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D. speciosa subsp. *speciosa*, Kitto Rogers Road

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Hello and welcome to a slightly late Newsletter.

Our two major articles cover several extensive trips that Margaret undertook with members of the Study Group, members of the Hakea Study Group and with Tim Darrington, Study Group member, who had travelled all the way from France to see how many of the Western Australian plants he had gotten to know in his garden and conservatory in France actually grew in their native habitat. As Margaret says in her article: "I managed to show him 91 different dryandras, 51 in flower. He couldn't have come at a better time." Because of widespread rains in many parts of WA during 2016, Margaret planned the various excursions she describes to try to find a number of those elusive dryandras which she had not been able to photograph in flower for years, due to WA's long-running drought. Many of those she obtained will be added to the Dryandra Digital Archive, while I have included others to illustrate her's and the additional article Tim wrote about their trips. I hope that you enjoy them. Both articles are extremely valuable for the detail they provide on great localities, not only for dryandras, but also, especially in Tim's case, for ground orchids and other genera of *Proteaceae*. Keith Alcock describes the new sand garden he has developed in Kalamunda, to grow his first loves, *Banksia* and *Dryandra*, but also the gloriously spectacular *Ptilianthus* and *Verticordia*. Many of you will be extremely jealous and Keith should be justifiably proud of the results of a great deal of hard work. I report on my efforts to rejuvenate an old *D. nobilis*, and have updated the list of taxa still needed to complete the Dryandra Digital Archive. When you look through it, you will see why we still are searching for these particular taxa – they are very uncommon and are rarely grown. So if any of you are in WA, please keep an eye out for them, we would very much appreciate your pictures. And, finally, I make my usual appeal for articles, comments and photos for the Newsletter which after all is for all members. Please let others know of your experiences, problems too, as in this way. all of us can learn something.

Happy Dryandra growing

Tony

A Wonderful Wildflower Year

From early in the year, I made plans for several field trips with Dryandra Study Group members from interstate and overseas; booking accommodation and arranging itineraries to include as many dryandras as possible. Rain started early and from all quarters there were reports of good rainfall and the prospect of an excellent flowering season.

For years now, I have been trying to get digital photos of many dryandras to complete the collection and I have not found most of them in flower. The last time we had good, widespread rain was in 2005 before I had a digital camera. All of the photos in *The Dryandras* are from slides – many of them from my previous garden in Perth.

Early-flowering dryandras such as *D. fililoba* and the western form of *D. porrecta* were still not flowering this year but I am hopeful that they will flower next year. Plants we looked at had good, new leaf growth.

Many visitors to the south west of the state experienced bad weather and were frustrated by road closures due to rain but, except for some rain and strong winds on one day of one trip, I and my fellow travellers managed to avoid these problems only to return after each trip to cold and wet weather here, in Denmark. So far, this year, I have had 1163 mm of rain and the coldest September since I moved here – and it is still cold.

At the beginning of August, Kevin Collins and I met Brian Moyle and Alex George at Boolanelling Reserve, north of Corrigin. This was where we found plants of *D. conferta* "Corrigin Blue" on the last day of our collecting trip, last year. It had been a last minute decision to go there, at the time and we didn't have much time to make two collections let alone have a good look around the area. Near the north west corner of the reserve, beyond where we'd made the collections, last year, we found the typical, green, widespread form of *D. conferta* – just one plant. It seems to confirm my previous observation that we found intermediate forms here. We are still waiting on the results of the DNA tests, promised "before Christmas".

We looked at some of the other plants in the reserve. The Proteaceae are well represented and a

more than usual number of plants with grey leaves including many *Eucalyptus macrocarpa*. There are 6 dryandras (if Corrigin Blue is included): *D. horrida*, *D. conferta*, Corrigin Blue, *D. vestita*, *D. ferruginea* subsp. *ferruginea* and another – possibly *D. purdieana* X *cirsioides*. We were able to confirm that the population of the supposed Corrigin Blue doesn't extend much further than our two previously sampled areas.

Lyn Alcock had told me about the odd flowering on the new growth of *D. horrida* which we also observed. One plant had normal flowers, as well. It seems to be a reaction to the early rain. The usual flowering time for this species is autumn. The bracts are golden yellow rather than a burnt orange colour.



***D. horrida* Boolanelling**

Margaret

The following day, Kevin returned to Mount Barker while I went back to Perth with Brian and Alex. We went to Charles Gardner Reserve, south of Tammin, hoping to find *D. speciosa* subsp. *speciosa* in flower even though it was later than the normal flowering time. It had been many years since I had been there and even longer since Alex had been there but we remembered that there were many plants on the northern boundary of the reserve. The photos in *The Dryandras* were taken there. We didn't find these plants but further along we found a few and some had one or two fresh flowers. The shaggy flower heads hang down and it is difficult to distinguish fresh from dead flowers by the subtle difference in the colour of the bracts rather than having to lift each one up. This part of the reserve is full of the bushy casuarina, *Allocasuarina campestris* which is shading out the dryandras within the reserve and even pushing down those on the edges of the track. We drove around the reserve and found a few plants with some flowers that were free of the casuarina, on the south boundary. We

drove along Kitto Rodgers Rd, north west of Charles Gardiner Reserve where there had been a very good population of *D. speciosa* subsp. *speciosa* but we didn't see any plants until we reached the western end of the small roadside reserve where there is a lot of weed encroachment. Here we found a few plants flowering beautifully and showing their lovely flower heads. The perianth



***D. speciosa* subsp. *speciosa*, Kitto Rogers Rd. MP** is cream and the long limbs (the top part of the flower containing the anthers) in a range of colours from pale yellow to deep orange-red with red stripes. We didn't find any orange-red ones but there is a photo of one in *The Dryandras*.

D. speciosa subsp. *macrocarpa* which occurs around Badgingarra and Eneabba is almost always dark red although I have seen an orange one. In subsp. *speciosa* there are more flowers in the head and the seed follicles are smaller.

On 16th August, I flew to Sydney to attend the opening of an exhibition *The Florilegium* in which I have a painting of *Banksia praemorsa*. The opening was to be earlier but was postponed until the 19th – the day Tim Darrington was due to arrive here. I had already planned to show him around here along with Lyn Alcock and Kevin Collins for the first two days before setting out on a 5 day trip. Lyn and Kevin came to the rescue and looked after Tim at the Banksia Farm until I arrived back from Sydney to Mount Barker late on 21st to set off the next morning, having left my car at the Banksia Farm on 16th, all packed up for the trip with Lyn and Tim.

On our way to Dryandra, we visited Strathmore Hill Reserve and other reserves around Woodanilling. I was hoping to find *D. fililoba* in flower but there were no signs of flowers. We looked at the population of *D. porrecta* near Highbury which I had visited with Kevin Thiele and Francis Nge

earlier this year. At the time we had immediately seen that these plants are unlike others we'd seen having much bigger leaves. Again, there were no flowers and no fruits to be found. I collected a leaf to draw to compare with the other forms.

On our second day, on the way to Hi Vallee we drove along Mogumber West Rd which used to be a wonderful flora road until it was widened and sealed and many plants were destroyed along with most of the plants of *D. echinata* that occurred there. We found a small population with the widely varying leaf shapes. I have speculated that this taxon is a stable hybrid of *D. polycephala* and *D. hewardiana*. I photographed leaves of two plants that are growing within 1 m. of each other. No two plants appear to be exactly the same.



Variation within leaves of *D. echinata* MP

We stopped at two of the locations of *D. serratuloides* subsp. *serratuloides*, a declared rare plant, south of Gillingarra, between the road and the railway line. At the first spot there were no plants to be found as the vegetation had all been cleared. At the second, there were only four or five very small plants and the only one with flowers had malformed ones with styles that had not elongated. This is just another example of the appalling loss of our wonderful, unique plants on road verges due to clearing. I will make enquiries as to whether there are adequate numbers of this plant in the nearby

reserve. A management plan to grow plants ex situ and re-introduce them to their former location, as is done by the Albany DpaW Rare Flora Recovery Team, might be called for.

At Hi Vallee, Don told us that a reliable informant had told him that *D. tridentata* was flowering in the nearby National Park – two months earlier than normal. We were delighted to find it well in flower on the property and got some good photos of a plant with flowers at ground level and at the ends of the upright stems.



***D. tridentata* plant, Hi Vallee Margaret**

We arrived back in Denmark to the cold and rain on 26th and Tim left the next morning for a few days in Perth until he returned on 1st September ready to set out the next day to join Paul Kennedy and a host of Hakea Study Group members for a weekend at Lake King.

We drove to Corrigin via Gnowangerup where all of the plants of *D. tenuifolia* var. *reptans* were flowering well, then along Wallacup Rd, south of Nyabing, where we saw *D. ferruginea* subsp. *magna* (in flower) and *D. rufistylis*, to the "hot spot"



***D. ferruginea* subsp. *magna*, N of Nyabing MP**
4 km north of Nyabing. We then visited the reserve at Harrismith where I was hoping to find *D.*

ferruginea subsp. *ferruginea* in flower. We didn't find any flowers on this subspecies.

Back on the Rabbit Proof Fence Rd, we continued on to Corrigin and the reserve just west of the town where we added another two dryandras to Tim's list; *D. ferruginea* subsp. *obliquiloba* which was not yet flowering and *D. fasciculata*.

After spending the night in Corrigin, we had time the next morning to drive up to the *D. conferta* Corrigin Blue location and then back to Kulin where we met the Hakea people. Among the large group were 6 Dryandra Study Group members: Mike and Cathy Beamish, Barry and Elva Teague from Victoria and Tim and me.

The first stop on the way to Lake King was Kulin South Reserve and then Jitarning North Reserve a bit further on. They turned out to be full of dryandras. We found a plant of *D. nivea* subsp. *nivea* with deep red flowers and one of *D.*



***D. nivea* subsp. *nivea*, red flowered MP**
fasciculata with late flowers among the densely crowded plants of these two and *D. ferruginea* subsp. *ferruginea*, *D. erythrocephala* var. *inopinata* and another of those problem plants which appear to be intermediate between *D. purdieana* and *D. cirsioides* or perhaps, in this location, *D. xylothemelia*. The *D. erythrocephala* was not in flower but I assumed it is var. *inopinata* due to its eastern location. Only a few *D. ferruginea* subsp. *ferruginea* plants had flowers but they were not good ones. We did find some lovely plants growing on the bank of the railway line at Kulin South Reserve and they had some good clusters of buds that I hoped to find open on my next visit in 20 days time.

On Commonwealth Road, opposite the western end

of Hopkins Reserve we stopped to see what we could find. There were many plants of *D. xylothemelia* – none of them in flower. They occur here in groups of 3 or 4 plants with similar leaves. The size and shape of the leaves varies markedly between groups which suggests that each group is one plant and *D. xylothemelia* is clonal, at least in this location. A few plants had leaves that were much wider than the type with narrow lobes and others had smaller ones. This is a taxon that has proven difficult to propagate, like *D. prionotes* which is clonal and doesn't produce viable seed.



***D. epimicta*, Hopkins Res, Margaret**

I showed the group the plants of *D. epimicta* in Hopkins Reserve. There are fewer plants and weeds have overtaken the population. I could smell their foul odour before we found any flowers. We have postulated that, because the long feathery bracts do not open more than about one centimeter at the tips even though the flowers within are open, they resemble and smell like dead birds. Their presumed pollinators, blowflies were present.

We continued east on Pingaring – Varley Rd and made a stop at Dragon Rocks Reserve. Here we found *D. ferruginea* subsp. *ferruginea* plants, one of which was in flower. This is a form that has small flower heads and the bracts have brown rather than rusty hairs.



***D. ferruginea* subsp. *flavescens* Margaret**

We reached Lake King just on dark after having found lots of dryandras – and a few hakeas. The next day was spent driving east of Lake King on the road to Norseman where Frank Hann National Park begins at the Rabbit Proof Fence. This is the type location of *D. ferruginea* subsp. *flavescens* and with lots of pairs of eyes looking, we found some in flower. Once again, I failed to find flowers on *D. xylothemelia*.

Most of the group left for home on the Monday morning after visiting Pallarup Reserve on Magdhaba Track. The hakea which is restricted to the area but abundant that we wanted to see is *H. cygna* subsp. *needlei* which was in full flower. There were glorious wildflowers of all kinds to see on the track and, at the end, on the corner of Old Newdegate Rd, we stopped at another much-frequented dryandra location to look for *D. ferruginea* subsp. *chelomacarpa*. Again, we found some plants flowering very well. Some of the plants, which hadn't flowered in recent years had put on leaves and formed quite large mounds with the flower heads well hidden inside the plants instead of on the ends of underground branches around the edges. *D. pteridifolia* plants were looking very healthy with lots of new leaf growth. A few plants of *D. pallida* still had some late flowers.

Paul Kennedy, the Beamishes, Tim and I continued on to Ravensthorpe and Mount Desmond. The old track off Elverdton Rd where *D. corvijuga* occurs is now almost completely overgrown but we pushed through the prickly plants, including *D. quercifolia* until we found the plants of *D. corvijuga*. After many years of finding this plant not flowering, like the other dryandras I was hoping to photograph, it was flowering well.



***D. corvijuga*, Elverdton Rd. Margaret**
From Ravensthorpe, we went west and then via the

recently sealed Devils Creek Rd to Quaalup in the Fitzgerald River National Park. The population of the best pink-flowered *D. quercifolia* plants that I have ever seen, has been destroyed in the new road works where the sharp corner has been taken off and the road widened and sealed.

We spent two nights at the Quaalup Homestead Wilderness Retreat visiting locations within the National Park and the Nature Trail at Quaalup. At West Mount Barren, while Tim climbed to the top and the others, part way, I looked around the car park and found *D. falcata* and *D. plumosa* var. *plumosa* in flower and a few *D. quercifolia* plants that had yellow flowers. Near the turn off to West Mt. Barren while walking without my camera I was thrilled to see a very rare creature – a dibbler in plain sight feeding on a Cauliflower Hakea, *H. corymbosa*. I could have got a great photo had I had my camera with me as I usually have.

At Point Ann, as well as seeing plenty of whales, we found more dryandras. While the others walked along a track to the whale-watching platform, I stayed behind, hoping to find *D. obtusa* in flower closer to the car park. I couldn't find any plants but Tim had found one and photographed it. The flowers were almost spent. On the exposed headland we found low-growing plants of *D. falcata* and *D. cirsioides* in flower. Back at the Nature Trail at Quaalup, we found just one plant of *D. obtusa* – again with just one almost finished flower head.

On our last day, coming back to Denmark, on South Coast Hwy, Tim and I stopped to look at an amazing roadside display of plants in flower. Most of them were in the Proteaceae family. There was just one dryandra, *D. mucronulata* which had finished flowering but is not showy, anyhow. There were three pink-flowered isopogons, *I. cuneatus*, *I. formosus* and *I. baxteri*, a white and a blue smokebush, *Conospermum flexuosum* and *C. caeruleum*, *Hakea ferruginea*, (some with pink flowers), *Banksia coccinea*, a synaphea (yellow) and a mat-like adenanthos. All sorts of other plants in flower were growing amongst them. I contacted Neil Marriott who was leading a wildflower tour at the time, to give him the location of this marvellous roadside garden. When their group went there, a few days later, they spent an hour there.

The next day, Tim left for the Banksia Farm and

then home to France. I had shown him 91 different dryandras and 51 were in flower. He couldn't have come at a better time.

Meanwhile I spent 12 days at home getting ready for the next trip – a return to Quaalup and Lake King with Keith Alcock and Neil and Wendy Marriott. They came down to Denmark ready to start out on 21st September and my friend, Julie from Denmark, came with me in my car.

We met Barry and Elva at Cheyne Beach and visited our favourite patch on the Bald Island track, where all the plants are low-growing or even flat on the ground due to wind exposure. After seeing so many plants of *Isopogon cuneatus* the first time I saw this location, I had been hoping to see a wonderful display of flowering plants at the right time. I have been there quite a few times since and found some plants in flower but it seems that they don't all flower at the same time. At the "roadside garden" on South Coast Hwy, our next stop, they were still flowering. It was delightful to walk down the track parallel to the road with what looked like mixed planted hedges full of colour on each side. There are species here that, in the early days of botanical exploration were thought to be confined to the Stirling Ranges, for example *Isopogon baxteri* and *Petrophile carduacea*. Let's hope this beautiful, natural garden doesn't suffer the fate of so many other roadsides. We spent a good hour here before continuing on to Quaalup. As I have said, this year has been exceptional for rainfall and flowering such as this happens rarely now.

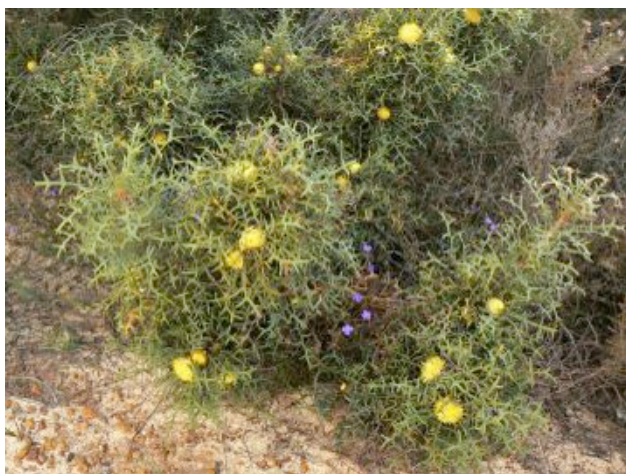
On arrival at the Fitzgerald River National Park, we found that all the roads into the park itself were closed because of recent rain. We were told that there was a chance that the ranger might open the gates later in the day, on the following day. We set out the next morning, stopping at several very good spots recommended by Karin from the the Quaalup Wilderness Retreat. We stopped at the gate closing the road to Pt. Ann and looked at a good patch of various flowering plants, there. As we were about to leave, having decided to change our plans, the ranger came along and opened the gate. So, once again I returned to Mount Maxwell and Pt. Ann, this time to find the dryandras with more flowers than before.

This time I walked along the track looking for the *D. obtusa* plant. It was found on the only small

patch of white sand, above the track. It had several flower heads at different stages, this time. Later, Keith found quite a few flowering plants as we were leaving the location, in deep, white sand, back from the rocky cliff track..

The following day, we went back to Ravensthorpe. The weather was windy and cold and it was decided to go to Elverdton Rd to have lunch. It was not much more sheltered there and nobody felt up to walking the track to the *D. corvijuga* plants. Barry and Elva had to stay in Ravensthorpe for some mechanical repairs so the rest of us continued on our way to Lake King. North of Ravensthorpe, we decided to look for *D. corvijuga* on Mount Short Rd. Soon we found some plants and looked for flowering ones. I found one with flower heads with bracts of a bright rusty orange colour. They seemed to glow and when the sun appeared they really shone. The hairs on the tips of the limbs of this species are quite long as can be seen on the photos I took on my previous trip. The rain that had fallen on the Mount Short plants had spoilt the photos by wetting the hairs.

Back at Pallarup Reserve on the Magdhaba Track, we found even more flowers on the *D. ferruginea* subsp. *chelomacarpa* plants we saw previously and the dominant plant along the road was the lovely, bright yellow *Grevillea incrassata*. We were all thrilled to see quite a few different grevilleas on this trip – especially Neil, of course. I found just one plant of *D. xylothemelia*, in flower.



At last, *D. xylothemelia* in flower Margaret

The next day was spent driving down Cascades Rd and to a property owned by friends of the Teagues. We found a few dryandras but the highlight of that day was all the grevilleas that we saw in full flower. Several verticordias were beginning to flower, as well.

On our way home, the next day after leaving the Teagues at Lake King, we stopped at Tarco Rd, about half-way between Lake King and Newdegate. This is another of my old stamping grounds especially for verticordias but also for *D. ferruginea* subsp. *chelomacarpa*. Unfortunately, yet again, there has been a lot of clearing of the vegetation. We found a few plants in flower but then, just east of Newdegate, Keith and Neil spotted some on the sides of the road. These plants had more flowers but the interesting thing about this population is that not all of the plants had underground stems with flowers at ground level – some were upright like subsp. *ferruginea*. I found one large plant that appeared to have both upright and underground branches. Growing at the same place was *D. xylothemelia* and finally we found some in flower.

We drove along Kuender Rd, west of Lake Grace, to look for a population of *D. ferruginea* subsp. *ferruginea* and some of them were flowering well. After years of looking in many locations, I finally got some photos although there were not many flowers and they were well hidden in the dense shrubs.

Further west, on 101 Gate Rd, I wanted to check on a population of *D. fililoba*. We were just a little bit too late. Almost all of the plants have been ripped out and the vegetation, on both sides of the road has been cleared to the fences. The plants are on top of a hill and the road goes right through the dryandras. There are only one or two left in the farm paddock on one side of the road.



***D. fililoba* destroyed in road works, Gate Rd.MP**

After lunch at Jitarning North Reserve, Keith, Neil and Wendy left to return to Perth and Julie and I drove back to Denmark. Before we left, I checked

the *D. ferruginea* plant on the bank of the railway line but the buds had not opened further than on my previous visit.

It has been a wonderful year of trips with great friends, old and new and I would like to thank all of them very much for their excellent company and expertise in the field.

Margaret Pieroni 22/10/16

More on *Dryandra porrecta*

In our last newsletter, Francis Nge wrote about his Honours project on the series *Aphragma* in *Dryandra* (*Banksia*). As I reported, the population of *D. porrecta* near Highbury, struck us immediately as being different from all of the rest. On my return visit, in August, I collected a leaf to draw but we searched in vain for seed follicles. Previously, I had found an old flower head and counted 20 spent flowers which is the maximum number for *D. porrecta*.

Margaret, Lyn and Tim's Northern Circuit – August 2016

Monday 22nd August

We left the comfort of Banksia Farm in the morning and headed north up the Albany Hwy. Near the car park at west end of Robinson Road in open woodland we found low flat *D. fraseri* var. *fraseri* plants ~80cm in diameter amongst *Thelymitra antennifera* and Blue fairy orchids (*Pheladenia deformis*).

14km to the east, we took Carters Road and after ~2 kilometres we stopped at Wingedyne Nature reserve where we found flowering *D. stuposa*, *Isopogon teretifolius*, *Dryandra acanthopoda*, *D. nobilis* subsp. *nobilis* and *Lambertia ilicifolia*.

Continuing along Orchard Road going east towards Woodanilling, we stopped opposite the end of Dinwoodie Road where in lateritic gravel with some superficial sand there were *Chloanthes coccinea*, *Grevillea uncinata* and pale yellow *D. armata* var. *ignicida* in flower. Beyond the fence, I

found a small *Xanthorrhoea* species (*nana*?), a yellow flower on *B. sphaerocarpa* var. *caesia*¹,



***D. armata* var. *ignicida*, Dinwoodie Rd.** Tim found some *D. porrecta* plants and half a dozen *D. lepidorhiza* plants each growing in a little raised up mound of sand, with superficially underground stems. This growth habit particularly intrigued me and I believe that wind-blown sand is trapped and accumulates around the leaves which slow the wind-speed. I have grown this species in France for 6 or 7 years now. It is currently in a 25cm pot, it has never flowered, and the embranchments occur ~5cm above the ground ! The leaves of my plant look extremely similar to the line drawing in Flora of Australia (and less like the line drawing in *The Dryandras*). I am considering how I will artificially reproduce the little « mound » of sand around my plant, hoping that this will stimulate flowering.

We continued along Orchard Road, looking for Dewey Road (shown on atlas) which in fact does not exist, so we took the next road on the right, Cornwall Road, and then right again into Boyaminning Road, which is now called « Link Road ». At the end of this road we drove into Strathmore Hill Nature Reserve turning towards the left and up a mound on which *D. proteoides* grows in very stony / rocky ground. We also found the atypical form of *D. fililoba* with miniature floral leaves around the buds and *D. nivea* subsp. *nivea* in flower. Here we ate lunch.

1 There was some discussion in our party about the identification of *B. sphaerocarpa* varieties : I have always assumed that bluish leaves imply *B. sphaerocarpa* v. *caesia*, although alone this is apparently insufficient to conclude on var. *caesia*. Here the specimen also had a lovely yellow flower which corresponds well to the description and photo on p.342 of « Banksias » (by Collins, Collins and George) of var. *caesia* (compared with var. *sphaerocarpa*).

After a wrong turning which took us back to the Albany Hwy, we went north to Williams and took the Williams-Kondinin Road to Narrogin, stopping at Foxes Lair Nature reserve a few kilometers west of Narrogin, in prime Wandoo Woodland overlooking Narrogin where we found *D. nobilis* subsp. *nobilis* in flower, *D. armata* var. *armata*, *D. cynaroides* with its woolly new growth spurts and *Isopogon crithmifolius*, *Grevillea leptobotrys* and *Conospermum distichum* and *Conospermum amoenum*.

Near Dryandra village on the Tomingley Road we found, *D. nobilis* subsp. *nobilis* in flower, some fallen *D. columnaris* plants in bud, a *D. subpinnatifida* var. *subpinnatifida* with buds, some *D. squarrosa* subsp. *squarrosa* in flower and hybrids with leaves intermediate between *D. squarrosa* subsp. *squarrosa* and *D. subpinnatifida* var. *subpinnatifida* similar to the hybridisation between *D. squarrosa* subsp. *squarrosa* and *D. bipinnatifida* subsp. *imberis* described in Margaret's article in the DSG Newsletter n° 61 with line drawings of intermediates on page 3. The night in a cabin at Dryandra was particularly cold with a frost on the short kangaroo grass the following morning.

Tuesday 23rd August

We left Dryandra early and saw flowering *D. praemorsa* var. *splendens*, including some plants with pink flowers on the Wandering - Pingelly Road some 5km SW of Wandering and then we stopped again further NW on the N Bannister - Wandering Road at the junction with Ricks Road where there were more *D. praemorsa* var. *splendens*.

From there, we headed north along Albany Hwy (and forgetting to look for *D. meganotia*, about 75km south of Perth) and then onto the Great Northern Hwy through Bindoon to Udumung Nature Reserve. There we stopped for lunch and found *D. polycephala* flowering abundantly amongst *D. armata* var. *armata*, *D. lindleyana*, *Grevillea endlicheriana*, *Hakea myrtooides*, *Grevillea synapheae* and *Hakea lissocarpha*.

We then took Hay Flat Road to Wannamal, stopping at the Caravan site and toilets (Wannamal Rest Area, near Bell's Nature Reserve on the Bindoon Moora Road) where we saw *D. hewardiana*, with *D. polycephala* and *D. squarrosa*

subsp. *squarrosa*, together with *Petrophile biloba*, *Hakea trifurcata*, *Isopogon divergens*, *Grevillea bipinnatifida* in flower (one of the parents of *Grevillea* 'Robyn Gordon', with *G. banksii*) and *Acacia pulchella* in flower.

We continued north on the Bindoon Moora Road towards Gillingarra looking for the railway crossing « 6km north of Mogumber Road West ». However we had to go two crossing further north to find the spot where the rare *D. serratuloides* subsp. *serratuloides* grows between the road and the railway line, near n° 4713 (that is 47.13 km from the end of the road) and discovered that a large area had been graded to convert into a materials storage area, and of the previous populations we were only able to find 4 plants of *D. serratuloides* subsp. *serratuloides* with just one flower open and one seedling. On same site we found *Isopogon dubius*, a climbing *Thyosanotus*, a *Thomasia* (*grandiflora*?) and *D. kippistiana* var. *kippistiana* all in flower.

We returned south towards Mogumber Road West, where I took two photos of a Dryandra near the roadside which we are not able to identify.

We took Mogumber Road West towards the Brand Hwy stopping on left 6 or 7 km after Fynes Road, and just beyond « Quins Hill ». Here we found the silvery leafed *D. carlinoides* covered in dark chocolate brown buds. Flowering along side it was *D. echinata* in flower. We did find the some *D. carlinoides* in flower and even some pink flowers.



***D. carlinoides* pink form**

Tim

Nearby we also found *D. echinata* covered in bud and flowers besides *Lambertia multiflora* together with *D. purdieana* with a few flowers.

Then we took the Brand Hwy going north and stopped at what is called the « Patch », taking the gravel drive on the east side of Hwy opposite the « B50 » sign, 7km south of Cataby (3 or 4 km south of Yandin Road). Here we saw *D. lindleyana* subsp. *pollostata* in flower, *D. prionotes*, *D. shuttleworthiana* and *D. bipinnatifida* subsp. *multifida* with new leaves and *Isopogon linearis* in flower, all growing in lateritic gravel.

Then we continued another 80km north on the Brand Hwy, stopping 4km South of Tootbardi Road where we found *D. glauca* in flower and also the buds with their long stamens. *D. stenoprion* was clearly identifiable by its long leaves with a thick yellow midrib and overlapping dentations near the top of the leaf. Underfoot there were some beautiful *Caladenia lorea* in flower and in the bush the first flowers on *Verticordia grandis*.

Wednesday 24th August (morning at Hi Vallee Farm)

A most enjoyable morning was spent touring the bush at Hi Vallee Farm with its owner Don Williams who explained that from here to Mt Lesueur was « the richest place in the world » for plant species, due to four factors : firstly, the long time for evolution ; secondly, very poor soils, so plants have to be tough, which prevents any one species becoming dominant ; thirdly, the large variety of soil types in the region, duplex sands, clays, laterites over kaolin clay, and aeolian sand ; and finally, because it is a cross-over zone between Marri woodland species (on southern side) and Kalbarri species to the north.

On the tour of the property we saw *D. stenoprion* with its characteristic upright long leaves (~30cm) with a thick yellow midrib and overlapping lobes on the upper third of the leaf surrounding a honeypot type flower, *D. shuttleworthiana* with old flowers, *D. nana* in bud, the bud being surrounded by its beautiful bluey-silvery green leaves.

In the sandier soils we saw *D. bipinnatifida* subsp. *multifida* in bud, *D. kippistiana* var. *kippistiana* with its numerous yellow pincushion flowers fully open, *D. sclerophylla*, *D. tortifolia*, and *D. tridentata* in flower and indeed with one terminal flower. Then there was *D. noblis* subsp. *fragrans* in flower growing in a rocky spot on the hillside, and

D. catoglypta with its wide bluey-grey-green leaves in a lower spot.

Amongst the Banksias, I was pleased to see the habit of *B. candolleana*, the propeller Banksia, with its spreading form of nearly horizontal branches coming from the lignotuber, *B. grossa* with its orangy flowers and near spherical fruit with large capsules, *B. lanata* with its grey-green foliage with its characteristic purple pink young growth at the tips, *B. chamaephyton* and *B. incana*, with its surprisingly large fruit in comparison with its inflorescence.

Other proteaceae present were *Hakea neurophylla*, *Isopogon linearis*, *Petrophile pilostyla* subsp. *austrina* with its creamy white flowers tipped with brown and the woolly yellow flowers of *Petrophile serruriae*.

For the Myrtaceae there was *Calothamnus sanguineus*, the brilliant red inflorescences of *Beaufortia bracteosa*, *Verticordia grandis* just starting to flower, and the purple-red bracts of *Darwinia speciosa* advancing across the sand.

Other favorites were *Anigozanthos humilis* subsp. *humilis*, the delicate velvety bells of *Blancoa canescens*, and of course *Macropidia fuliginosa* already in bud. Otherwise we saw *Hovea trisperma*, *Loxocarya gigas*, *Tripterococcus brunonis*, *Androcalva pulchella* with its crinkled leaves and pink veined flowers emerging from velvety orange buds, *Calectasia narragara*, *Dasyopogon obliquifolius* and the related *Kingia australis*.

Wednesday 24th August (afternoon)

After lunch, we continued northwards along Tootbardi Road, and stopped on the left on the edge of Alexander Morrison NP, where *D. nana* was in bud, but growing in what seemed like solid blocks of laterite. Nearby we found *D. sclerophylla* in flower, *D. serratuloides* subsp. *perissa* also in flower, and *D. subulata* flowering with its beautiful bordeaux red pistils amidst its long strappy leaves.



***D. subulata*, Alexander Morrison NP Tim**

There were also *D. cypholoba*, *D. platycarpa* growing amongst *B. incana*, *Eucalyptus macrocarpa* and *Darwinia neildiana*.

We continued along Tootbardi Road, and crossed Coorow Green Head Road into Garibaldi Willis Road. About 1.5km before Wilmott Road, we stopped on the right, near the type location for *D. nobilis* subsp. *fragrans* although there are none there now to see. We did see *D. kippistiana* var. *kippistiana* in flower, *D. shuttleworthiana*, *D. stricta* with its pale yellow elongated thistle shaped flowers and a weird orangy *Isopogon* which we could not identify. Further along the road there were large *Banksia prionotes* bushes with a few flowers at the top and *B. burdettii* with an old inflorescence.

We turned west to Eneabba where we went north up the Brands Highway for 13km before turning left into Beekeepers' Road. Just beyond the railway on the left we found a stand of *B. elegans* that had been burnt fairly recently, some of which had huge lignotubers. There were no flowers but several buds. Also on Beekeepers' Road we saw *Guichenotia micrantha* (white), *Leptosema aphylla* in flower, and *Banksia leptophylla* which looks similar to *B. lanata*, but without the pinkish young foliage.

There were also some magnificent stands of *Banksia hookeriana* flowering profusely to the north of Beekeepers' Road between the railway and Brand Hwy, interspersed with the pink *Guichenotia macrantha* and very orangy white *Hakea costata* in flower. A bit further along we found *D. sessilis* var. *flabellifolia* in flower with its glaucous, near-rectangular leaves with 5 or 7 points.

Thursday 25th August

After a night in a chalet at Western Flora, we set off eastbound along Skipper Road, turning left into Bunney Road and then first right into Nebru Road, where we stopped on left after less than 1km in Wilson NR to see *Grevillea petrophiloides* in flower.

We passed a property between Nebru Road and Dog Hole Road where *D. fraseri* var. *crebra* grows but we did not stop to see it. Also in the area, on Hydraulic Road, the road to the north and parallel to Nebru Road there is *D. lindleyana* subsp. *media*, which again we did not see.

We continued until Kadithini NR and a large gravel pit on the left of the road, the type location for *D. trifontalis* which was flowering on a few widely dispersed large (3.5m x 3.5m) bushes. We also found *D. borealis* subsp. *eliator* in flower with its long pistils and spiky leaves. Nearby were some lower bushes of a *Grevillea* with creamy white flowers. A little further we found *D. purdieana* with some buds and flowers.

In the centre of Three Springs, in the planted up area opposite the Post Office, we saw a cultivated *D. fraseri* var. *oxycedra* with its finely divided blue-green glabrous leaves and its pale green young growth spurt near an attractive and extremely floriferous red flowered *Eremophila*.

We took the Midlands Road south across the salt marshes, and stopped near Marchagee NR (11km South of Coorow, good for verticordias later in spring), our eye being drawn to a good show of mainly white *Cephalopterum drummondii*, (with a few yellow ones). We saw many *Banksia prionotes* along the road and then stopped for a field of *Rhodanthe chlorocephalum*, 3.6km north of Watheroo and about 500m north of French Road. There we also saw the yellow flowered *Hakea recurva*.

Just south of Watheroo, we turned left and went 2km west along Watheroo road, where we stopped to look for *Caladenia dundasiae*, near « Hill End » sign. At Moora, we turned left and followed The Midlands Road where we passed Candy's Bush Reserve, just the southern side of the town. We continued along Midlands Road to the Great Northern Highway and turned south. 18km further we took the Waddington Wongan Hills road, until Mount O'Brien in the Fowler Gully NP. There we saw *Isopogon divergens*, *D. wonganensis*, and *D. comosa*, all in flower. At the lookout there was a



***D. comosa* Fowler Gully NP Tim**

good looking cultivated *Hakea petrophiloides*. Driving down from the lookout, we found, in the bush, 15 glaucous *D. pulchella* plants with a few flowers just opening.

From the town of Wongan Hills we took the road to Northam and York where we stopped in the motel for the night.

Friday 26th August

From York we took the Great Southern Hwy to Brooktown, then between Pingelly and Narrogin we stopped on the roadside near the entry to Kevin & Simone Landell's farm, marked with a « penny-farthing » just N of the « NG30 » sign. There we saw *D. armata* var. *armata* and *D. stuposa*.

Just after the NG30 sign, we turned left into Dents Road looking for *Banksia cuneata*, but we found only a few large, but dead bushes near the corner (RH bend).

We continued a few miles further south on the Gt Southern Hwy and turned right into Yornaning Road, crossed the railway, and turned right again onto a metalled road, not marked on the atlas (13th edition) and drove upto n° 14, where we turned left towards Yornaning dam. On a site with lateritic gravel we found in way of proteaceae *D. fraseri* var. *fraseri*, *Banksia sphaerocarpa* var. *sphaerocarpa* with old flower head, *Petrophile divaricata* covered with its inflorescents of yellow tubular flowers.

A bit further round the dam, amongst the leaf litter of the open woodland there were a few *Caladenia reptans* subsp. *reptans* in flower, many clumps of *Caladenia xantha* in full flower, some *Pterostylis*

recurva (Jug orchid) and some old Banded Greenhoods (*Pterostylis vittata*) flowers.

A little further still we found a *D. purdieana* with elongated thistle shaped buds and the flowers « opening backwards ». Nearby we also found a few *Thelymitra antennifera* in flower



***D. purdieana* near Yornaning Dam Tim**

We went through Narrogin, and drove south to Highbury, where we took Highbury Road West, then left into Chomley Road (which was dry enough to be passable) which we followed for about 6km before turning right into Elson Road where we saw a large patch of what Margaret supposes are *D. porrecta*, although the leaves « look different », which had one or two oldish flowers, amongst which were some *D. lindleyana* subsp. *lindleyana* in bud.

Just south of Woodanilling, 1km South of Robinson Road, at the Martup Pool pull-off, we stopped for lunch and looked for orchids, finding Fringed Mantis orchid (*Caladenia falcata*) in flower and the climbing *Drosera pallida*, which like orchids, is tuberous !

In Katanning we took the road to Kojonup where we turned north up the Albany Highway for 400m before turning left into (the other) Robinson Road (and following round to the left into Soldier Road and then turning right into Tunney Road) where we stopped near the Kojonup recycling station sign, right next to Myrtle Benn Reserve², where in a delightful gentle downhill slope of Wandoo woodland³ we found a *Caladenia longicauda* subspecies and numerous blood-red *Caladenia*

2 There is a also site on the Kojonup Boyup Brook Road going west, where after 8 km you turn into Farrar Road.

3 This area, although currently outside the reserve, may well be added to it.

filifera and numerous yellow *Caladenia straminichila* (formerly sp. *Moodiarrup*) all in full flower. There we also saw *D. tenuifolia* var. *reptans* (with old flowers) and *Lechenaultia formosa* on the forest floor.

When we arrived near Cranbrook, we turned right into Climie Road and stopped about 1km along the road where we saw *D. mucronulata* subsp. *retrorsa* with yellowish immature seed in head. Margaret says that on the Highway, about 1km south of Climie Road turnoff, there is a site on the left where *D. tenuifolia* var. *reptans* grows : A week later I tried to find it alone, but was unable to do so.

To be continued : Tim Darrington
February 2017

The New Garden at Millstone Manor, Kalamunda, Perth

I thought that I was probably overdue to share some info/pics of the sand garden up the back. It is coming along and the dryandras in it are doing pretty well – I downplay them slightly as the banksias and verticordias/pileanthes are doing



A group of very healthy banksias

even better. The garden is about 2½ years old but has grown phenomenally. I am finding it hard to believe how well it has been going. I have never had a garden in sand and so much of the doings are new to me. It certainly is different to the clay loams that I am used to trying to grow Western Australian native plants on. Given that most of the plants I have been trying to grow come from sandplains



then it makes some sense to offer them a comparable environment. So.....207 tonnes of Muchea loam - a loamy sand recommended by experts as the best of all - and a lot of hard work with spade, rake and wheelbarrow and I have about half an acre of sandgarden. Then to grow the plants, plant them out and install a trickle irrigation system connected to a bore supplying the water and I am up and running.



This and previous, general views of the sand bed

The pictures include some general shots of the layout, then a file with (mostly) banksias and dryandras and the third with mostly verticordias and Pileanthus. Basically with so many plants to choose from, I have focused on these four as the best – the banksias and dryandras as long term favourites giving a solid background and the more delicate and floriferous verticordias and Pileanthus giving a balance. There are quite a few other things there but these stand out. The banksias and dryandras I have grown from seed I have collected



Upper clay mound with mainly dryandras

in the wild and the rest have been a combination of purchases from the Friends of Kings Park sales that take place 3-4 times a year. The verticordias and Pileanthus are from a band of enthusiasts led by Hazel Dempster and Sally Page (nee Sally Moyle) and Jeff Mountstephen – all of whom, Sally’s parents in particular, feature strongly as pioneer growers in Elizabeth George’s book on the verticordias. With Hazel as leader they run a nursery under the auspices of the Wildflower Society in a polyhouse at the Landsdale Farm School north of Perth. It is only open on Thursday and Saturday mornings and is strictly a volunteer job – but they have more exciting stuff than anywhere I have seen. Sally grows stuff in her own as well and I get verts and pils from her too. I now have all the pileanthuses and about 75 of the 125-odd verticordias.



Dryandras and spectacular *Ptilianthus* together

They are doing well in the sand. I still have lots to learn but things are coming along amazingly – the plants grow thick and strong and flower massively – for the banksias and dryandras especially – far better than anything I have seen in 50 years of collecting in the wild. Must be all the water and

fertiliser. I still have lots more to do and the polyhouse is full of pots of seed/seedlings and a full cutting bed. Keeps me busy and fitter than I would otherwise be.

Because of problems with *Phytophthora cinnamomi*, I try to spray the gardens with a strong solution of phosphotus acid at least every six months, which so far seems to be working (certainly true if we judge from the health of the plants – Ed.). Certainly, the sand garden is a delight but some areas of the block still retain the original (heavy) soil and some unexpected losses forced me to look at soil water repellency as a possible cause. Hopefully, I have now solved the problem. And finally, Neil Marriott has watched with some fascination how my banksias have performed in the sand beds.

“Amazing about your Banksias – *B benthamiana* and *B audax* usually take YEARS to flower as they both develop lignotubers first!! My 10 year old *B audax* had its best flowering this year – about 12 flowers!!! *B benthamiana* has NEVER flowered!”



Spectacular *Banksia ashbyi* in full bloom

The last comment was on the basis that my 2½ year old *B. audax* has 30 flowers on it and I have two *B. benthamiana* one with 25 flowers and another with 15. These probably represent an extreme – though my *B. laricina* in the old clay garden has had well over 100 flowers each of the last two years. The dryandras are probably doing as well but not as showy.

Keith Alcock Dec 2016

More on *D. nobilis*

In NL69, I reported on problems with old plants of *D. longifolia* and *D. nobilis*. I pruned some of

“dead-looking” foliage from the former and while there has been some new growth, the overall plant appearance is still very much of an unhappy plant. Guess I will just have to wait and see. With *D. nobilis* I was more aggressive. I pulled off all the dead leaves on the inside of the branches and then pruned varying lengths off the ends of nearly all the branches. Over spring and summer, I was rewarded with multiple new branches developing from the cut stems and the plant looks extremely healthy. I



Massive new growth on *D. nobilis* Tony

expect it will have masses of flowers later this year. However, the insides of the stems from which I removed the dead leaves are as bare as ever, so this ploy has not resulted in any new growth. Oh well, worth a try.



No growth on bare internal branches Tony

Tony Cavanagh
February 2017

Updating the *Dryandra* Digital Archive

Thanks to a lot of hard work by Margaret, Lyn Alcock and others, we are steadily amassing a complete collection of digital pictures of all the *Dryandra* taxa. I originally wrote about this in

NL56 and include a paragraph from that article which outlines our requirements:-

“We are looking for pictures of the flower head (“flowers”), the plant form, flowering branches, plant habitat, new growth and any close ups showing any aspects of interest (even “arty” pictures will be considered). If you have it, include the date the picture was taken (month and year), the location (location in the wild or in cultivation) and any other relevant points. They need to be of good resolution, say around 1MB in size in the original picture, but it is preferable not to try to send more than a couple of such large pictures as email attachments. If you have photo editing software on your computer and can resize images, a good size for sending by email is to reduce the vertical dimension of the image to about 670-700 pixels as this will fill a computer screen and still be of satisfactory resolution. Or if your pictures are mainly landscape, reduce the horizontal dimension to 1400 pixels. If you have a large number of pictures, it is probably easiest to burn them to a CD/DVD/memory stick at full resolution and post it to me. Please contact me with queries. The email address to use is:

tonycav40@hotmail.com

The listing below is of taxa which are not complete and I would be grateful for additions to fill the gaps:

anatona (plant and habitat); *aurantia*; *blechnifolia* (plant and habitat); *columnaris* (flowerheads); *concinna*; *conferta* (both vars., “blue” is fairly well covered); *cynaroides* (plant and habitat); *cypholoba*; *drummondii* subsp *macrorufa*, subsp *hiemalis* (plant and habitat); *echinata* (plant and habitat); *epimicta*; *erythrocephala* var *erythrocephala*; *foliolata* (plant and habitat); *glauca* (plant and habitat); *mimica*; *montana* (flowers); *nobilis* subsp *fragrans* (plant and habitat); *octotriginta* ; *plumosa* var *denticulata*; *preissii* (flowers); *proteoides*; *pteridifolia* (all taxa); *sclerophylla* (plant and habitat); *seneciifolia* (plant and habitat); *serra* (plant and habitat); *squarrosa* subso *argillacea*; *stricta* (plant and habitat).

Tony Cavanagh
February 2017

