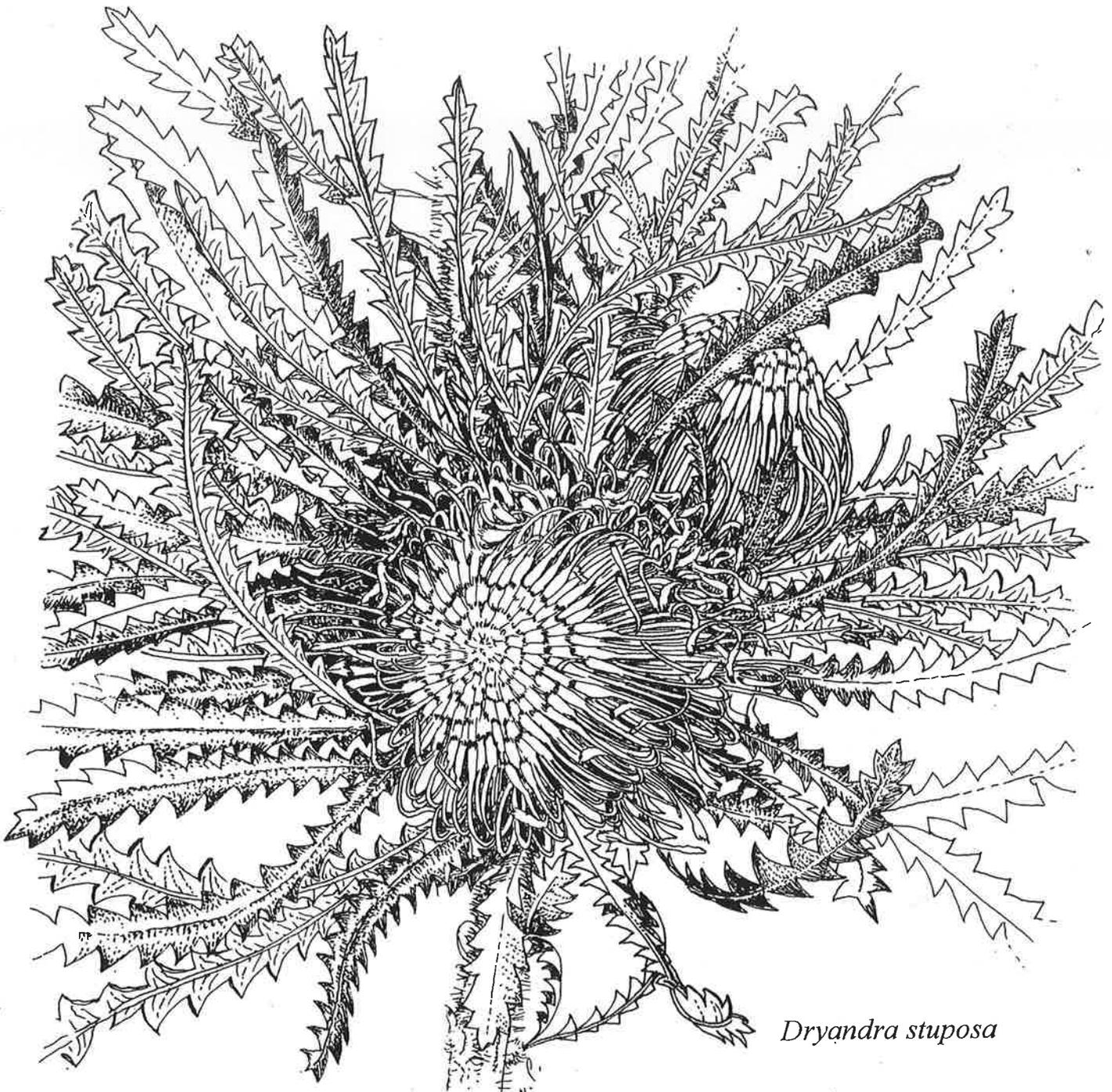


DRYANDRA STUDY GROUP
NEWSLETTER NO. 46



Dryandra stuposa

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ASSOCIATION OF SOCIETIES FOR GROWING
AUSTRALIAN PLANTS

Dryandra stuposa

This *Dryandra* grows in gravelly soils between York and Broomehill. It is closely related to *D. nobilis* subsp. *nobilis* with which it often occurs. *D. stuposa* has smaller, less deeply lobed, bluish leaves. It flowers mainly in summer but odd flowers may be produced all year round, making it a good subject for cut flower production. Terminal flowers, however are usually smaller than those on the short branchlets along the stem.

DRYANDRA STUDY GROUP

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Hello and welcome to 2004.

2003 was rather an up-and-down year for my dryandras. As I indicated in my article, we have partially recovered from several year's drought but spring rains seem to have encouraged late flowering of many plants, including some dryandras. The most interesting was *D. formosa*, still with a few flowers in late January, and a complete failure with the otherwise very reliable *D. longifolia*. *Dryandra nobilis* (replacement for one that died after 10 years) flowered well, second time now in four years and *D. squarrosa* was its usual prolific self. My *D. anatona* (cutting-grown plant from Ray Purches) steadily died back branch by branch and eventually died off but not before I had collected cutting material. This was set in late March and by October, four from six had rooted. These four plants grew strongly and I am hopeful of collecting more cutting material soon to see if I can repeat my success. *Dryandra squarrosa* is another that is successful from firm, young growth taken in autumn.

Margaret and I hope that you enjoy the newsletter. Thanks again to everyone who contributed information on their successes and failures. Margaret has provided additional material on dryandras observed in several of her trips around W.A. and an update on several new taxa described by Alex George and hopefully to be published in the W.A. Herbarium journal *Nuytsia* this year. Despite recent rains, areas of W.A. still appear to be suffering drought- at Mt. Benson near Ravensthorpe, she couldn't find even a bud on several hundred plants of *D. corvijuga* which don't appear to have flowered in three years. The coloured photos are of two uncommon dryandras, *D. catoglypta* and *D. cypholoba* from north of Badgingarra. I have grown the former which unfortunately blew out of the ground when in bud. Does anyone have experience with either in the garden? Hans Griesser has provided considerable detail of his success with dryandras in the Dandenongs in Victoria (and had a few failures as well). Thanks, Hans, I will see what information we have on frost resistant dryandras for the next newsletter. I have included an article on long-lived dryandras at Ocean Grove, as well as those which in my experience are very slow. I am sure that less than ideal garden conditions contribute to poor performance but am interested in others observations on this topic. The Group is financially healthy as the Balance Sheet shows. Margaret has also updated the illustrations for the Illustrated Key to cover the new taxa. The original was published as N/L 30 and also Occasional Publication No. 3; it should be attached as an appendix. The updated "Leaf shapes" page can be inserted as page v of the introduction. Lastly, to reduce stocks before Margaret's move to Denmark, copies of old newsletters are being offered at reduced rates. Please contact Margaret if you wish to purchase any.

The Fred Rogers Seminar on Banksias and Dryandras, Colac, Victoria, 4-5 September, 2004.

These seminars are held every two years and are sponsored by APS Victoria. Each deals with a different plant genus (or genera) and this year it will cover Banksias and Dryandras. There are specialist lectures, roundtable discussions and garden visits and it is a great opportunity to speak with the experts and meet others with the same interests as yourself. Margaret and I will be attending and speaking and it promises to be a great weekend. A registration form will be available to Victorian members of APS in March but if any of you from interstate are interested in possibly attending, please contact me and I will send you a form in March/April.

The *Dryandra* Book

Many of you have been waiting patiently for news on the book which has been one of our goals over the last few years. All the species descriptions with cultivation information are completed and Margaret has photographs of all taxa as well as general locality maps and line drawings of seeds and seed capsules, seedlings and leaves. Most the text for the four introductory chapters is finished and we are at present trying to estimate the total word length, number of pages, number of illustrations proposed etc, preparatory to seeking a quote from a publisher. APS has also been approached to see what funding might be forthcoming. A problem may be the size of the genera, around 135 taxa, which if all are illustrated as we would like, may lead to a large and possibly expensive book. We will keep you posted.

Happy dryandra growing

Tony

Dryandras after the drought and other news

First of all, thanks to everyone who has commented on our newsletter, contributed articles and expressed good wishes for my move to Denmark.

This year started badly, as far as *Dryandras* in the wild were concerned. As I reported in the last newsletter, the drought had affected natural vegetation everywhere and plants just didn't flower. Later in the season, however, after good rains, the bush has revived remarkably well. Even though *Dryandras* still didn't flower, there is good new growth on the plants that have survived and it augurs well for next year.

D. prionotes ms, this year, flowered even less than last, when we saw it for the first time, so I have not yet been able to photograph a good inflorescence. I visited the site three times but was unable to find any open flowers, so I don't know whether they were affected by insects and not 'presenting' pollen, as was the case, last year.

On the way to Eurardy station, in August, I spotted *D. borealis* subsp. *borealis* on the side of the highway, north of Northampton. *D. fraseri* var. *ashbyi* was also growing there. It had finished flowering but one late inflorescence on the *D. borealis* had caught my eye and, as is often the case, we found a hybrid plant. Its leaves were smaller, with narrower lobes than *D. borealis*, and not twisted.

Alex George decided, after all, to separate the large-flowered *D. ferruginea* (subsp. *magna* ms), which occurs near Nyabing. Another location is on Wedin South Road, north of Dumblebung. In early November, Elizabeth George and I were invited by the Friends of the Fitzgerald River National Park to give a presentation and join a *Verticordia* and *Dryandra* field trip to the Ravensthorpe Range and the Fitzgerald River National Park, so we took the opportunity to drive down Wedin South road on the way.

From the Old Line Road, between Toolibin and Tincurrin, we turned south and stopped at the first corner, where we found *D. meganotia* – the dense, columnar form. One plant was in late flower. Further down the road on a gravelly rise, we saw: *D. cynaroides*, *D. armata* var. *ignicida*, *D. sessilis* var. *sessilis*, *D. nivea* subsp. *nivea* and *D. conferta* var. *conferta* and on the next few rises, the *D. ferruginea*, only one with a single flowerhead. The rest of the plants we examined hadn't flowered. Judging by the size of the old flowerheads, northernmost plants had smaller flowers. I am not absolutely certain, therefore, that they were all subsp. *magna* ms. Seed follicles I have illustrated, from the Nyabing population, were very small, whereas those from these plants are quite large and vary considerably in shape. Growing in the same area were: *D. rufistylis*, *D. armata* var. *ignicida* and *D. vestita*. Further on, we found the *D. ferruginea* again, with *D. rufistylis* and *D. nobilis*. Of the *Dryandras*, only *D. sessilis* was flowering, but other plants, including *Verticordias* were flowering better than we'd seen for several years.

After meeting the group at Ravensthorpe we were driven to the top of Mount Benson, north of the town, in the Ravensthorpe Range. The vehicles picked us up again after a delightful stroll of about a kilometre and a half down the gravelly ridge. I examined almost every one of the hundreds of plants of *D. corvijuga* that we saw, but couldn't find even a bud. They haven't flowered in the last three years, I believe. Also at

Mount Benson are: *D. foliosissima*, *D. pallida* and *D. cirsioides*. Though none were in flower, we observed variations in the leaves of several plants, indicating hybrid swarms of the latter two species.

The following day, in the western part of the Fitzgerald National Park we found *D. falcata* and *D. cuneata* in flower and what appeared to be a hybrid of *D. cuneata* and *D. cirsioides* which is common in the area – again, not in flower.

I had shown slides to the group, the day before, of the beautiful hybrids near Mount Desmond, since killed by fire, most of which had *D. quercifolia* as one parent. I explained that, even though I'd never seen *D. quercifolia* flowering except in autumn, it is said to sometimes have the odd flower at other times of the year – which must be true, as some of the other parents, notably *D. corvijuga*, flower at least six months later. We were taken to see a disused gravel pit containing some magnificent specimens of *D. quercifolia* making lovely new leaf-growth. While we were there, one of the group found one small, single-trunked plant with a flowerhead on the top! What's more it was pink.

At Point Anne, we found a few low-growing shrubs of *D. falcata* with small, but numerous flowers. *D. obtusa* plants showed no sign of having flowered recently. The form there, has very narrow, finely-lobed leaves. The dominant *Dryandra* in this 'coastalised', as one man put it, heathland habitat is *D. cirsioides*. The prostrate form of *Banksia media* occurs here.

As I will be leaving my garden, here in Attadale, I have been pressing specimens of the *Dryandras* as they flower, at Alex George's suggestion - for the record. On my Denmark block there are two species, *D. serra* and *D. lindleyana*. As far as I know, the latter hasn't been recorded from the area. I think it's subsp. *lindleyana* var. *lindleyana*. At Mount Barker, about 60 km. to the north, plants are not completely prostrate and they might be var. *mellicula*, perhaps.

Before leaving for a year or so in the UK, Alex described most of the remaining unnamed taxa which I have incorporated into the Illustrated Key as well as a correction to *D. fraseri* and its varieties, by means of an appendix. I have also had additional copies printed of the booklet, (Occasional Publication no.3) with the extra page, the new "Leaf Shapes" and "see Appendix" inserted in the appropriate place in the key. We have included these two pages in this newsletter so that they can be added to the previously published key (it first appeared as newsletter no.30) or, the whole thing is available from me for \$5 plus 1\$ postage.

Most of these new taxa have been mentioned and/or illustrated in previous newsletters.

D. ionthocarpa subsp. *chrysophoenix* ms...N/1 No 39, page 9 and colour page.

D. fraseri var. *crebra* ms (as *fraseri* var. *fraseri* "Minyulo")...N/1 No.38, pages 7 and 8 and colour page.

D. fraseri var. *effusa* ms.....”

D. prionotes ms.....N/I No.42, pages 2 and 3, N/I No. 44 (colour page)

D. pteridifolia subsp. *inretita* ms.....N/I No.36, page 15 (as No.14)

D. insulanemorecinctaN/I No.36, pages 2 and 3

Margaret Pieroni 12/11/03

About the Photos

These are the next two *Dryandras* in the series of species that have not been illustrated in colour in any publication, as far as we know.

Dryandra catoglypta occurs at Don and Joy Williams's property 'Hi-Vallee', north-east of Badgingarra. It has been collected, but not seen again, as far as I know, near Mt. Lesueur. It forms a neat, often mounded shrub with the flowerheads along the stems, in the axils of the leaves, unlike *D. drummondii*, which it also resembles, which forms a dense mound of flowers around the base of the leaves. It is similar to *D. octotriginta*, but differs in having prominent, usually recurved, bracts on the stem (prophylls), a short petiole., a longer perianth, longer, narrower pollen-presenter and more flowers per head. The seed of *D. drummondii* is found at the base (point) of the separator, with the wing attached above it whereas in the other two species, it is on the side. It flowers in June – July.

Dryandra cypholoba occurs to the north and east of 'Hi-Vallee', in Alexander Morrison and Tathra National Parks and across towards Watheroo, on the Big Soak Plain. It forms a small clump with underground stems, similar to *D. lindleyana* and its subspecies, with yellow, 'honey-pot' flowers. The blue-green leaves with large, coarse lobes, recurved towards the apex, giving the leaf a rolled appearance distinguish *D. cypholoba*. It flowers in July – August.

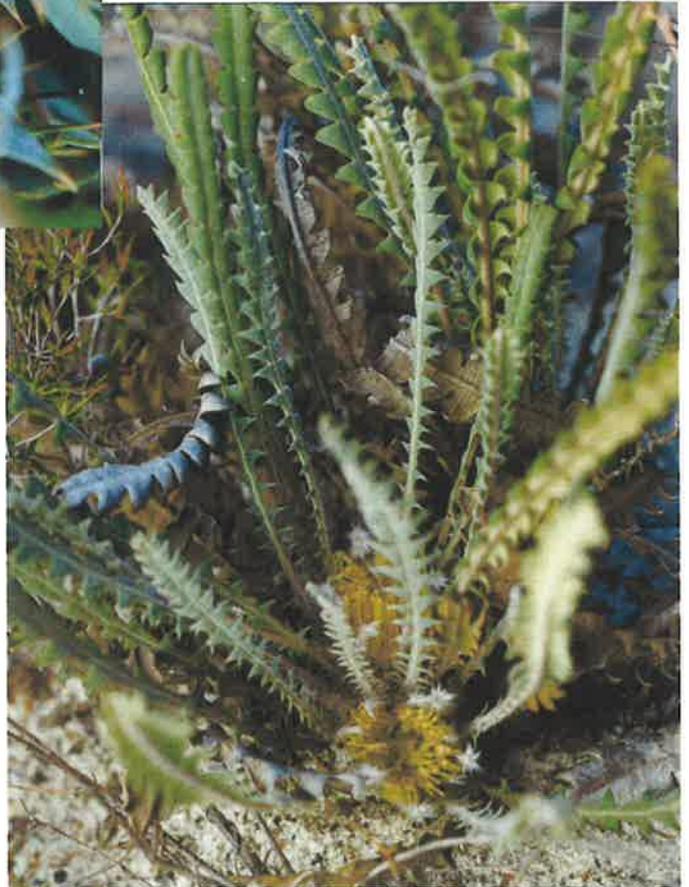
Margaret Pieroni 23/11/03



Dryandra catoglypta



Dryandra cypholoba



Growing Dryandras in Victoria and South Australia

The following are extracts from a letter from Hans Griesser. My comments are in italics. Thank you very much, Hans. M. P .21/10/03

I am writing in response to your request in Newsletter 44, about experiences, in cultivation, of specific "newer" Dryandra species and self-fertile seed -set of species. Also, in a belated response to Tony's article in Newsletter 42 and his request to list species as reliable or otherwise, I will give ratings for some 20 species, based on my experience with growing Dryandras in my previous garden in The Patch, near Monbulk, Victoria, on the lower eastern (inland) slope of the Dandenongs, 1989 to 2002. As I have been in my present property in South Australia for only a year and a half, there is nothing significant yet to report from here.

Of the species that are listed specifically in the request for information in Newsletter 44, there are only three that I tried in my previous Dandenongs garden. *D. ionthocarpa*, which I raised from seed, one plant, grew well but very slowly, established OK and flowered each year after 4 years of age. When I left the property, the plant was 10 years old and still looking healthy, a neat, little flattish shrub, perhaps half a metre in diameter. I checked some of the old flowerheads for seed-set but could not find any, as for other prostrate Dryandras, probably due to an absence of suitable pollinators. If experience with one plant means anything, it may indicate that this could be a reliable species for southern Victorian climates. On the other hand, *D. erythrocephala* and *D. ferruginea* (subsp. unknown), were unsuccessful. Of both species, I planted two plants raised from seed but all four plants died in their first or second winter. The two that survived the first winter, looked quite battle-scarred and never looked really good during the next summer and then succumbed. For the second *D. ferruginea*, I dug over the planting area thoroughly and mixed in several shovelfuls of sand, but this didn't help, either. So, I think that the problem was not insufficient drainage but simply a climate that was too cold and or wet for these species.

Dryandra erythrocephala is one that has proved very difficult to grow. In the Series Gymnocephalae, only D. speciosa, D. viscida and D. mimica appear to be fairly easy. D. ferruginea has several subspecies. The two for which seed is available from Nindethana, namely subsp. pumila and subsp. tutanningensis seem to be the hardiest.

As to seed-set, I am pretty sure that the following would be self-fertile, as the nearest Dryandra grower I knew of, was Bob O'Neill, about 15 km away: *D. cuneata*, *D. longifolia*, *D. nobilis*, *D. plumosa*, *D. praemorsa*, *D. sessilis* and *D. tenuifolia*. Other species (e g *D. fraseri*, *formosa*, *polycephala*, *pteridifolia*) also set seed, but of these I had more than one plant.

Now, my rating of the reliability of the other Dryandra species in the cool-wet Dandenongs climate:- By way of background, my 1-acre property was on a north-facing slope, sheltered from cold south-westerly winds and quite sunny in summer but shaded in winter by tall gums on the northern fenceline. The soil was the very well-draining, chocolate loam, typical of the Monbulk area, rather acidic but, combined with the slope, avoiding any waterlogging, despite the high rainfall, typical of the area. (I never measured the annual rainfall but believe it was well over a metre). The garden remained quite damp from April to October, with winter mist that kept the

grass continually moist and caused some problems for hairy-leaved Eremophilas but did not seem to bother most of the Dryandras. One winter, we even had snowfall for a few hours, which fortunately caused little damage, except for some tip-pruning. In that setting, the following species were **reliable**, in that they established well, grew nicely, survived in the ground for at least five years, (most were still alive when I left) and had flowered : *D. calophylla*, *D. squarrosa*, *D. conferta*, *D. cuneata*, *D. fraseri*, *D. ionthocarpa*, *D. kippistiana*, *D. longifolia* (subsp. *longifolia*, I think) *D. nobilis* subsp. *nobilis*, *D. plumosa*, *D. polycephala*, *D. praemorsa*, *D. pteridifolia*, *D. quercifolia*, *D. sessilis* (subsp. unknown, seed from a Perth garden), *D. squarrosa*, *D. tenuifolia* subsp. *tenuifolia* and a species whose seed was labelled '*D. preissii*' (from Nindethana) but did not match the description of that species. Tony suggested that it might be *D. shanklandiorum*, instead and the plant indeed, matched that description. Of about half of these species, I had two plants, the others, one plant only. *D. formosa* and *D. nobilis* plants grew very fast, the latter needed fairly heavy pruning to tame the long stems. A nice success were two plants of *D. polycephala* which were among the first Dryandras I raised from seed, and while that species is supposed to be touchy, they did very well and were covered in flowers each spring – good cut flower stems.

D. proteoides also did OK. One plant, raised from seed, was a bit slow to establish and looked a bit unhappy after its first winter, but recovered and then grew steadily and looked healthy. It had been in the ground for five years and was about a metre tall when I left the property but had not flowered yet. Not sure what the rating should be....

In contrast, in that setting, a rating of 'I' (for **impossible**) seems appropriate for the following species: *D. erythrocephala* and *D. ferruginea* (subsp. unknown) as discussed above, plus *D. speciosa* and *D. shuttleworthiana*. For example, I tried two plants of *D. speciosa* but with no success. One died at the end of the first winter; the next plant was put into an area into which I had dug some sand, but the plant struggled through its first winter (after spring planting) and succumbed in the second winter. Perhaps a more experienced grower might get them to do well with lots of TLC, but I think that they just don't like the rather adverse cool-wet climate and can't adapt well enough.

None of my Dryandra plants ever received any additional watering, but in the Dandenongs that's not a great feat. I subscribe to 'survival of the fit', in gardening and the notion that summer water might be detrimental, plus, I simply don't want to go to the effort of watering, except for very young plants still trying to establish, and even then, only if really necessary. None of my Dryandras ever looked stressed during those summers; in that area it's the winters that present the challenge.

I'm surprised that D. speciosa didn't do well. I wonder whether the plants were subsp. macrocarpa (from the Northern Sandplain) or subsp. speciosa (from inland, near Tammin)? The latter would probably fare better. Tony has found that he has more success with species from the southern parts of Western Australia.

I'd appreciate some information about the frost-tolerance of Dryandras. Here, (*in Gumeracha, SA*) in a rather exposed position, frost seems to be the main limitation to what I can grow. This winter I lost about 12 Banksia plants that I had planted last spring – only five survived. I hope that Dryandras are less frost-sensitive but I can't

find reliable information...perhaps a topic for the Newsletter? So far, my experience is very limited as I have planted only two Dryandras, (but I am raising a number of seedlings, now). A plant of *D. speciosa* got tip-burnt but is sprouting fresh, green tips now, whereas *D. formosa* was not affected by frost.

Frost-tolerance in Dryandra doesn't appear to be well documented and we welcome any information on the subject. A few species grow in parts of the Stirling Ranges, where snow occasionally falls on the peaks. Frost, however, is not a common problem in WA, it would seem. At Mt. Barker, one of the coldest places in the state, Kevin Collins is able to grow all of the Banksias and all but a couple of so far unobtainable Dryandras, very successfully.

DRYANDRA STUDY GROUP

FINANCIAL STATEMENT 1/7/02 – 30/6/03

Cash at bank at 1/7/02		\$1712.64
Income	Members' subscriptions	367.00
	Donations	66.00
	Sales of publications etc.	25.00
	Bank interest	4.79
		462.79
	Total	2175.43
Expenditure	Newsletter Expenses	250.00
	Bank charges	1.30
	Printing	20.00
	Stationery, postage, photocopying	75.00
		346.30
	Less petty cash in hand	29.95
	Total	316.35
Cash at bank at 30/6/03		1859.08

NOTES FROM MEMBERS

(From Elizabeth George, Alexander Heights, W.A., 11 July, 2003)

Here is an update of dryandras in my garden. Many species are more than ten years old and most have flowered. Unfortunately, I have also had a few deaths, in one case possibly due to drought, the others due to being covered by other shrubs.

My 13 year old *D. nobilis* var. *fragrans* died in March this year – may have been due to the drought.

Dryandra ionthocarpa, 12 years old, produced 35 flowers in 2002 but so far this year is not yet in bud.

D. drummondii subsp. *drummondii* at 12 years was also very successful in 2002, producing many flowers; it is in bud in July.

D. drummondii subsp. *hiemalis* was planted in June 2001 and had three flowers in 2002.

D. fraseri var. *fraseri* is regenerating after nearly being lost under other shrubs. It is 12 years old and this years has 13 flowers.

D. fraseri var. *oxycedra*, around 13 years old, is coming into flower in July.

D. fraseri Mt. Lesueur form (this has been given the manuscript name var. *effusa* by Alex George, a reference to its sprawling habit – Ed.) died over summer after being covered by other shrubs. It was nearly 13 years old.

D. lindleyana subsp. *lindleyana* has been very reliable, flowering well in 2002 and is currently in bud. It is also 13 years old.

D. speciosa is just developing its first buds (8 in total) after nearly 3 years.

D. nivea subsp. *nivea* has 6 flowers at 8 years.

D. catoglypta (form with a pale limb), has three large buds ready to open after 2 years.

D. polycephala is in full flower and is 6 years old.

D. calophylla, planted in July 2002, has more than doubled in size but not yet flowered. A previous plant survived 6 years and flowered several times but was smothered by other shrubs.

Thanks for this information, Elizabeth. It is interesting to see how early some of your plants flower, as young as two or three years. Must be the good growing conditions. Ed.

(From David Lightfoot, Melbourne, October, 2003).

A couple of additional species have flowered since my last report.

D. obtusa has five large inflorescences, *D. quercifolia* has just finished and *D. polycephala* is out as well.

Seems to have been a good year for you, David. Ed.

(From a letter to Margaret from Phil Trickett and Catriona Bate, Ainslie, Canberra, July, 2003)

Thank you for the seed you sent us in March. We have had spectacular success, including *D. drummondii* subsp. *hiemalis*, which let us down in our spring planting. All species have come up, with very high germination rates. The difference between our spring planting and our autumn planting is quite amazing. Autumn seems to be the time to plant *dryandra* seeds.

We are coming to Western Australia in August to explore the region north of Perth. We have booked into Hi-Vallee and Western Flora Caravan Park and are really looking forward to our first trip north of Perth. Thank you for the maps you sent us of good *dryandra* areas, they will be

extremely useful. We are keeping an eye on the weather over in W.A. as you seem to have had good rains so the plants should be excellent.

Hope the trip was all you expected, Phil and Catriona. If you have any notes or comments of the trip, I'd be very happy to publish them for the benefit of other members. Ed.

(From a letter to Margaret from David Shiells, Violet Town, Victoria, July 2003)

Here are the results from the seed you sent me last year.

Around half the species did not germinate. Probable reasons for this could include:

- Seed not viable
- Time of sowing (August – perhaps still too cold)
- Poor propagation methods – under or over watering.

Many seed did not appear viable, in fact in some cases, no seed had formed (even though we planted the capsule pieces and the dividers just in case). I used nail clippers to extract seed. After germination, the seedlings were pricked into 3 inch grow tubes, then potted into 6 inch pots. They will be planted out in spring. The results are tabulated below:-

Species	Germinated	Tubed	Potted
<i>bipinnatifida</i> subsp. <i>multifida</i> Hi- Vallee	5	5	5
<i>blechnifolia</i>	1	1	1
<i>catoglypta</i>	5	4	4
<i>corvijuga</i>	3	3	3
<i>ferruginea</i> subsp. <i>flavescens</i>	3	3	2
<i>longifolia</i> subsp. <i>longifolia</i>	6	5	5
<i>mucronulata</i> subsp. <i>retrorsa</i>	1	1	0
<i>octotriginta</i> Nyabing	7	7	7
<i>porrecta</i>	8	8	8
<i>pteridifolia</i> subsp. <i>vernalis</i>	2	2	2
<i>speciosa</i> subsp. <i>speciosa</i>	2	1	1
<i>stuposa</i>	2	2	2
<i>tenuifolia</i> var. <i>reptans</i>	1	1	1

In the garden I have lost *D. formosa*, possibly because I gave it too much iron chelates in trying to correct for yellowing. I also lost small plants of *D. nobilis* and *D. obtusa* but these will be replaced. Everything else is going fine. *Dryandra drummondii* is flowering now in July while *D. nivea* has buds. *Dryandra arctotidis*, *D. calophylla*, *D. polycephala* and *D. praemorsa* are still small but thriving.

There are some interesting plants among these, David and I hope that they all grow well for you. Please keep us posted. Ed.

(From a letter to Margaret from Paul Niehoff, Blackburn, Victoria)

Even though I have had relatively little success in growing dryandras, I certainly enjoy reading about them. I am trying mainly for cut flowers and have *D. quercifolia* growing very well in the ground and both *D. formosa* and *D. praemorsa* growing well in large pots (400 mm) in a mix of Green Wizard potting mix and propagating sand.

Paul, you could also try *D. polycephala* and *D. stuposa* (shown on this issue's cover) as these are both also good for cut flowers and should do well in large pots. Another relatively hardy plant with attractive flower heads (although not really suited for cut flowers) is *D. tenuifolia* var. *tenuifolia* which has lovely dark green foliage and large, brown protea-like heads; the plant is often sprawling and suits a large tub. Ed.

SOME OBSERVATIONS ON GROWING DRYANDRAS AT OCEAN GROVE, VIC.

2003 has something of a strange year for growing Australian plants, at least here in Ocean Grove. Victoria has had several years of drought or below average rainfall and most areas were under severe water restrictions. We received reasonable to above average spring rains but summer has fallen back to the old pattern of less than half the average and the garden is once again very dry. The most noticeable characteristic for me was just how late everything was in flowering, anything up to 6 weeks later than normal. Amazingly, I still have a few buds and flower heads on one *D. formosa* at the end of January, yet for the first time in more than 15 years, neither of my *D. longifolia* subsp. *longifolia* plants flowered and a 20 year-old plant of *D. nervosa*, which always flowers around Christmas, has hardly any flowers this year. Others like *D. squarrosa* subsp. *squarrosa*, *D. cuneata*, *D. nobilis* and *D. sessilis* var. *sessilis* flowered prolifically as they usually do.

Over the years, I have tried probably around 60 *Dryandra* taxa and many of these are listed in my article in N/L 42 (pp. 9-15). Some were never successful while about eight species have proved long-lived in our conditions. Our average rainfall is supposedly around 500-600 mm but has been much less for the last few years; the winter/summer ratio is about 1.3 but rain can occur any time of year. Much of this so-called rain is virtually useless for garden plants, falling as drizzle over several hours and registering as a few mms which barely wets the surface. My soil is basically shallow clay-loam over buckshot-clay so I have used raised beds extensively. However, the roots of larger shrubs eventually penetrate the raised bed soil and after they reach the clay, less hardy species can die quite suddenly even though they are apparently healthy. This happened to a 10 year old *D. proteoides* which had reached 1.5 m and had flowered for several years. In the few areas of the block where the soil is better or deeper, plants grow well with no special treatment. I have tried to avoid watering after the first summer and many of the garden beds around the boundary have not been watered artificially for many years. The ground becomes incredibly dry and it is amazing how plants survive, although our relatively low summer temperatures (maximum exceeds 30 °C on only about 25 days annually) do help. In these conditions, some dryandras have proved much more reliable than others and I will talk about them in several groups.

Long-lived and reliable flowerers

This group includes *D. formosa*, *D. sessilis* (both var. *sessilis* and var. *flabellifolia*), *D. squarrosa* subsp. *squarrosa* (the old "D. carduacea"), *D. cuneata*, *D. longifolia* subsp. *longifolia*, *D. nobilis*, *D. nervosa*, *D. baxteri*, *D. nivea* subsp. *nivea* and *D. praemorsa* (although my original plants of this last have died, seedlings have replaced them naturally in the garden). These have all lived for between 15 and 23 years but I cannot stress enough that to achieve this long life, they need to be well established by watering in over their first summer and also have a suitable position in the garden. Some like *D. nivea* seem to be fairly versatile and can tolerate damp or very dry conditions. The latter situation for me means that specimens rarely grow bigger than 30-40 cm high. *Dryandra nobilis* thrives in a near full-sun spot which is very dry and is never watered. I believe that *D. longifolia* is probably the toughest dryandra, for me growing in full shade (where it does not flower much) to full sun. I have dug up 10 cm seedlings from the garden and have both transplanted and repotted them with equal success. The prize for foliage among dryandras in my opinion goes to *D. baxteri* with its dense, long, soft, fine leaves crowded along the stems. The small, disc-shaped brown flower heads are not all that attractive but I have two plants, one in natural soil and the other on a raised bed which are 23 and 15 years old respectively. It benefits from pruning and can be cut back hard, which may be necessary as it can grow large and straggly. *Dryandra cuneata* is in natural soil and in a dry, sunny position and has flowered every year since it was three years old. Although a little straggly, its bright yellow flower heads and bright green foliage more than

compensate. *Dryandra squarrosa* is a prolific flowerer and always grows rapidly; it is another that flowers young, at two or three years. It also strikes reasonably well from cuttings taken in autumn. I was disappointed in 2002 to see so many *D. nervosa* dying from *Phytophthora cinnamomi* in the Cape Arid National Park but for me, it is a long-lived and interesting plant. Its felted pink-brown new growth in spring is outstanding and it always grows as a "ball" to about 1-1.5 m across with the creamy flower heads hidden inside the foliage. The several plants I have flower at different times, one always around Christmas, the others around March-April.

Long-lived but not now flowering

This group includes *D. cirsioides*, *D. proteoides*, *D. fraseri*, *D. brownii*, *D. ferruginea* ?subsp. *obliquiloba*, *D. lindleyana*, *D. arctotidis*, *D. speciosa*, *D. obtusa*. In nearly all cases, the plants which were formerly in at least part-sun situations are now in shade or are in beds where the moisture regime has changed substantially because of the progress of tree roots. I have planted specimens of several on a new raised bed in near full sun where hopefully they will grow and flower successfully. These species in the old garden areas have an incredible ability to hang on even when it is exceedingly dry, and most are more than 15 years old. However, they were all well established before their situation changed and my attempts to grow them again in other garden locations have not always been successful. Their most noticeable feature is that they have hardly grown at all over a number of years and the only reason I have not pulled them out is that I doubt that I will find anything else to replace them – they really are in very tough conditions. *Dryandra brownii* does not appear to flower regularly in cultivation and the flower heads are often hidden in the foliage. On inspection I found that one of my old plants which I thought had never flowered, had actually done so for several years.

Species very slow to establish and/or slow to flower

In many cases, the plants in this group are again in very dry areas and have received little water or are relatively shaded. In two cases, *D. obtusa* and *D. calophylla*, plants in my new bed which has deeper soil and is watered more regularly are already bigger after 12 months than five year old plants elsewhere. Those which I have found to grow extremely slowly or take 5 or more years to flower include – *D. calophylla*, *D. obtusa*, *D. drummondii*, *D. porrecta*, *D. lepidhoriza*, *D. epimicta*, *D. foliolata*, *D. ?pteridifolia* subsp. *inretita* (m.s. name). I was told by a grower near Bendigo in central Victoria that his plants of *D. obtusa* just sat and hardly grew for over five years, a situation I have also experienced. I think however, that good soil or sand and watering makes a major difference. *Dryandra drummondii* has four nice buds in January, only the second flowering in ten years. I missed *D. lepidhoriza* which appears to have flowered in late 2003 but like *D. porrecta* it has its flower heads at the ends of underground stems and they can easily be covered by dirt or leaves. Both species are growing slowly for me and are probably at least five years old and still no more than 30 cm across. *D. porrecta* has several buds in January. The other prostrate species, *D. calophylla* after six years during which time it grew to about 40 cm across has put on a growth spurt in 2003 and is now about 80 cm across. It flowered for the first time in 2003. The prizes for the slowest flowering must go to *D. foliolata*, followed closely by what I think is a plant of one of the newly named *D. pteridifolia* forms, subsp. *inretita*. I grew *D. foliolata* from seed collected from a garden plant at the Maranoa Gardens in Melbourne over 20 years ago. It has grown somewhat straggly with age, about 1.5 by 2 m, and I had to prune a lot of dead branches off over the last few years. It flowered for the first time late last year, hardly very spectacular with numerous small red-brown flower heads clustered around the stems in groups, with fine floral leaves partly surrounding the heads. Margaret tells me it is a spectacular plant in the Stirlings and has nice new growth but it certainly seems to be a very slow flowerer. Over 15 years ago, Keith Alcock gave me some dryandra plants including one which we thought was a form of *D. pteridifolia* as it had the twisted leaves and leaf lobes which characterise this species. It was planted

in a raised bed and has survived shading and competition from a large lemon scented gum but is still only about 30 cm high. I have been amazed that it survived at all as the bed is powder dry but in 2002 it had a single flower head, low down on the bush like in typical *D. pteridifolia*. I am a little hazy on the details but I seem to remember that it looked like the pictures Margaret had shown me of the aff. *fililoba* (ASG 16731) which has now been given the manuscript name subsp. *inretita* by Alex George. Another plant in a similar bed has yet to flower. Maybe they will flower again in a few years.

I would be interested in other's experiences with long-lived dryandras or those which are slow or have failed to flower in the garden. Please let Margaret or I know.

Tony Cavanagh
Ocean Grove, Victoria.

Back Newsletters

Tony Cavanagh, founding leader of the Study Group produced our first newsletter in 1974, (Yes, we are 30!) During his 9 or so years, Tony's newsletters contained information that was then known, on *Dryandra* and published member's contributions on cultivation, articles on early botanists and their explorations, locations of dryandras and member's trips to WA, the foundation of the Cranbourne (Vic.) living collection and much more.

In 1983, Keith Alcock continued Tony's good work, adding more and more information, as it came to hand. He published newsletters nos. 1-10 as a spirally-bound book

In 1987, when Keith went overseas, I took over the leadership, when Tony agreed to help as newsletter editor, for which I continue to be very grateful.

Alex George, whose contribution, over the years has been essential and very much appreciated, revised the genus *Dryandra*, in 1996, describing and naming over 60 new taxa. Our newsletter no. 30 contains an illustrated key to the genus, since re-published as Occasional Publication No. 3

Since 1999, we have been featuring a colour page, thanks to our member, David Lightfoot.

We are offering back copies of all newsletters at reduced prices, from me, plus postage, at:

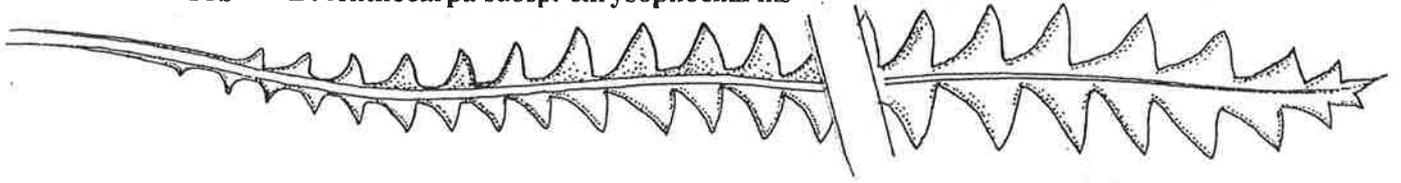
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A complete set, up to N/L No. 44 can be purchased for \$50, plus postage of \$7.90.

APPENDIX

Page 3. without lignotuber (Kamballup)
 58a *D. ionthocarpa* subsp. *ionthocarpa* ms

with lignotuber (Aldersyde)
 58b *D. ionthocarpa* subsp. *chrysophoenix* ms



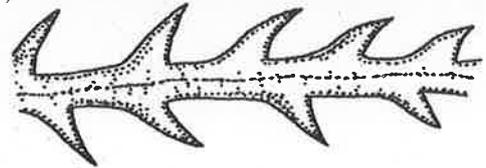
Page 4. 49a *D. pteridifolia* subsp. *pteridifolia*

49b *D. pteridifolia* subsp. *vernalis*

49c small floral leaves
D. pteridifolia subsp. *inretita* ms
D. sp. ASG 16731 (Page 18)

Page 5 42g. *D. ferruginea* subsp. *magna* ms

Large flowers, strongly revolute leaf margins. Nyabing and north of Dumbleyung.

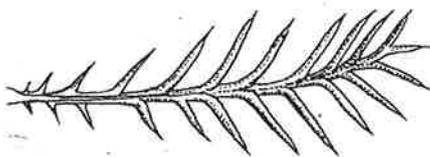


Page 8. 23a. *D. fraseri* var. *fraseri*



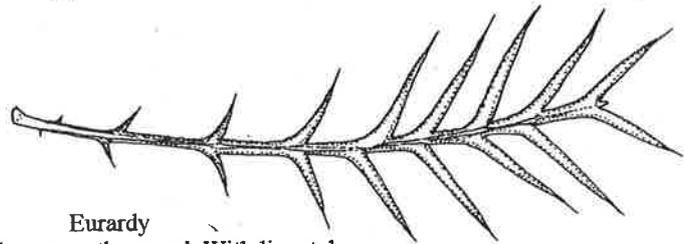
Sprawling shrub with lignotuber
 Moora to Cranbrook inland to
 Dumbleyung and Kellerberin

23b. *D. fraseri* var. *ashbyi*



Moresby Ra.

Shrub to 1 m at southern end of range, to 4 m at northern end. With lignotuber
 North of Eurardy to Geraldton



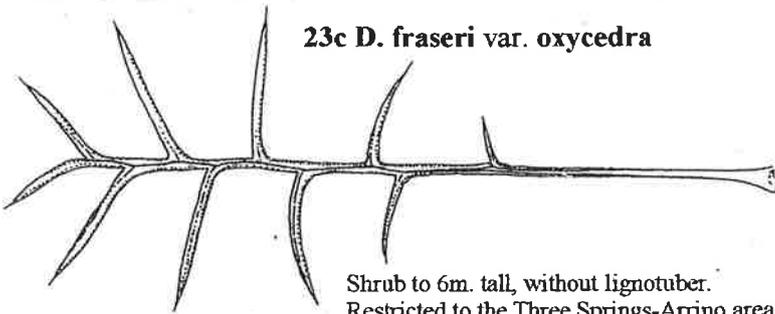
Eurardy

23d. *D. fraseri* var. *crebra* ms



Usually a more or less procumbent shrub
 Leaves blue-green. Eneabba-Dandaragan

23c *D. fraseri* var. *oxycedra*



Shrub to 6m. tall, without lignotuber.
 Restricted to the Three Springs-Arrino area.

23e *D. fraseri* var. *effusa* ms

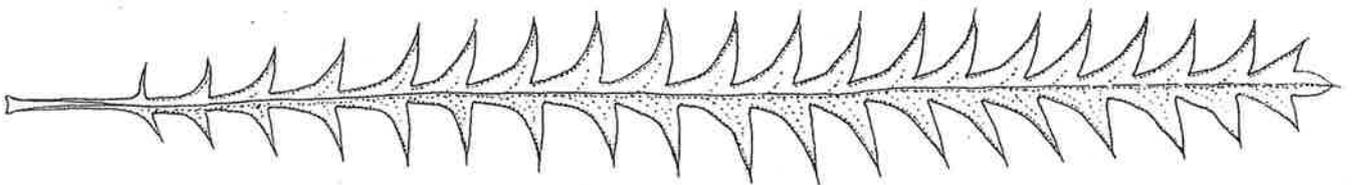


Lesueur form. Involucral bracts large.

Page 12

Second 71: Leaves erect with 10-18 lobes each side, floral bracts pubescent in upper half,
 follicles 13-16 mm long

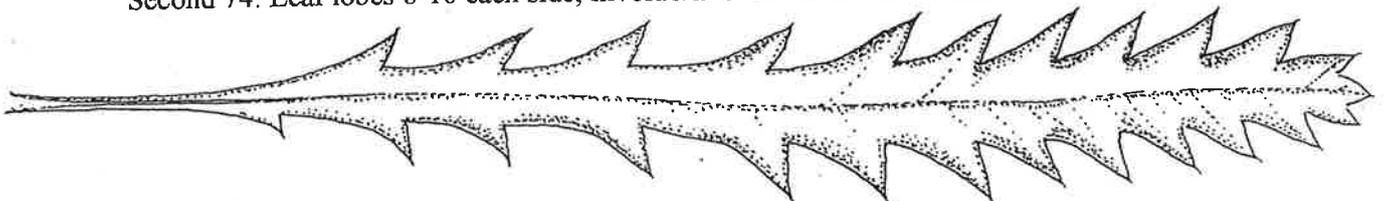
D. prionotes ms



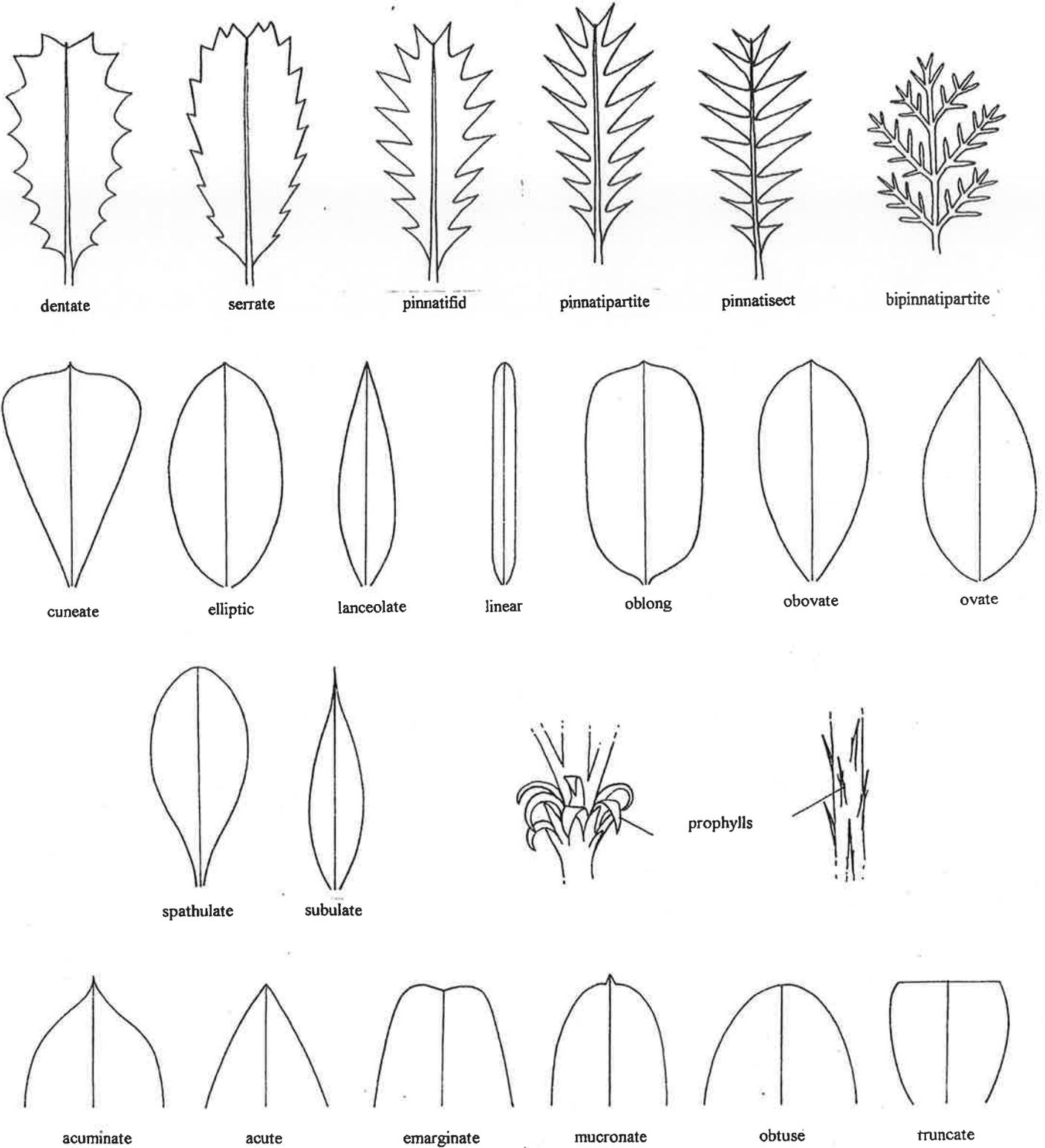
Page 13

Second 74: Leaf lobes 8-10 each side, involucral bracts linear to subulate

D. insulanemorecincta



LEAF SHAPES



pinnatifid: with leaf lobes cut half-way to the midrib.

pinnatipartite: with leaf lobes cut almost to the midrib

pinnatisect: with leaf lobes cut to the midrib