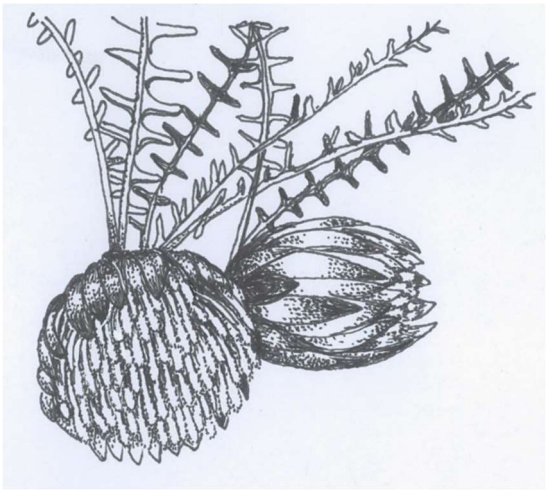

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DRYANDRA STUDY GROUP NEWSLETTER No. 85

AUSTRALIAN NATIVE PLANTS SOCIETIES (AUSTRALIA)

Dryandra erythrocephala var. *inopinata* in France Tim Darrington

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DRYANDRA STUDY GROUP

LEADER

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Welcome to what will probably be the penultimate newsletter.

When I realised that next year it will 50 years since Tony Cavanagh started the Study Group I decided to carry on until then.and to pay tribute to all the wonderful people, some of whom have been members from the start and are still contributing to the Study Group. In this issue, I have re-printed an account of the first 25 years and I hope to publish an account of the last 25 years in the next newsletter.

We have come a long way since 1974, when fewer that 50 taxa were were described and named and the newsletter was typewritten with photocopies of actual leaves as illustrations, to full colour printing and the publication of *The Dryandras,* with 139 taxa.

I won't be asking for subscriptions from now on and I will only be sending the newsletter to contributing members. Thank you to those who have paid.

I'm disappointed to note that dryandras seem to have been somewhat overlooked on television and in magazines since their sinking into *Banksia.*

On the bright side, I think we can be pleased with the accomplishments of the Study Group. The Dryandra Lovers Group Facebook site is providing information and photos from many people in Australia and overseas, including Study Group members. Lyn Alcock and Kevin Collins are doing a sterling job of posting photos, answering queries and identifying dryandra photos.

We could not have done without the help of Alex George who has been so generous with sharing his knowledge and expertise.

I have many wonderful memories, experiences and friendships to look back on and I'm looking forward to more visits and field trips with members in the near future.

Thank you all and, as Tony used to say: “Happy *Dryandra* growing.”

Margaret

The first 25 years

This is a reprint of the article I wrote in newsletter 37, June 1999.

As this is the 25th anniversary of the Dryandra Study Group, I thought it appropriate to review the achievements so far.

Victorian Tony Cavanagh, with the help of Alf Salkin began the study group in 1974. In his first newsletter, Tony reported that there were about 59 species of *Dryandra* and around 20 undescribed taxa, all of which occur in the south west of Western Australia.

Subsequent newsletters contained information on collecting and germinating seed and growing from cuttings. Tony also listed books and other publications where, what knowledge existed about dryandras could be gleaned and where illustrations could be seen as well as the key to their identification in *How to Know Western Australian Wildflowers* by Blackall and Grieve, first published in 1954.

In 1979, Alf Salkin reported that the Melbourne Herbarium had 30 named and mounted species; mostly due to Ferdinand von Mueller and many un-mounted specimens. Locations given for these early collections were often vague, for example 'the south west of WA' - and sometimes, misleading.

In May1980 the Study Group's 'living collection' at the Cranbourne Annex of the Royal Botanic Gardens in Victoria was established at the instigation of Alf Salkin. 185 plants (31 species) were planted; 100 more the following year. By 1987 there were at least 1000 dryandras in the plantation.Tony gives regular reports in the newsletter, we have had members' visits and Tony has recently helped to map the species in the plantation. There are about 115 taxa represented. Other Study Group members have been involved with this project over the years. Prior to leaving the country, Keith Alcock gave many seedlings to the project and to other interested growers and later wrote a detailed report of his germination results for the newsletter. This has been referred to by scientists doing similar trials.

One of Tony's particular interests is in the cultivation of Australian plants in Europe. He has published articles and lectured on the subject and provided fascinating articles for our newsletter.

In 1981, Keith Alcock made an 8 week visit to Western Australia, returning to Victoria with a huge collection of specimens and seed which not only vastly increased the Study Group's seed bank but also augmented, quite significantly, the collection of specimens at the Melbourne Herbarium. This made it the best collection of *Dryandra* at the time.

Tony was unable to carry on as leader, full time and Keith took over in 1983, building on the magnificent effort Tony had made in establishing the Study Group and gathering and disseminating so much information.

Keith began a series of articles based on his WA trip, when he located all but one of the named dryandras and collected many of the unidentified ones. Some had not been collected previously or were only poorly recorded. When Alex George was working on his revision of the genus, several of Keith's specimens were used as types.

I joined the Study Group about this time and began corresponding with Keith. I had 16 dryandras in my Perth suburban garden – now I have over 60. We learned that Alex George had begun his revision of *Dryandra* for Volume 17 of *The Flora of Australia,* (due out in 1988 but, finally his year about to be released).

With help with locations from Keith and Alex, I began collecting dryandra specimens and photographing plants in the wild and occasionally in cultivation, for a book on *Dryandra* which has long been the objective of the Study Group. I have also produced line drawings of the leaves, seeds and follicles and seedlings of all the taxa, as and when I found them, during many fascinating and enjoyable trips, accompanied by various friends – most of whom are Study Group members.

Ted Griffin, a consultant botanist in Perth had briefly described 10 'new' dryandras but within

a short period Alex's list of unnamed taxa was 55 and still counting! In *The Flora of Australia* there will be 93 species and 34 subspecies and varieties.

In 1984 Keith had another trip to WA during which he visited me. He had cartons full of specimens, most of which he seemed to able to identify but which were almost a complete mystery to me. I still had a lot to learn but I had the advantage of living in the 'dryandra state' and a copy of Keith's meticulous collection notes to help with locations.

1986 was a great year for *Dryandra* discoveries. We re-located several poorly collected taxa – two of which had originally been discovered by two different Study Group members from Victoria. Alex, who was at the time based in Canberra, made a collecting trip to WA in the spring and, by the end of the year, most of the new species had been seen and photographed in the wild.

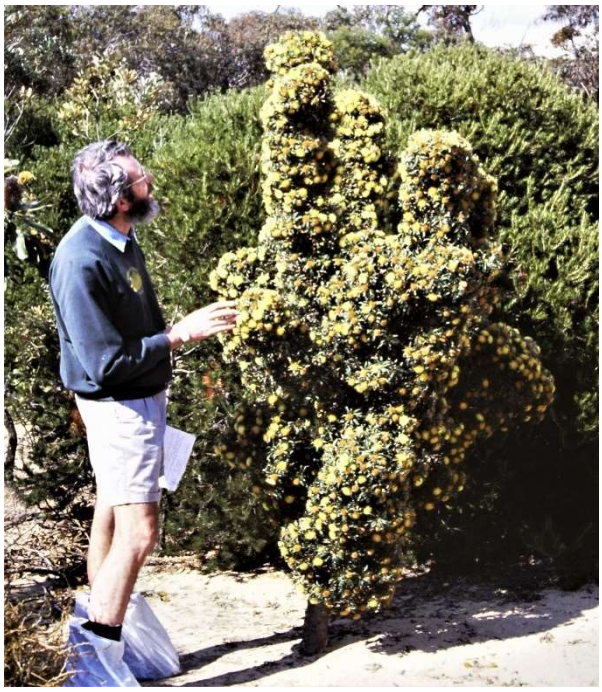
Several more taxa have been discovered or re-discovered since then – the latest in 1998. When the new dryandras were published in the WA botanical journal, *Nuytsia,* Alex generously gave his permission for the Study Group to publish an illustrated key to *Dryandra* as an interim guide before *The Flora of Australia* and our own, long-awaited book. This has proved popular with botanists and others working in the field and has been a revenue raiser for the Study Group.

I would like to thank all the members, past and present, who have contributed to the Study Group and friends who have accompanied me on field trips and those in country WA and interstate who have shown me so much hospitality. I'm particularly indebted to Tony who, when Keith announced suddenly in1987 that he was going overseas for a number of years, agreed to help me by taking over the task of producing the newsletter.

Many people have contributed during the last 25 years by writing articles, reporting on seed germination and growing results among other activities. Every report of dryandra growing, success and failures adds to our knowledge of cultivation requirements and is all valuable input that we wish to share in the hope that this beautiful genus will be more widely grown.

Tony checking labels at the Cranbourne plantation 10/7/90

Front: *D. subpinnatifida* var. *imberbis.* Back: *D. squarrosa, D. stuposa* and *D. longifolia* subsp. *longifolia.* 10/7/90



Tony and the densely-leafed form of *D. squarrosa.* 4/10/95

Photos taken at Cranbourne by Margaret.

Dryandra mucronulata subsp. *retrorsa* revisited

Back in the eighties, when Alex George was working on his revision of *Dryandra*, he told me about a collection by the late Ken Newbey of an un-described species. The location was 8 km south of Broomehill and several of us spent quite a bit of time, when in the area, driving around looking for it. All I knew about it was that it had long, narrow leaves. Later, when I saw a plant growing in a friend's garden in Mandurah, south of Perth, that I couldn't identify, I showed it to Alex who recognised it as the 'aff. *mucronulata'* that we were looking for. He described and named it *D. mucronulata* subsp. *retrorsa.*

The large flowered *D. mucronulata* subsp. *retrorsa* in cultivation, Mandurah. Margaret

I found out who had supplied the seeds to my friend and tracked her down to Albany. When I contacted her, she told me that she'd collected the seeds from a population of a few shrubs, north of Tamballup but that they had long been cleared. I was given some seeds by my friend and I grew it successfully in my Perth garden. (See newsletter no. 28). It was also growing in the garden of Doug McKenzie at Ocean Grove, in Victoria.

Alex had also collected it, years before, in a reserve off Albany Highway, north west of Cranbrook. While returning to Perth in September 1994, on a Wildlower Society trip to the Stirling Ranges, we stopped at the location. Everyone on the bus looked for the plants – to no avail. The following year, in March, while on a trip to Albany, I noticed some plants next to Albany Highway, west of Cranbrook. The leaves were narrower than usual for *D. mucronulata* and stood out stiffly from the branches rather than drooping. Closer inspection showed the characteristic, curved-back, (retrorse) lobes. With more information about the dryandra being made available, several more populations were discovered on private properties, including, apparently, the Newbey location.

In November1999, Kevin Collins and I found a few plants on a property just north of the Cranbrook location. The inflorescences contained about 150 flowers. We returned in 2014 and we found a few more in another site but the first ones we found appeared to have died.

A few years later, I went with Sarah Barrett from what was then called the Department of Environment and Conservation, to see a population of *D. ferruginea* that she had discovered on the south boundary of the Stirling Range National Park. As we drove west from Chester Pass Road, we looked at some plants of *D. mucronulata.* I was unable to tell whether they were subsp. *mucronulata* or *retrorsa.* These were the first of several that I looked at in other locations subsequently, that appear to be intermediate between the two.

A paper published in *Nuytsia* in 2012 titled *A Review of Banksia mucronulata* (*Proteacea*) the description of the species reads:

Banksia mucronulata (R. Br.) A. R. Mast & K. R. Thiele is a non-lignotuberous shrub endemic to the south west of Western Australia and comprising two recognised subspecies. *Banksia mucronulata* subsp. *mucronulata* occurs in the wesern and central parts of the Stirling RangeNational Park and south to Albany and Cheyne Beach and is not considered threatened. *Banksia mucronulata* subsp. *retrorsa* (A. S. George) A. R. Mast & K. R. Thiele is restricted to areas of remnant vegetaton in the southern Wheatbelt region near the towns of Tamballup, Cranbrook and Broomehill (George1996) and is gazetted as Declared Rare (Threatened) Flora under the *Western Australian Wildlife Conservation Act 1950* and ranked as Critically Endangered.

After examining 81 specimens of subsp. *mucronulata* and 29 specimens of subsp. *retrorsa,* the author of the paper, Kristine J. Brooks found that the species is variable, across its range with many intermediate forms and that there are “no consistent differences between the two subspecies. Therefore subsp. *retrorsa* is reduced to synonymy under *Banksia mucronulata. B. mucronulata* is known from over 15,000 square km and in at least 50 locations and does not require a conservation rating”.

I was extremely disappointed to get this news as this means that the large-flowered form of an otherwise rather insignificant species as far as flowers go, is no longer protected. As far as I know it doesn't occur in any reserve. Fortunately, thousands of plants were found on three properties in the region by Wendy Bradshaw and Sarah Barrett of the (then) Dept. of Conservation and Land Management Rare Flora officer in 2000. I resolved to visit these properties to see if there were any with inflorescences of the size and colour of the one in my previous garden. The opportunity arose when Kevin Collins contacted Wendy who had permission to visit the properties.

On 19th June, Brian Moyle came down to Denmark and the following day we drove up to the Banksia Farm at Mount Barker to join up with Kevin and Kathy and Wendy, who had arrived from Albany, where she now lives. She took us to a property, east of Tunney where the plants are growing on the top of a low, laterite outcrop surrounded by a large area of open woodland which has been fenced off.

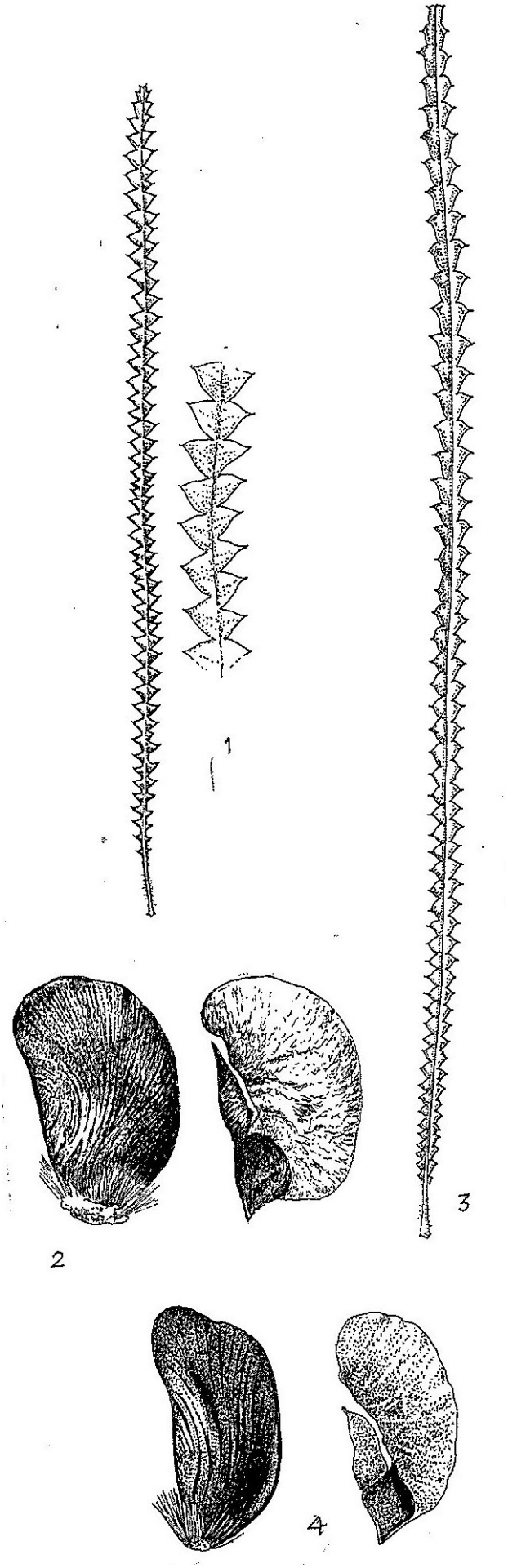
We looked for any inflorescences that had flowers with pink rather than yellow styles and pink colouring on the inside of the bracts and found just a few. Almost all of them were all yellow. Unfortunately, we didn't find any with the large flower heads (180 or more flowers), but a rough count of the flowers showed that there were not many fewer – about 160. The photo that Wendy took seems to have more than that, though. I didn't see this one but I hope Kevin was able to get some seed from it. Wendy took us to the nearby property that her family had previously owned. We were dodging heavy showers, all day and after we'd had lunch, out of the rain, on the verandah of an abandoned house, she took us to see a site where she had re-vegetated a large, previously cleared paddock. Several plants of *D. mucronulata* subsp. *retrorsa* are doing exceptionally well here.
Many thanks to all involved, especially Wendy who is following up some of the other sites where the dryandra has been found.

Margaret Pieroni 9/7/23

Kathy, Kevin and Brian and a large plant. Margaret

The rare pink form Wendy

Great flowering at Wendy's re-vegetation site Margaret



About the Cover Photo

When Tim Darrington sent me this photo of his *D. erythrocephala* var. *inopinata*, recently, I was astonished by the colour of the flowers. I asked Tim whether they were really this colour .
This was his reply:

I have been out in the garden, this morning, (7th July), to look at the inflorescences and I confirm that the 'violet(y)' colour is real – not just an effect of the camera or low light (e.g. at sunset or sunrise). I've also looked at your photo on page 120 of *The Dryandras.*

When I magnify the photos, the perianths seem to be covered with 'very fine, white velvet' but the colour, just under the 'velvet' is definitely in the dark pink to violet(y) range.

But, I think we should remember - this variant is 'inopinata' - so it does unexpected things!

The same subject, a week later, with ants Tim

On the subject of colour variations, my 'flat' *D. calophylla* varies according to whether it flowered in spring (April – red perianths) or in summer (July – greener perianths). My theory is that this variation is due to the ambient temperature at the time of flowering. In plant physiology (as I understand it), the sugars tend to turn redder when it gets colder; this is what happens to the leaves of many deciduous trees in autumn, just before they are shed.

Drawing opposite:
1 and 2: *D. mucronulata* subsp. *mucronulata.* Leaf X ½ , detail X 1, follicle and seed X 2.
3 and 4: subsp. *retrorsa.* Leaf X 1, follicle and seed X 2

News from Tim Darrington in France

In January Tim wrote:

In the UK, they had a very early cold snap around 15th December but the very cold air did not get as far south as Lyon/Vienne – so nothing bad here. Over Christmas and New Year, in flower are: *D. quercifolia, D. speciosa* subsp. *macrocarpa, D. fililoba* (very early, this year), and *D. mucronulata* subsp. *retrorsa.* *D. armata* var. *ignicida* will soon open its first flower.

In May, he wrote:

Most of my Proteaceae are now out of the greenhouses for summer but I've still got a lot of re-potting to do. I did lose quite a number of older, bigger plants at the end of last summer for various reasons, not least partial water failure at one end of the system, whilst we were on holiday and of course the dreaded phytophthora.

This winter, I've had a good show of pink *D. quercifolia* flowers and this spring both subspecies of *D. praemorsa, D. polycephala* and *D. sessilis* var. *cygnorum* are flowering abundantly again. *D. stricta* is coming into main flowering season and currently I have one flower on *D. ferruginea* subsp. *pumila* open. However, the one bud which does not seem to want to open is the unique bud on *D. epimicta*, which has enormous buds and it does have a foul smell. Do you think that insufficient, direct sun might be the cause of this?
I replied that if he was able to smell its foul odour, he had missed its flowering. The bracts only open wide enough – a centimetre at most, to let the blowflies in. Our hypothesis is that the flower head , by its feathery- looking bracts, small opening and foul smell mimics a dead bird and the blowflies crawl in to lay their eggs/larvae, thus pollinating the open flowers, within.

I have got some interesting, smaller plants coming on – ones I've never had before and I'm probably looking at a 'space crisis' for next winter (insufficient space in the greenhouses)

D. epimicta Tim

On 4th June Tim wrote:

Yes we do have 'blowflies'. The most well-known one is what we call the 'green-bottle'. I will wait to see if any seeds develop.

Two years ago, I mentioned, I think, that all the buds on my *D. ferruginea* subsp. o*bliquiloba* had aborted – just one tried to open but was distorted. Well – there were no buds last year and this year, most of the buds opened correctly although there were still a few that aborted.

D. ferruginea subsp. *obliquiloba* Tim

Otherwise, I have just completed my inventory and I have 52 taxa of *Dryandra.* 11 are only in seedling stage.

On 11th June he wrote:

We are having a long spell of thundery weather here, for over three weeks, now.

On the good news front, I have just seen that my *D. subulata* has developed its first bud which looks like it will open in the next month or so.

On 12th June Tim wrote:

I have just noticed that in the photos on the Dryandra website that *D. subulata,* at the bud stage do show what looks like 'grey fur' in the centre of the inflorescence,just before opoening – as mine does, at present.

Dryandra subulata Margaret

Tim also shared this information about this unusual species:

For the new name of *D. subulata,* when I was looking at the classification, two years ago for the renewal of my CCVS accreditation, (like Plant Heritage in the UK), the organisation which gives 'national collection' accreditation, I found against *D. subulata, 'incertae sedis'.* I am uncertain, now as to where I found this information but a quick google of the question led me to the wikipedia page for *Banksia subulata*, which says:

Early in 2007, Mast and Thiele initiated a rearrangement of *Banksia* by sinking *Dryandra* into it; *Dryandra subulata* thus became *Banksia subulata.* Mast's analysis placed *B. subulata* not with the other *Dryandra* species sampled but rather within a small clade of *Banksia* species with independently reduced inflorescence axes. For this reason, *Banksia subulata* was placed in *incertae sedis* in B. subg. Banksia rather than in B. ser. Dryandra with the other *Dryandra* species.

Dryandra aff. _fililoba_ – Better luck next time

On an extremely hot day in February, Kevin Collins and I drove up to Woodanilling, where we met Alex George to look at the populations *D.* aff. *fililoba.*

Kevin has had this plant growing for years and has successfully propagated it from seed. It differs from *D. fililoba* in having smaller leaves and flowers and a flowering time about 6 months later. (See N/L 82). The size of the leaves varies on plants within each population.

It had already flowered at the Banksia Farm but for several reasons, we were not able to get away at the right time. We were far too late for its flowers though. Jill Richardson, who lives nearby, will be keeping an eye on the plants so that we will can catch the next flowering. It could be as early as November, when Lyn Alcock took the photo below, a few years ago.

Link Rd.is unsigned from River Rd, south west of Woodanilling but goes through to Cromwell Rd via the western and northern boundaries of Strathmore Hill Reserve. The road and the reserve are remarkable for their flora, especially dryandras. Where the *D.* aff. *fililoba* occurs there are also 9 more taxa: *D. armata* var. *armata* and var. *ignicida, D. cuneata, D. lepidorhiza, D. nivea* subsp. *nivea, D. octotriginta, D. preissii D. rufistylis* and *D. sessilis* var. *sessilis.*

We looked at the populations of *D.* aff. *fililoba* at Strathmore hill Reserve, John's Well Reserve and at the northernmost place we know of, on Paterson Rd. where Alex collected specimens with (albeit, spent) flower heads.

D. aff. *fililoba* Lyn

Two possibly new taxa in *Dryandra*

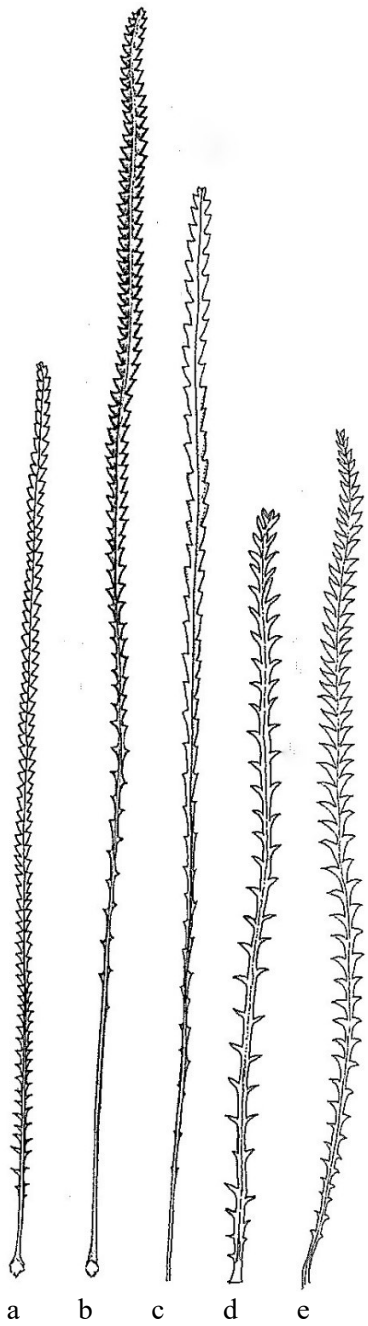
Last year Fred Hort sent me some photos and specimens of a dryandra he collected east of Harvey. (sp. Hoffman). It resembles *D. nivea* subsp. *nivea* having a mounding habit but the leaves are different. They have narrow lobes almost like those of *D. arctotidis* and the new leaves, surrounding the flower heads are clothed in long, white hairs. The plants in the photo, showing the habitat are an unusual shape, like a rounded pyramid rather than a dome. (*But Fred told me recently, that other plants were simply mounded, in various shapes.*)

Study Group member, Erica Shedley had also discovered another dryandra, south of Bridgetown, where she lives. (sp. Yornup). It is also a form of *D. nivea* that is different from the others. The dark blue-green leaves have wide lobes, somewhat like those of *D. brownii* and the flowers with their white hairs on the limb, dark pink styles and glabrous green involucral bracts are much like those of *D.* sp. Morangup. As far as I know the latter has not been described. Considering it to be a different taxon, we included it in *The Dryandras*.

D. sp. Hoffman showing hairs. Fred and Jean Hort

D. sp. Hoffman habitat Fred and Jean Hort

D. sp. Yornup Erica Shedley



a. *D. nivea* subsp. *nivea.* b. *D. nivea* subsp. *uliginosa.*
c. *D.* sp. Morangup. d. *D.* sp. Hoffman e. *D.* sp. Yornup. X1

Dryandras flowering in June-July

Dryandra cypholoba , Big Soak Plain, NW of Badgingarra
Kevin Collins

A pink flowering form at the same location Kevin

D. octotiginta. A very pale-flowered form in my Denmark garden with a terminal flower head at the top of the plant...

and 13 around the base . Margaret

FINANCIAL STATEMENT 1/7/22 – 30/6/22

Cash at bank 30/6/22	$ 1870.92
Income	
Members subs.	25.00
Donations	10.00
Total	1905.92
Expenses	
Stationery, newsletter and postage	278.36
Cash at bank 30/6/23	$ 1627.56