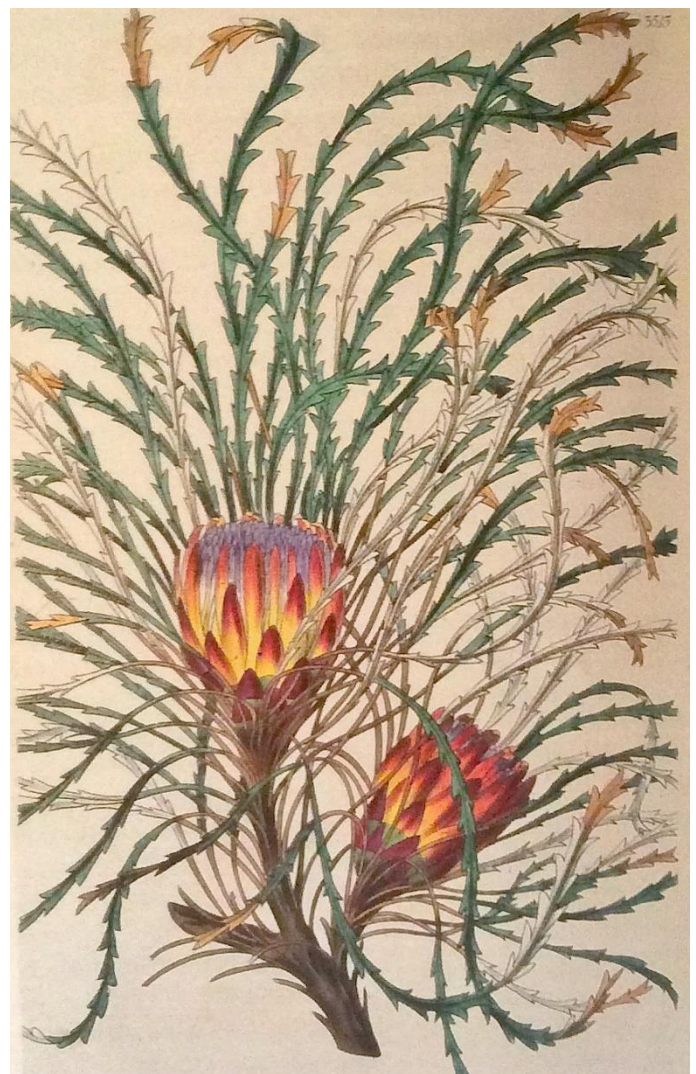
The attached table shows in just how many European countries Dryandras were grown in the 19<sup>th</sup> century. We have detailed in the book many of the characteristics involved and noted that the widespread distribution of Australian plants was due to extensive trading and exchange of seeds and live plants between Botanic Gardens and major collectors, as well as their availability from major nurseries who were able to buy material from collectors such as William Baxter and James Drummond. Others such as the Austrian Karl von Hügel and the German Ludwig Preiss visited the Swan River colony where they built up useful contacts. Preiss stayed for four years between 1838 and 1842 where he made friends with Drummond. They all maintained extensive garden properties and glasshouses in Europe, Hügel cultivating around 14 Dryandras in Austria in 1831 with a similar number in Belgium, and the Russian aristocrat Aritole Demidov had purchased many of Hügel's plants and glasshouses in 1848 for his property outside Florence in Italy. It is possible that some of these plants were nearly 20 years old and we know that when the Demidov gardens were sold in 1880, *D. falcata*, *D. formosa* and *D. nivea* as well as an unknown "lindleyana rubra" were still growing.

Just briefly in conclusion, we could consider two other points – how were Dryandras cultivated and how long did they live in cultivation. Because of the climate, Dryandras were almost always cultivated in heated glasshouses in tubs and pots containing specially processed soil. They were initially dry, flue-heated stove houses but the advent of moist/humid steam heated and sealed houses in the 1830's and 40's was to rapidly kill off the popularity of Australian plants while favouring other attractive and easier-to-grow species from the Far East, the Americas, India and so forth which were also much less fussy about the drainage of their soil. Because the "experts" recommended a yearly repotting of most Proteaceous plants, it was important that the soils not be too heavy and, most importantly, be well drained. It was also important that they be moisture stable and sand was much preferred to peat moss and light soils for drainage. And careful care did have an effect, the Chief Cultivator at Kew, John Smith reporting that some potted Proteaceae had lived for nearly 50 years. And don't think that you can't grow Dryandras to near full size in a large pot. The English *Botanical*

*Magazine* of 1844 featured a specimen of *Dryandra formosa* which it described as "a tree about fourteen feet high"!! and was delighted with its beauty.

I hope that you have enjoyed our historical journey and now have a better appreciation of the cultivation age of our wonderful group of Australian plants. We also owe much to the Society for Growing Australian Plants for introducing many of us to these plants and it is to be hoped that we will continue with this practice.

**Tony Cavanagh March 2021**



*Dryandra tenuifolia* flowering in 1836 in England.

**List of Dryandras cultivated in England and continental Europe  
in the 19<sup>th</sup> century**

Species	England	Belgium 1833	Netherlands 1840s-1850s	Vienna 1831	Florence 1858	Florence 1880 <sup>1</sup>
<i>arctotidis</i>	<input type="checkbox"/>				<input type="checkbox"/>	
<i>armata</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>	<input type="checkbox"/>	
“attenuata”			√			
“attenuata vera”			√			
<i>baxteri</i>	<input type="checkbox"/>		√			
<i>bipinnatifida</i>	<input type="checkbox"/>		√			
<i>blechnifolia</i>			√			
<i>calophylla</i> *	<input type="checkbox"/>		√			
<i>cuneata</i>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
“dentata”				<input type="checkbox"/>		
<i>drummondii</i>			√			
“elegans”			√			
<i>falcata</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>foliolata</i>	<input type="checkbox"/>					
<i>formosa</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>fraseri</i>	<input type="checkbox"/>		√		<input type="checkbox"/>	
“imperialis”			√			
<i>longifolia</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>	<input type="checkbox"/>	
“lindleyana rubra”						<input type="checkbox"/>
<i>mucronulata</i>	<input type="checkbox"/>	<input type="checkbox"/>	√			
<i>nervosa</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>	<input type="checkbox"/>	
<i>nivea</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> ****
<i>nobilis</i>	<input type="checkbox"/>		√			
<i>obtusa</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>		
<i>plumosa</i>	<input type="checkbox"/>	<input type="checkbox"/>	√#	<input type="checkbox"/>		
<i>proteoides</i>	<input type="checkbox"/>		√			
<i>pteridifolia</i>	<input type="checkbox"/>		√	<input type="checkbox"/>		
<i>seneciifolia</i>			√		<input type="checkbox"/> ***	
<i>serra</i>	<input type="checkbox"/>					
<i>sessilis</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>		
“speciosa” Hort			√			
<i>squarrosa</i> **	<input type="checkbox"/>					
“stricta”			√			
<i>stuposa</i>	<input type="checkbox"/>					
“superba”			√			
<i>tenuifolia</i>	<input type="checkbox"/>	<input type="checkbox"/>	√	<input type="checkbox"/>		

\* = possibly *D. drummondii*

\*\* = as “*carduaceae*” Lindl.

\*\*\* = as “*cryptocephala*” Meisn.

\*\*\*\* = as “*mucronulata*” Hort. Donat.

# = Also a plant listed as “*D. plumosa*” Hort whose identity is unknown

1 = Data from Lubbers, L. (c1880). *Palais de San Donato catalogue de plants rares “garnissant les serres”* 23 Avril – 4 May, Paris, Pillet et Dumoulin

## A *Dryandra subpinnatifida* Hybrid?

This is a reprint of an article by Val Crowley published in Newsletter no. 21, of January 1992. She sent me several specimens from which I drew the leaves.

On the 12<sup>th</sup> August '91, my friend Jan Smith and I were carrying out a Road Verge Conservation Value Survey in the West Arthur Shire and were in the Boolading area, South West of Darkan, when we observed some 'different' dryandras flowering. We promptly investigated and found them to be different from anything we had previously seen in our district.

The plants were very attractive – mainly mound-formed, approximately 1.2 – 1.5 metres high and they were flowering in profusion and were scattered over an area of approximately two acres of what was an old gravel pit/rubbish dump.

We wandered happily around for quite some considerable time (no wonder the Road Verge Survey is still incomplete), then suddenly we remembered we had climbed through a fence and we were on private property, which made us feel a little unsettled.

I picked a specimen to take home to try to identify and in passing picked three others. I tried to key them out, that evening and thought perhaps that the finest leafed one may have been *D. subpinnatifida*, then became somewhat confused with the

specimens, thinking perhaps that the coarsest leafed one might be *D. squarrosa*. So I decided to send them to Margaret.

Margaret believes we have found a hybrid 'swarm' of crosses between *D. squarrosa*, which grows among the plants and *D. subpinnatifida* and upon a further visit to the area on 26<sup>th</sup> August, we found a specimen that could be *D. subpinnatifida*.

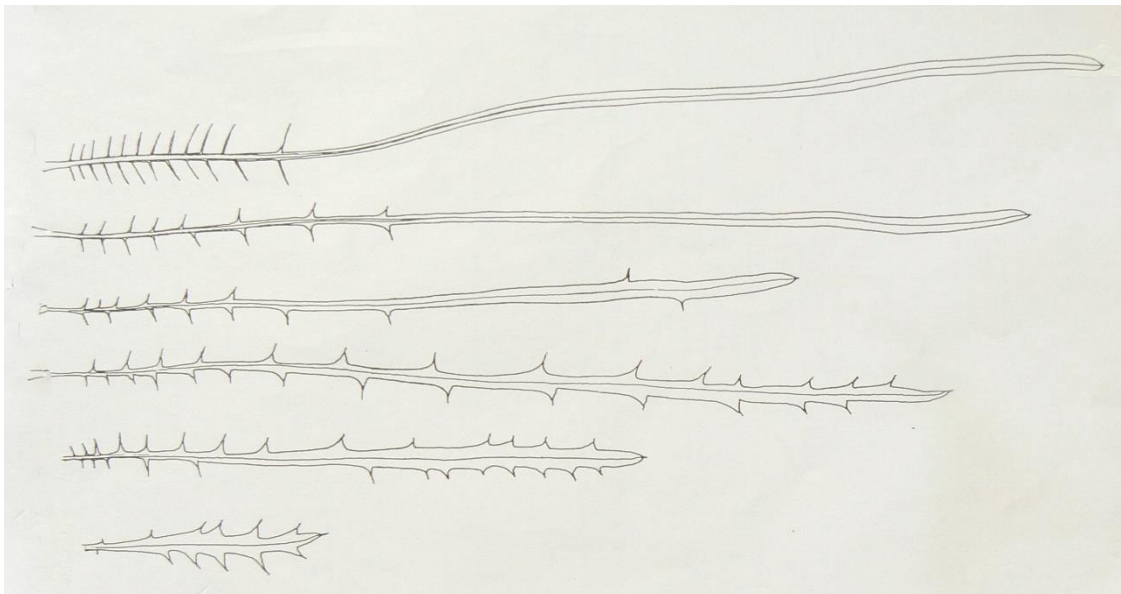
The hybrids mainly seem to have the mound form of *D. subpinnatifida* with the flower shape of *D. squarrosa*, with the leaves many and varied. They either have a shorter flowering time than *D. squarrosa* or perhaps we found them near the end of their flowering. They were a mass of flowers on 12<sup>th</sup> August and nearly finished on 26<sup>th</sup>. We visited the area again on 8<sup>th</sup> October and only found two or three very small flowers. *D. squarrosa* was still flowering well.

Unfortunately, the landowners now have sheep grazing in the paddock and they, or something else have been eating the tips of the plants and breaking pieces off. It is hoped the sheep will soon be moved.

Val Crowley

Val took me to see this population which had one pure plant of *D. subpinnatifida* var. *imberbis* which had died by the time of my second visit, then the area was completely cleared a few years later.

Margaret



Leaves of Val's specimens. Top: *D. subpinnatifida* var. *imberbis*, 4 hybrids and bottom: *D. squarrosa*.

## *Dryandra subpinnatifida* var. *imberbis* lives!

I first saw *Dryandra subpinnatifida* var. *imberbis* in the wild when Val Crowley, from Darkan, took me to see two small populations at Boolading and Bowelling, about 30 years ago. They both consisted of a hybrid swarm with just one 'pure' plant and the rest were crosses with *D. squarrosa* subsp. *squarrosa*. Since then, both populations have been cleared.

Kevin Collins at the Banksia Farm at Mount Barker had one plant growing and flowering well until it suddenly died and had only produced a few seeds. All of the other specimens I've seen have been hybrids, including the type specimen. Triangular lobes on the blade of the leaf show that there is a *D. squarrosa* component.

I have proposed that a 'pure' plant has the following characteristics:

Plant has mound-forming habit.

Leaf is entire above the petiole which has up to 10 or 12 pairs of spine-like lobes.

Leaves are dark blue-green in colour.

Involucral bracts are ruby-red in colour with long points.

Large, two-toned black and tan seed follicles with a short, thick stem.

I have been hoping to find another 'pure' plant for years now, so I was very excited and thrilled to see the photos that Grant Eikelboom posted on the Dryandras Lovers Facebook page. They showed a hillside near Bowelling, covered in plants, most of which looked promising.

Grant works for the Department of Biodiversity, Conservation and Attractions, (DBCA) South West region as a fire operations officer. He has always had an interest in WA plants (especially *Banksia*) and recently, *Dryandra*.

Both Kevin and I were keen to see the populations before a burn which is to take place soon in the area of the large population, last burnt in 2010. Grant's plan is to exclude ignition of living plants. In late March, Kevin and I drove up to Bowelling

where we met Grant, Lyn Alcock and Digby Grows from DBCA (Kings Park).

Grant had a specimen to show us which was *D. sp. Collie*, which we haven't yet had the opportunity to look for. I was able to get a leaf and a seed follicle from it, to draw. We are hoping to visit the population when it is in flower. It is similar to *D. blechnifolia* with very wide leaves.

At the first, small population of var. *imberbis*, the very first plant we saw 'ticked all the boxes'. The area was burned in March 2017. This one plant



Digby, Kevin and Lyn at the 'perfect' plant.

Margaret



Branch showing last year's seed head and this year's buds.

Margaret



probably didn't get burnt because it had flowered several times whereas the other plants only had their first buds. The perfect plant has dark blue-green leaves and red bracts but all the rest have bright green leaves and yellow bracts. This might just be a colour variation and if so, there are many more plants that are right. *D. squarrosa* was growing with these plants but there were no obvious hybrids. Further along the track, however, there were a few hybrids.

Then we went to the large population. This area had been burnt in September 2010. The plants were very healthy but there were quite a few dead plants. As with some other mound-forming dryandras, they eventually lose their neat mounded habit and the branches collapse outwards from the middle of the plant and they die.



Hybrid plant.

Margaret



Part of the large population.

Margaret

There are hundreds of plants there and also on the other side of the hill. Many of the plants don't have any lobes on the leaf lamina and many have just the odd one or two on the odd leaf. Some are a neater shape than others. The involucral bracts are yellow. Near the top of the hill, we found a couple of plants that are hybrids, showing characteristics of both parents about equally. At the farther edge, near the bottom of the hill we found two plants with dark blue-green leaves and red bracts. The colour of the bracts on one of them is a paler red. Most importantly, there are no *D. squarrosa* plants in the vicinity.

So, three plants are definitely 'pure' and if the colours of the leaves and bracts don't count, then there are many more.



Branches showing yellow and red bracts

Margaret



Seed follicles of (left) *D. squarrosa*, (middle) hybrid, (right) *D. subpinnatifida* var. *imberbis*.

Margaret

**Margaret Pieroni 2/4/21**

## Dryandra Field Trip, April 19 – 23 '21

On Sunday, April 18<sup>th</sup>, I headed to Jerramungup for the night in order to be ready to get to Fitzgerald River National Park (FRNP), nice and early, the next day.

The next morning, I headed off into FRNP and with many, many stops along the way, to photograph the fabulous flora, I made it to Quaalup Homestead, our accommodation for the night. After Kevin Collins, Margaret Pieroni and Julie McKenzie arrived, we organized ourselves in the cabin, had lunch and headed off for an afternoon's exploring.

Point Ann was the first stop, with its amazing scenery and we also found a nice population of *Dryandra obtusa* with plants looking very healthy but sadly, no early flowers. One *Hakea pandanicarpa* plant, although small, was in lovely flower. An unusual petrophile was observed – still to be identified.

The next stop at West Mount Barren, produced *D. cuneata* in flower with a *D. falcata* nearby (no flowers), but this made it easier to differentiate between the two. Kevin discovered a lovely *Banksia baueri* with unusual mauve colouring which was rather special. *Verticordia sieberi* var. *sieberi* was also flowering at this site and many others throughout FRNP, with some colour variations. In fading light, we headed back to the Homestead for a delicious BBQ meal and early night.

Next morning, we investigated the walking area around the homestead with a lovely *Banksia baueri* with terminal flowers noted. My love of old ruins led to many photos at the site. We headed out with many stops on the road out of the park. *Davesia striata* with its yellow and orange flowers was stunning as were the amazing *Hakea victoria*, many of which had the nondescript flowers hidden in the leaf axils. *Banksia baxteri* had a few flowers remaining and the first flowers of *B. coccinea* were found. Kevin commented that this was the earliest he had ever seen *B. coccinea* in flower. *D. plumosa* were in plentiful supply, with gorgeous plumes easily seen, however it took a bit more searching to actually find some in flower. *D. quercifolia* were in full flower and we found quite a few beautiful colour variations, including a dark pink one. I never tire of seeing this beautiful species. *D. sessilis* var.

*sessilis* also had many lovely flowers which the bees loved.

We then travelled to the Biosphere Garden at Jerramungup, where several rare eucalypts were seen in flower. Next stop was the Mount Desmond area, south of Ravensthorpe. *Beaufortia orbifolia* was found with a few flowers open, as well as some early *D. foliosissima* and *Hakea verrucosa*.

On to CavePoint/WestBeach where we enjoyed the scenery and then investigated the low-growing forms of many species, there. *Banksia violacea*, an unusual form of *Isopogon trilobus*, a prostrate boronia and *Grevillea macrostylis* were seen as we explored the hillside.



*D. quercifolia* at western edge of the FRNP.

Lyn



*D. quercifolia* near East Mount Barren

Margaret

We traversed Hamersley Drive, noting the fabulous *Hakea victoria* along the way and then stopped at East mount Barren lookout. We appreciated the scenery often outlined by *Regelia velutina* as well as plenty of *Banksia oreophila* with its unusual shaggy flowers and *B. baueri*. *D. quercifolia* again stood out with flowers in all stages of development and the unusual, rare *Adenanthos venosus* was in flower. We returned to Ravensthorpe via Hopetoun, where the fields of *Banksia speciosa*, many in flower, stood out. A lovely dinner at the pub, finished the day and we returned to our motel accommodation hoping not to be visited by one of the mice in the area.

Next morning, after seeing evidence of a mouse in our rooms, we headed to Archer Lookout/Mount Benson area where we stopped at a nice spot where *D. corvijuga*, *D. foliosissima*, *D. cirsioides* and *D. pallida* abounded. The plants all looked healthy and many *D. foliosissima* were in full flower but only a few, small buds were seen on *D. corvijuga*. Some nice plants of *Petrophile* sp. Ravensthorpe were also noted. We then headed right up to the top of Mount Benson via a rather treacherous track but my new Toyota Yaris AWD hybrid managed it well, following Kevin's 4WD.. I also noted some *Grevillea fulgens*, which we stopped at on the way down. At that area and then on the Mount Short track, the *Banksia laevigata* subsp. *laevigata*, were covered in cones. It would be spectacular in flower. *D. pallida* and *D. erythrocephala* var. *erythrocephala* were also noted, in numbers.

On to the junction of Fitzgerald/Long Creek/Bridger roads,\* where we had to search to find *D. pteridifolia* subsp. *pteridifolia*. Many of the plants were not the healthiest. *D. pallida* and *D. erythrocephala* var. *erythrocephala* were also seen. On to Aerodrome Road, where Kevin had previously seen hundreds of small plants of Quaalup Bells that had been planted in a gravel pit. Sadly, we only managed to locate one plant, which was disappointing. A large amount of *D. pallida* however, filled the area.

The next stop was west of the Magdhaba Track on Old Newdegate Road in a gravel pit where we noted *D. pallida*. *D. ferruginea* subsp. *chelomacarpa*, *D. xylothemelia*, *D. pteridifolia* subsp. *pteridifolia* and *D. erythrocephala* var. *erythrocephala*. The pretty *Grevillea wittweri* was

in flower, across the road, as we drove off.

Finally, we headed out to Marvel Loch – Forrestiana Road to find *D. viscida*. We found the large population of the plants, with some extremely large ones, where the middle had collapsed. They should be a fabulous sight when they are in flower. An interesting discovery there, was an area which had been graded for a firebreak during a recent fire. Along this track were hundreds of *D. viscida* seedlings. Sadly, most of them will undoubtedly die, over time but it was an incredible sight. At this same site there were plants of *D. cirsioides* and *Hakea scoparia* subsp. *scoparia* was beginning to flower, with very tiny flowers which confused us at first. We then headed back to Lake King for the night and a great meal at the tavern.



Lyn at the centre of a collapsed plant of *D. viscida*.



*D. viscida* seedlings

Next day, we headed off to the corner of Dyke Road and Grant Williams Road, where we found a lovely dryandra-rich patch that included *D. pallida*. *D. ferruginea* subsp. *chelomacarpa*, *D. pteridifolia* subsp. *inretita*, *D. xylothemelia* and

*D. erythrocephala* var. *erythrocephala*. The latter had a few plants full of wonderful, late flowers. The unusual *Petrophile circinata* and a form of *P. glauca* with small leaves and a large high-mounding habit were also seen there.

It was then off to Lake Bryde Reserve, where we eventually found one of the populations of *D. epimicta*.\*\* There were a nice number of plants, although some not in the best condition. It was interesting to note that some of the seed capsules had spontaneously opened and were spilling out their seeds. We were still finding plants when we had to head off so it seems to be a reasonable population.

Next stop on Burngup South Road, the location of *D. idiogenes*, was disappointing with so very many of the plants appearing to be in a bad condition and often, dead.

Hopkins Reserve was our next stop, to find the other population of *D. epimicta* and this area certainly had some large, healthy plants. There were also exceptionally large bushes of *Banksia sphaerocarpa* seen, with masses of flowers.

The final stop of the day was the Wildflower Drive at Corrigin where we checked out *D. fasciculata*, *D. lindleyana* subsp. *agricola*, and *D. ferruginea* subsp. *obliquiloba*.

We then returned to the Corrigin Hotel where, on checking in, the manager, apparently deciding that it would be difficult for us 'oldies' to carry all our goods upstairs, offered us all individual rooms at the nearby motel for the same price. Rural town hospitality, with a great meal later enjoyed back at the hotel.

We headed out on the final day to an area near Jubuk Road, where we viewed another population of *D. lindleyana* subsp. *agricola* which also did not look to be in the greatest health.

Then it was on to Jingaring Reserve where we eventually found the population of *D. sp.* Jingaring. After I found the first flower, we continued our hunting and found many of the plants in flower. We also explored further and further and were still finding new plants as we returned to the cars – a great population and generally looking healthy.

The final stop, in the area was near Aldersyde to view the *D. ionthocarpa* subsp. *chrysophoenix* population. It was very sad to see so many of these plants (underground branches. MP) dead, especially in one main area. There were others, further on which appeared to be healthier but no seed capsules were noted at all, which apparently is typical for this species. What is the future of this population? Certainly uncertain.

At this point in the trip, I left the group in Narrogin, my home town and they continued on to the Woodanilling area. I will let Margaret continue the trip information.

Once again, a most enjoyable trip with Margaret's expert knowledge assisted by Kevin, only enhancing our knowledge and joy of viewing dryandras. Thanks to all for a wonderful trip.

Lyn Alcock 15/6/21

\* This is the location of the bright pink – flowering plant seen by Francis Nge. We were hoping to find it in flower but there was no sign of flowering on any of the plants we saw in the various locations. It is 5 years since they flowered but the area has had some very good rain and I'm optimistic about finding flowers, next year. MP.

\*\* The plants in this, fairly recently discovered population are different from the type at Hopkins Reserve. The leaves are twice as wide and the flower heads and seed capsules are slightly smaller. There are at least 6 other populations in the reserve. MP



*D. epimicta* leaves, top: Hopkins Reserve, bottom: Lake Bryde Reserve. Margaret

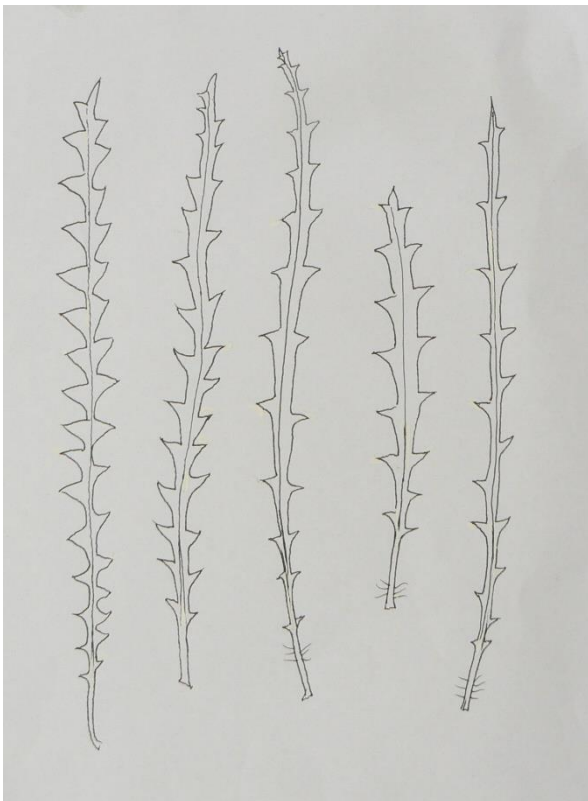
## April trip continued

After Lyn left us to go home to Narrogin, we continued on to the population of *Dryandra porrecta*, south of Highbury which I had first visited 5 years ago with Kevin Thiele and Francis Nge.

Lyn had photographed the flowers of this unusual form of *D. porrecta* in July 2019 (see newsletter 77). They resemble those of *D. porrecta* in colour but they appear above ground or only partially buried.

I had forgotten just how much larger the leaves are than those in other populations of both western and eastern forms – up to 50 cm long and 8 cm wide.

We called in at Queerearrup, north of Woodanilling West Road to look at a plant that had been posted on the Dryandra Lovers Facebook page, earlier this year. As I supposed, the plant is a hybrid – probably of *D. nobilis* subsp. *nobilis* and *D. acanthopoda*. The former is growing alongside the hybrid and the latter, which we didn't find there, occurs at Wingedine Reserve about 6 km away. We found a couple more hybrids that were slightly different from one another, there as well.



The drawing shows: Left: *D. nobilis*, 3 hybrids, right: *D. acanthopoda*.

Our last stop, before heading back to Mount Barker, was at Wingedine Reserve where we hoped to find some of the *D. acanthopoda* plants with pink bracts. We did find the odd plant with pink bracts albeit not as deep a pink as the one that Jill Richardson had photographed. (see photo in newsletter 78). The plants were beginning to flower and *D. stiposa* was also in flower, there.

Altogether, it was a very enjoyable and successful trip. We saw 11 different dryandras in flower; some flowering much earlier than usual. They were: *D. acanthopoda*, *D. sessilis* var. *sessilis*, *D. quercifolia*, *D. cuneata*, *D. erythrocephala* var. *erythrocephala*, *D. cirsioides*, *D. pallida*, *D. sp.* Jingaring, *D. plumosa* subsp. *plumosa*, *D. stiposa* and *D. foliosissima*.

*D. quercifolia* and *D. stiposa* have their main flowering in autumn and summer respectively but odd flowers can occur at any time of year.

**Margaret Pieroni 24/5/21**



*D. acanthopoda* Wingedine Reserve

## ***Dryandra* sp. Jingaring**

In his revision of *Dryandra*, published in *The Flora of Australia* 17B, Alex George mentioned this taxon as being intermediate between the two subspecies of *D. pteridifolia*: subsp. *pteridifolia* and subsp. *vernalis*, (subsp. *inretita* hadn't yet been published), morphologically, geographically and phenologically (flowering time).

I first saw it in flower in June 1999 but in 2016 and again this year, it was flowering in April, so not mid-way between April, (subsp. *pteridifolia*) and September (subsp. *vernalis*).

When I showed the plants to Kevin Thiele and Francis Nge in 2016 they indicated that it is probably a new taxon. The flowers are like those of *D. aurantia* and also sp. Boyup Brook. Like *D. aurantia*, the flower, (perianth) colour varies

across the population from burnt orange to straw-coloured. The leaves are bluish-green except for one plant we found that had green leaves.

As far as I know, this taxon only occurs in Jingaring Reserve, south west of Brookton in casuarina and wandoo woodland in white sand.

We estimated that there are about 30 plants in the area of the reserve that we visited, bearing in mind that this is an underground-branching dryandra and what looks like several plants could well be just one.

Other dryandras there include: *D. armata* var. *armata* and var. *ignicida*, *D. vestita*, *D. lindleyana* subsp. *agricola* and one or two plants of *D. ionthocarpa* subsp. *chrysophoenix*.

**Margaret Pieroni 16/5/21**



Two other colour forms of sp. Jingaring. (The third is our cover photo)

Margaret



The plants in Jingaring Reserve



Lyn photographing the plants

## News from Tim Darrington in France

I just got down into my “caveau” greenhouse and discovered that *Dryandra porrecta* (eastern) is flowering for the second year – one flower head which was right at the back but the camera sees it much better. Your book says 20-30 flowers per inflorescence. That is perhaps for the western form – this one has 35 or 36 at a quick count.

Also in flower, this year is *D. tenuifolia* var. *reptans* (cascading form). I will soon have two subspecies of *D. praemorsa* in flower and two varieties of *D. sessilis* (var. *cygnorum* and var. *sessilis/cordatum*, (an intermediate form).

Tim Darrington 7/3/21



*D. porrecta*

Tim

## Further News from Tim

I am beginning to see the light at the end of the tunnel after the spring rush. For the 'garden' part, everything was delayed this year; France (and UK) have had a very cool April and May; March and April were extremely dry, here in the Rhône valley (Lyon) and since the last few days of April, it has rained an awful lot, both here and in the UK. I believe in the UK it has been one of the wettest months of May in living memory. It's not a problem for the Aussie Proteaceae, for the moment as it has stayed cool. In fact, the main problem I had was late and hard frosts. On the night of 7<sup>th</sup>/8<sup>th</sup> April we had -6°C in Vienne. I had already put a **few** banksias out (of the greenhouses). Then I thought spring had come, so I took the roof off my low "caveau" greenhouse, only to find the temperatures dropped back down again and we had a series of 4 nights in mid-April, down to one or two degrees below zero

– so I had to “protect” the plants in this greenhouse by suspending a bedsheet over them and (gently) heating water below it. I was very popular with my wife as I got up each night at about 4.30 am to go down to the greenhouse to check that the thermoplunger was not drying out. Finally, the other consequence of this very cool weather is that very few of the banksia and dryandra seeds, which I sowed at the beginning of March, have germinated, this year. Two notable exceptions are *Banksia rosserae* and *B. victoriae*. I thought that both liked it hot!

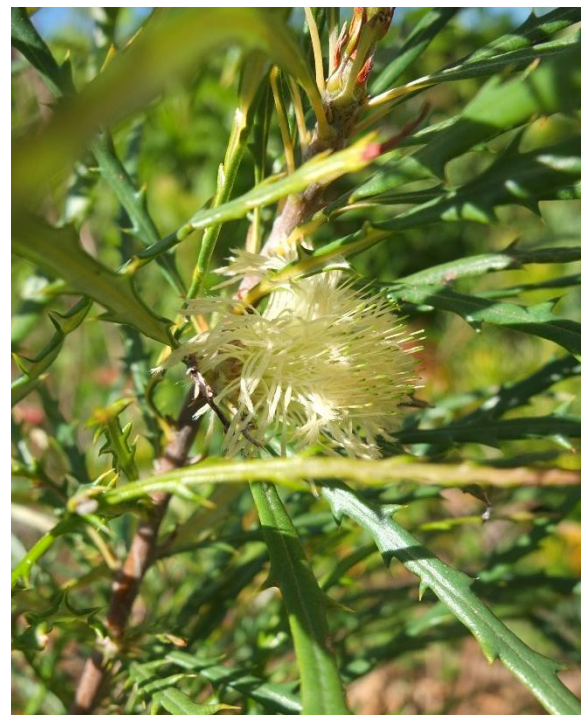
Here are some of the latest photos of my dryandras.

Tim Darrington 6/6/21



*D. falcata*. It has flowered later, this year and I think will have nearly 10 inflorescences this season, which will be bigger and will open properly.

Tim



*D. stricta*. Just one inflorescence, this year – first time it flowered.

Tim



*D. ferruginea* subsp. *obliquiloba* has had nearly 20 buds on it for over 8 months in the low “caveau” greenhouse. Tim



*D. foliolata* Tim

**Note:** Tim didn't think this plant is *D. foliolata* as the leaves don't match the drawing in *The Dryandras* but Kevin Collins and I are pretty sure that it is. As Tim had surmised, it appears to have juvenile leaves that are shorter and the lobes are close together, even overlapping. This occurs also in other dryandras, for instance, *D. longifolia*.

**Margaret**

## Flowering Times

As can be seen from many of my articles written over the last 5 or 6 years, the flowering times of many dryandras and other wild plants, are much different from what they used to be and so they can't be relied upon as a means of identification, any longer. I have seen dryandras in flower as much as two months earlier than when I photographed them for *The Dryandras*.

Don Williams from Hi Vallee, Badgingarra reports that last year was very dry but that they had over 100 mls in February, this year. *D. vestita* flowered early – in mid-March. He said it usually flowers between May and June. I'm rather intrigued by this. Everywhere that I have seen this, quite widespread species, it is summer-flowering.

**M Pieroni 21/6/21**



*D. vestita*

Margaret



*D. foliosissima* flowering early near Ravensthorpe Lyn