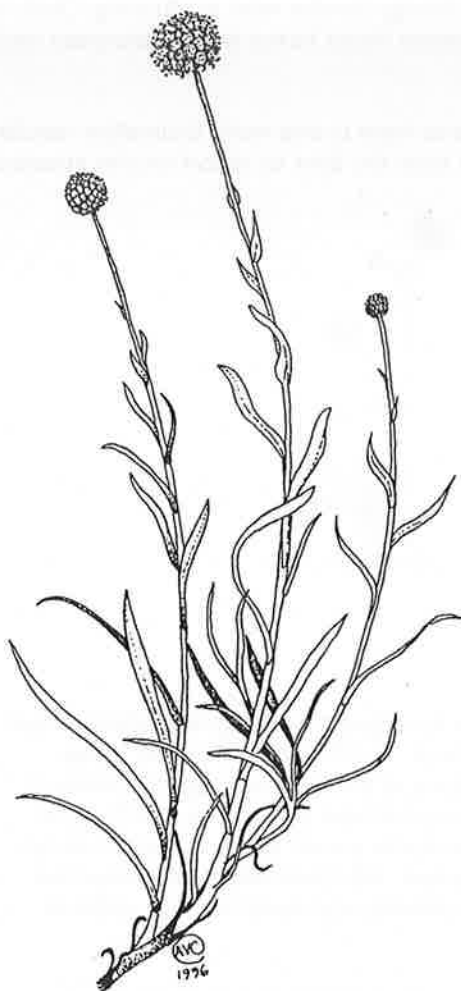


ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

ABN 56 654 053 676

THE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO. 71



Pycnosorus chrysanthes x 2/3
(illustrated by Ailsa Campbell)

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LEADER'S LETTER

It was lovely to see such a large gathering of members at the Royal Botanic Gardens, Cranbourne, last November. It was a wonderful finish to a busy year, and exciting to see the progress made on the new Australian Garden. We were greatly impressed by the landscaping and plantings already done, and the way that the whole concept is now coming together. Stands of mature xanthorrhoeas are stunning. I am sure that when it opens to the public the Garden will create a resurgence in interest in native plants. Our thanks are due to John Armstrong who opened the Friends' (of RBG Cranbourne) nursery to us. Needless to say members took full advantage of the opportunity.

This newsletter contains an abstract of the report by Ray McMahon who studied *Cratystylis conocephala* last year as part of the Esma Salkin Studentship. The full report will be made available to members if requested. I am pleased to report that the recipient of the studentship this year is Margy Hawke who is studying *Olearia rugosa*. There are four distinct forms in Victoria, and the variation between these forms will be analysed and taxonomic implications considered.

Looking to the year ahead, we will be continuing our study of *Olearia*, and hope to see more cultivation results coming from members. Every little bit of information helps, so please take the time to report on the species you are growing (or perhaps have tried to grow without success).

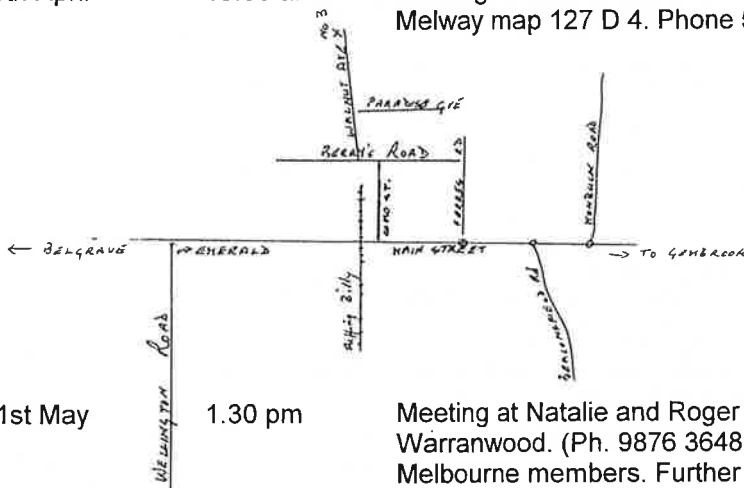


Cheers, *Joy*

COMING EVENTS

Tuesday, 15th March 10.00 am Pat and John Webb have arranged a meeting at Fiddlers Green 57 Gloucester Road, Berwick. At 12.30 we will move to the home of Clarice Montgomery at 32-34 Beaumont Rd, Berwick, where we will have lunch and admire the garden. (BYO tea or coffee and thermos.) Afterwards we will move to Faye Candy's garden at Gamble St, Berwick. We have often mentioned the size and colour of Faye's daisies, and there is much more to see besides daisies.

Tuesday, 19th April 10.00 am Meeting at Trish Tratt's home at 3 Walnut Ave, Emerald. Melway map 127 D 4. Phone 5968 3892.



Saturday, 21st May 1.30 pm Meeting at Natalie and Roger Peate's home, 26 Kardinia Cres, Warranwood. (Ph. 9876 3648.) Dinner will be provided by Melbourne members. Further details will be supplied later.

Sunday, 22nd May

It is hoped that an expedition can be arranged, finishing in time for country or interstate members' return trips.

ABSTRACT from the ESMA SALKIN STUDENTSHIP REPORTby **Ray McMahon**

Only three individuals of *Cratystylis conocephala* are known to remain in Victoria. These plants occur together at Mallanbool Flora and Fauna Reserve in far northwest Victoria and were relocated during this study. Recruitment on new plants does not appear to be occurring and no properly formed seed was observed. These plants occur in the heart of the reserve and weeds or grazing do not appear to be threats at present. However, the drought appears to be causing stress and may be preventing seed development. In addition, three plants were also located at Rufus River, NSW.

DNA comparison between plants from Mallanbool Flora and Fauna Reserve indicated a different genetic profile and therefore did not support the theory that this species may be clonal.

Soil tests indicated acid soils with a pH range between 5.45 and 6.70, with low Ec values at Mallanbool. This contrasted with higher pH levels in areas in South Australia where the species was reported to be common. Soil pH at the Rufus River site (NSW) was neutral.

Attempts to propagate *C. conocephala* from cuttings were a total failure, succumbing to fungal attack and leaf drop. However, lessons were learned. In contrast, seed originating from Caplerum Station in South Australia germinated readily. Unfortunately, seedlings were devastated by caterpillar attack, with only a few surviving after 10–12 weeks. Seed from Blackwood Seeds was also sown, without success. This may have been due to a uniformly smaller seed size compared to the Caplerum Station seed. Seed age may have also been a factor, as the Blackwood seeds were 2–3 years older.

Future work may determine successful methods of propagating *C. conocephala* from cuttings which may allow *ex situ* conservation of genetic stock from Victoria's last known population. In turn, additional plants could then be reintroduced to Mallanbool Flora and Fauna Reserve and may promote a self-sustaining population. Lessons from this study may help guide and improve further work on *C. conocephala*, with potential applications to other plant species and other sites.

SPECIES OR FORMS NEW TO MEMBERS***Helichrysum rupicola***

On a recent trip to Queensland (our first) we were pleased to see a daisy new to us. We were especially pleased because, as with our trip to Western Australia, we found ourselves in drought conditions and very few plants were flowering so the new daisy caused an unscheduled stop and some excitement.

We saw it flowering on the roadside at the top of a small cutting on the road from Mission Beach to the Bruce Highway, among some native grasses and herbs and close to rainforest. The plants were about 20–30cm tall with grey-green, fairly hairy, branched stems, lanceolate leaves and large, yellow, flat-topped flowers. We didn't have any plant books for that area but had bought a delightful book on the flowering plants of Cooktown and Northern Australia by Vera Scarth-Johnson — *National Treasures* — while in Cooktown and found in that a drawing of *Helichrysum rupicola* which matched our new daisy.

On our return home I was able to check the description for *H. rupicola* in the *Encyclopaedia of Australian Plants* (Vol 5, Elliot and Jones) and was fairly certain that this was what we'd found. I

sent Judy Barker a small specimen and she agreed that it was either *H. rupicola* or perhaps *H. collinum* and kindly sent me information on both. We have *H. collinum* growing locally in the Canberra area and I am familiar with it — this was not it. The bracts of *H. collinum* are prominent and spiky and the whole flower-head is what I would call orange whereas our daisy did not have prominent bracts and the flower was yellow.

We are confident that our daisy is *H. rupicola*. It was certainly in the right place. According to Elliot and Jones it is only found in Queensland and is restricted to rocky slopes and escarpments of north-eastern



Helichrysum rupicola x $\frac{1}{2}$
(illustrated by Gloria Thomlinson)

Queensland. The AD SG book, *Australian Daisies for gardens and floral art*, states that it grows along the rocky coastline of northern Queensland in rainforest margins, along roadsides and in clearings. Other AD SG information from Judy mentions that it has been collected from near Yeppoon, between Mission Beach and Tully, Port Douglas and the Blackdown Tablelands. There is also mention that the leaves of the Mission Beach form are much woollier than a Port Douglas form collected by Esma. The Mission Beach plants also "seemed more compact, less liable to insect attack, and flowered more generously".

For those not familiar with this species, Elliot and Jones describe it as follows:

Dwarf shrub with a compact habit; young growth woolly; leaves 2–5cm x 0.2–0.8cm, linear-elliptical to linear-ovate, upper leaves reduced, dark green above, paler and hairy beneath, margins recurved, obtuse; flower-heads 1–2cm across, bright yellow, on leafless, woolly stems 15–25cm long, showy; pappus 0.5–0.6cm long, white.

I would agree with their comment that it is a decorative species which would appear to have good prospects for cultivation. Unfortunately though, plants are apparently difficult to maintain with young plants having a high mortality rate. Pot-grown plants seem to be more successful than those in the ground.

H. rupicola supposedly tolerates moderate frosts and requires very well-drained soil and filtered or part sun. I intend to try and grow it from seed and will report back on any success. Some AD SG members have already grown it successfully but probably not under the extreme climatic conditions that we experience. Perhaps a few potted specimens which can be moved according to the seasons might be the answer.

by **Ros Cornish**

Olearia microdisca

I have been sowing seed this week. One of my seed lots, *Olearia microdisca*, from Kangaroo Island (SA) may be of interest to the Group so I have included the remaining seed. Its origin is a cultivated plant from which I collected a small quantity of seed in March last year.

I have observed *O. microdisca* growing on Kangaroo Island in the early 1990s as a relatively small shrub (about 1.5 x < 1.0m) with a narrow fastigiate habit. The site we were at was open herb/grassland with no other plants of size competing with the olearia.

Ida Jackson in her *The Flora of Kangaroo Island*, National Parks and Wildlife Service publication, Government Printer, SA (1988) suggests that it is now probably only found on Kangaroo Island and so is an endemic species.

The publication describes *O. microdisca* as a small sticky, slender shrub leaves small thick 1.5–2.5mm long and < 1.0mm broad, and having juvenile leaves 4 or 5 times as long and often deeply lobed or toothed, at right angles to the branch. By comparison the adult leaves are flat along the branch and may appear scale-like. Flowers are white and small on lateral branchlets. The involucre is about 3mm long with pale bracts. Jackson reports that she has only observed 2 ligules or ray florets per flower-head, however, up to 5 have been recorded. Flowering is usually in summer and plants are floriferous!

An unusual *Olearia* species and I hope of some interest to the Study Group. Obviously its narrow upright habit is a bonus for many gardens where available space is at a premium. I am hoping that there is good viability from this seed which will need either a microscope or good hand lens to appreciate its beauty.

ADDENDUM (16. 1. 05): I do hope the Kangaroo Island *Olearia microdisca* germinates well for you. My seed sowing of more than a week ago has had to put up with some very hot weather. The punnets were quickly placed beneath a shady 'Soft Tree fern' growing in a corner of our courtyard to compensate. Soon I will be worrying about frosts!

K.I. plants are very special for me as I wrote my Masters sub-thesis on the subject of the plant resources available to Aboriginal people on the Island over the past 10,000 years. It was a rewarding project at ANU that I will not forget, and it did involve some field work and much reading about this fascinating place.

by **Barrie Hadlow**



Olearia microdisca (flowering branch)
drawn by G.R.M. Dashorst from p. 1481 of
Flora of South Australia Part 3 (1986)

New Species of *Xerochrysum* is described



Xerochrysum collieranum
illustrated by A.M. Buchanan (also
the author of the article in the
reference) in *Muelleria* 20: p.50

Xerochrysum collieranum A. M. Buchanan sp. nov. (white alpine everlasting) is a previously undescribed species endemic to the mountains of western Tasmania. It closely resembles *X. subundulatum* in habit but differs in having white (sometimes pink on the outer face) outer involucral bracts which are broadly lanceolate.

X. collieranum is a perennial herb to 20cm tall, with one to several stems arising from a branched, woody rootstock. The alternate leaves are crowded at the base and more distant on the upper stem, and are oblanceolate to narrow obovate, acute, flat, sessile and somewhat stem claspings, 2–5cm long, 4–10mm wide, with entire margins fringed with hairs. The upper leaf surface has scattered to dense short glandular hairs and the lower surface is similar but sparser or glabrous. Flower-heads are solitary and terminal (but occasionally with subsidiary heads developing below the maturing terminal one), 2–4cm in diameter and subtended by 2–5 leaf-like bracts. Outer involucral bracts are white or pink on the outer face, broadly lanceolate-acuminate, 6–10mm long, 2.5–6mm wide and usually with finely toothed margins. The mid to inner involucral bracts are lanceolate-acuminate, 15–25mm long, 5mm wide and more or less entire, not strongly reflexing at maturity. The innermost bracts are shorter with a dark or greenish tinge. Yellow florets are 4–6mm long, and cypselas are glabrous, pale brown with a white, finely barbellate persistent pappus.

The name *collieranum* commemorates the field work of Phil and the late Sue Collier in Tasmania.

Xerochrysum collieranum is uncommon and confined to a small number of mountain summits and ridges, mostly in the Cradle Mountain-Lake St Clair National Park and in the Franklin-Gordon Wild Rivers National Park. It usually occurs in the open rocky summits, in cracks and crevices in the rocks in full sun.

Reference:

Buchanan, A.M., (2004). A New Species of *Xerochrysum* (Gnaphalieae: Asteraceae) from Western Tasmania, Australia. *Muelleria* 20: 49–52.

by Joy Greig

(Permission to reproduce the illustration was kindly granted by Teresa Lebel, editor of *Muelleria*.)

***Olearia pannosa* (Velvet Daisy Bush)**

by Joy Greig

First described by Hooker in 1851, *Olearia pannosa* has been the subject of several name changes until D.A. Cooke described the species as *Olearia pannosa* again in 1986. He recognized two subspecies, *Olearia pannosa* ssp. *pannosa* and *Olearia pannosa* ssp. *cardiophylla*, largely on the appearance of the woolly hairs on the undersides of the leaves.

Olearia pannosa is a small shrub to 1.5m high with entire leaves, about 4–10cm long, usually broad-oblong to elliptical, with a velvety buff-coloured or pale rusty tomentum on the undersides. Flower-heads are large, to 5cm across, and solitary on peduncles 5–25cm long, held above the foliage. The ligules are white or pale mauve, about 20mm long, the disc florets yellow, and the cypselas are pubescent. It usually flowers from September to November. In ssp. *cardiophylla* the mainly Y-shaped hairs are finer and pressed less closely to the leaf surface than the more simple hairs in ssp. *pannosa*.

Both subspecies occur in SA on the Eyre and Yorke Peninsulas, on Kangaroo Island and in the Lofty Ranges. In Victoria, however, only the ssp. *cardiophylla* occurs in four small disjointed populations near Wedderburn, Rushworth, the Brisbane Ranges and Anglesea, where it is restricted to shallow rocky soils in woodland.

Smith *et al* (2004) have recently published a study of the genetic variation in the four Victorian populations and compared these to the ssp. *pannosa* from SA. They examined leaf characteristics, DNA analysis, fruit condition and seed viability, and concluded that the characters Cooke had used to distinguish the two subspecies (namely leaf shape and appression of hairs on leaf undersurfaces) were valid. In addition they found some genetic variation between the northern (Wedderburn and Rushworth) and the southern (Anglesea) populations, with individuals from the Brisbane Ranges occurring in both groups. However, there



Olearia pannosa ssp. *cardiophylla*
(dried specimen x ½, collected by Esma Salkin,
9. 1. 01)

was insufficient distinction to warrant recognition of any further taxa. They found genetic variation both within and among local populations as well as between geographic regions.

It was concluded from examinations of fruit set and seed viability in specimens from the Brisbane Ranges region that plants are self-compatible. In these small fragmented populations inbreeding may therefore be occurring. *Olearia pannosa* ssp. *cardiophylla* also has the ability to sucker, and is reported to be long-lived. Small population size is often associated with loss of genetic variation and a decrease in the ability of a species to survive environmental changes, so an appreciation of how *Olearia pannosa* ssp. *cardiophylla* maintains a level of genetic variation is important for effective conservation.

References:

Smith, Z., James, E.A. and Ladiges, P.Y. (2004). Morphological and genetic variation in the rare daisy *Olearia pannosa* subsp. *cardiophylla* (Asteraceae). *Muelleria* 20: 33–48.

Walsh, N.G. and Lander, N.S. (1999). *Olearia* In Walsh, N.G. and Entwisle, T.J. (Eds) "*Flora of Victoria: Vol. 4 p. 894*" : Inkata Press: Port Melbourne, Victoria).

Elliot, W.R. & Jones, D.L. (1997) *Encyclopaedia of Australian Plants suitable for cultivation. Vol. 7 p. 88.*

***Xerochrysum viscosum* — coloured forms**

by **Maureen Schaumann**

In 2003 I grew three different coloured forms of *Xerochrysum viscosum*, yellow, orange and pale lemon. In the wild this species is usually yellow and on occasions I have seen the odd orange, but never pale lemon.

Being interested in whether these colours would come from seed, I collected some of each and sowed in autumn 2004. All germinated well and started flowering in spring with the following results:-

- Most of the orange seed sown came true with a few reverting to yellow.
- With the lemon seed I had mixed results. Many were lemon but seven plants had white heads, larger than *Xerochrysum viscosum* and similar to a smaller version of *X. bracteatum*. Two of the lemon plants had pink buds. Foliage differed slightly in some having wider leaves but still sticky to the touch. My guess is that the yellow may have crossed in the garden with a white *Xerochrysum bracteatum*, thus producing some lemon flowers like *X. viscosum*, whilst others were like a small *X. bracteatum*.

Whatever the results, *Xerochrysum viscosum* scattered throughout the garden is a delight, and the different coloured forms are a bonus.

As a matter of interest, some years ago I did a collection of dried daisies in small jewellery boxes with clear lids for a flower show. Even though most were paper daisies, I preserved them in a mixture of semolina and borax. After a time, the yellow *Xerochrysum viscosum* turned a brilliant orange treated this way.

ARRAY OF AUSTRALIAN WILDFLOWERS — WA Sept–Oct 2004 by Margery Stutchbury

From Bundaberg we travelled through Goondiwindi, Broken Hill and across the Nullarbor — in many places covered with lush bluebush and silver saltbush. We then drove up to Coolgardie where we erected a memorial to Graham's great-grandfather in the cemetery there on a very hot day! That was the excuse for our trip west. Coolgardie is one of our favourite places.

The road to Coolgardie was very beautiful, with Coolgardie gums (*Eucalyptus torquata*) and the lovely gimlet (*E. salubris*) with its smooth shiny olive-green to bronze bark and leaves glistening in the sun. An understorey of flowering acacias, sennas and silver saltbush growing from the orange earth made up the picture. Further up the road just north of Widgiemooltha we came across carpets of *Schoenia cassiniana*, pink fading to white, white *Cephalopterum drummondii*, *Ptilotus manglesii* and *P. obovata*, plus some *Dodonaea* sp. and a little mauve eremophila.

The Coolgardie Cemetery was drought stricken and I was intrigued to find *C. drummondii* and *Rhodanthe floribunda*, only about 3cm high with a tiny flower on top, but *Ptilotus* species were thriving and flowering around the old graves.

From Coolgardie travelling towards Southern Cross we passed through a wonderland of trees and flowering plants and shrubs in Boorabbin National Park. Interesting *Acacia rossei* was a straggly tall shrub holding its flower heads above the rest of the plant, and *A merinthophora* was intriguing with its fine arching phyllodes on arching branches. Encountered *S. cassiniana* and *Waitzia* sp. near Burracuppin and further on saw *C. drummondii* near Nungarin, also more *S. cassiniana*, *Waitzia* sp., *Podotheca gnaphaloides* and *Podolepis* sp. at Wyalkatchem. Near Dalwallinu we saw *R. manglesii* for the first time, more *S. cassiniana* and *Waitzia* sp., *Lawrencella davenportii* and *C. drummondii*.

Around Perenjori there was an understorey of pink, white and yellow daisies, our first sighting of pink waitzias and the famous wreath flowers, *Lechenaultia macrantha*. At Canna there were *S. cassiniana* and donkey orchids. Mullewa also had treasures flowering including *Dampiera wellsiana*, *Conostylis* sp., *Dryandra carduacea*, *Conospermum brownii* and purple fringe lilies climbing to great heights through the shrubs.

From there it was across to Geraldton and Kalbarri where we saw a very interesting range of plants, too many to name, on the coast and in the National Park. However, Graham, who was calling me 'the chief botanist' on the trip, became 'the alert botanist' after he spied a little paper daisy among the dunes which I identified from our daisy book as *Rhodanthe condensata*. He also noticed some small daisies during our walk in Z Bend Gorge on the Murchison River.

Speaking of cemeteries, we were told by a couple we met in a caravan park about kangaroo paw growing in the local cemetery at Gingin just north of Perth. We were excited to see many red and green kangaroo paw, *Anigozanthos* sp., flowering among the grass with what looked like a mauve vanilla lily in the cemetery grounds.

We managed to make the last day of the Wildflower Festival in Kings Park, Perth (in torrential rain!). South of Margaret River we drove through the magnificent Karri forests (*E. diversicolor*). This was an amazing, almost religious experience. The tall smooth creamy white trunks just keep going upwards. Brilliant purple *Hardenbergia comptoniana* and white patches of *Clematis* sp. climbing through small acacias made a very pretty understorey once one's eyes came unstuck from looking upwards!

On the way to Pemberton there were many more plants to admire. I was particularly taken by a very beautiful nodding pale lemon pimelea, *P. suaveolens*. In the same area we came upon masses of a very sweetly perfumed yellow-orange pea flower, which I have not identified. Everywhere are forests of Jarrah (*Eucalyptus marginata*).

Next visited Nornalup National Park Valley of the Giants Treewalk (again) where the walk takes you 40 metres up into the treetops. Red Tingle (*E. jacksonii*) grows to 75m and can have a life span of 400 years. Yellow Tingle (*E. guilfoylei*) grows to 45m. After the tree walk we marvelled on the ground at the wondrous buttresses and trunks of these giants. The understorey is also full of interest, including *Persoonia longifolia*, *P. pentadenia* (smells like tomcats' pee!) and *Leucopogon verticillatus*.

We climbed up Frenchman's Peak for a great view of the surrounding dry lands and the southern coast. In this area of Le Grand National Park we saw many *Nuytsia floribunda*, not in flower but quite distinctive in their shape. Nearby Rossiters Bay was like a planted garden. The dunes almost to the waterline were blooming

with many pink *Pimelea ferruginea*, white *Ricinocarpus tuberculatus*, and red *Calothamnus* sp., to name the dominant species.

We visited Kevin Collins at the Mt Barker Banksia Farm. He was very busy preparing for a Wildflower Festival starting the next day. The weather was very cold and rainy, so we aborted an attempt to walk among the banksias (something we enjoyed on our '99 trip). Instead we retired to a lovely little café for lunch with a nice fire burning, and enjoyed a meal while a severe storm raged outside. After the storm we set out, A-van in tow, to visit the Galafrey Winery, only to find our way on the dirt road blocked by several big trees blown across during the storm. Not to be deterred from our anticipated wine tasting, we found an alternate route, having first to unhitch and turn the van! Galafrey have a nice small garden out front containing fine specimens of the ground hugging *Banksia blechnifolia*, so I lagged behind to take photographs.

Because of the storm we aborted a trip down an unsealed wildflower road north of the Porongorups (travelled in '99). However, we found a wonderful walk in a national park reserve near the Bluff Knoll Café in the Stirling Ranges. Here — another wonderland — we found little white paper daisies tinged with pink, creamy pink *Actinodium cunninghamii*, little Cats Paws and many interesting silver leaved mallees. Also enjoyed a very interesting and comprehensive wildflower display at Ongerup. In all we travelled 16,000km in about 7 weeks, which would have been more leisurely with more time!

DAISIES IN OUR EMERALD GARDEN

by Trish Tratt

(Recently ABC TV 'Gardening Australia' had a segment on the Tratt garden. This came about because Trish entered a competition for Gardener of the Year in June or July last year. She had to submit written reasons for why she loved gardening and what she had done in her garden (in about 250 words), a scale plan and a few photographs. She was later contacted and told she was one of five finalists and that the garden might be featured in the Gardening Australia magazine with a chance of being on television. This struck her with dread and she told very few people about it. As it turned out all five finalists were featured in the magazine and their gardens were seen on television. Many members saw it on TV by chance and commented most favourably. We are having a meeting at Trish's in April (see p. 2) and look forward very much to seeing the garden in the flesh. This article was written in mid-December. Ed.)

Once more various daisies have performed outstandingly giving colour for months. *Rhodanthe chlorocephala* ssp. *rosea*, grown from seed scattered on the gravel mulch Feb/March, started flowering early September. Once flowering finished or heads were ruined by heavy rain I cut back the main stems and have new basal growth and some dainty little flowers. In October *Schoenia filifolia* ssp. *subulifolia*, direct sown in autumn, lived up to their 'showy' name with a mass of yellow heads. All are looking a bit worn following rain.

Brachyscome iberidifolia are providing patches of white and shades of mauve, teaming well with *Chrysocephalum apiculatum* and *Podolepis* sp. 1. They also give airy colour in front of a strong *Anigozanthos* 'Regal Claw'. I have tried to be more disciplined over regular dead-heading, which certainly pays off. *Xerochrysum bracteatum*, scattered all round the garden, are just beginning their show of colour. *Olearia tomentosa*, still a small plant, sports a cluster of large white heads which seem unaffected by rain. I will record it on the Olearia Cultivation sheet and hope to eventually collect seed.

What a wonderful growing season it has been, plants put out from small tubes are growing strongly, so the garden is taking shape. Several species of butterfly/moth which I am trying to identify are visiting here, adding to the enjoyment.

BERYL'S BENDIGO GARDEN

by Pat Webb

In early December, John and I spent a few days in Bendigo at the Commonwealth Youth Games and we were able to spend a happy afternoon at Beryl and Frank Birch's house and garden.

After a few years they are now well settled in their delightful home, with a magnificent backdrop of eucalypts — part of one of Bendigo's linear parks.

The drought conditions in the area since they have been there have made starting a new garden pretty difficult — a challenge in fact. Despite a little more rain this spring, it is still very dry up there and they have very strict regulations on watering. We were most impressed with their front garden; mounded beds for flowers and shrubs with lovely paths using 'tailings'. The colours of the local stone and granite are features in

themselves. When they bought the house, the garden was just lawn and diosmas. There is no lawn or *Diosma* now!

There are lots of daisies, particularly *Xerochrysum viscosum* — now seeding itself amongst the gravel mulch. (Driving into Bendigo along the McIvor Highway, *X. viscosum* was prolific along the roadside between Knowsley and Junortown.) Beryl has a wide variety of *Brachyscome* species, each with its own story of where it had come from and who had given it to her. *Chrysocephalum apiculatum* (various) and *Podolepis jaceoides* all adding lovely splashes of colour amidst a variety of shrubs. As always in a new garden, one gets a bit frustrated when a plant doesn't grow to expectations, but much delight when one plant really excels itself.

Along the fence line of one of her neighbours, Beryl has planted several varieties of *Alyogyne huegelii* — full of flower when we saw it, but a bit damaged by the strong winds they get from time to time.

Water restrictions are tight in Bendigo and I think Beryl is to be congratulated on her garden — they are in the process of installing a couple of rain-water tanks — "against a rainy day". Beryl has a picture of Gloria Thomlinson's Shepparton garden and tells me that is her aim. We did enjoy our afternoon.

NATURE'S POWERHOUSE

by Ros Cornish

On our recent trip to Queensland we had the pleasure of visiting the Botanic Gardens at Cooktown where we found a wonderful gallery housing paintings by Vera Scarth-Johnson of the flora of the Endeavour River. Vera arrived in Cooktown in 1972, aged 60, following an earlier life involved in horticulture of some sort or another and a hobby of sketching and painting. She began painting and collecting the local flora, inspired by the beauty of the Endeavour River and the botanical work of Banks and Solander on Cook's voyage to the area in 1770. She collected about 1700 plant specimens — not just from the Cooktown area — which are now in the Queensland Herbarium in Brisbane. She attempted to paint 200 plants from the region but this was curtailed when she developed Parkinson's disease. In 1990 she gave her collection of botanical illustrations to the people of Cooktown. She worked hard with friends, both in the local community and further afield, politicians, scientists, government organizations and businesses to build a gallery — Nature's Powerhouse — to house her work and to produce a book. She was present for the "turning of the sod" of "her" Centre but died in 1999 prior to its completion. However, she had extracted promises from all her contacts to carry on with the project and it became a reality soon after. It is well worth a visit and the book is something to treasure. The first paragraph says it all:

"People often ask me why I undertook the job of painting the flora of the Endeavour River. It struck me that many folk underrated the river and did not value it as they should. Therefore, I felt, to show the flowers in paint was one way to make them realize its importance. And, as for those who don't know any botany, pictures are better than words."

INSECTS AND DAISIES IN WAGGA WAGGA

by Matt Hurst

The daisies have been very good in the garden this year. *Xerochrysum bracteatum* (the name still doesn't feel right) 'Dargan Hill Monarch', *Chrysocephalum apiculatum*, *Xerochrysum viscosum* and *Leucochrysum albicans* ssp. *albicans* var. *tricolor* have all been a mass of flowers since July.

Ozothamnus diosmifolius was looking great and attracting masses of hoverflies the likes of which I've not seen in the garden before. The bush was moving with the weight of insects landing and taking off, and the noise they were making was audible from several metres away. Sadly a storm stripped the flowers from the plant and caused it to twist in the ground.

Podolepis rugata have been the best ever, with some plants now three years old. They are dotted around the garden and the older ones have up to one hundred flowers on them. They die right back at the end of summer and I think they are finished but a prune back and some autumn rain and they are away again. They attract a lot of small black stingless bees in two sizes and a larger blue-striped version. The black ones tend to overnight in the flowers.

I believe that the huge number of insects in the garden this year is due to my mass planting of *Danthonia* spp. in the front nature strip. Several people have been using my front yard as an education resource. They have been showing students from TAFE, council department heads and councillors that a nature strip can be more than just weeds.

OLEARIA SEEDS FOR RBG CRANBOURNEby **Judy Barker**

In mid-November Di Clark, the Nursery Co-ordinator for six months in Josie Valenciance's temporary absence, wrote to tell us that she was having difficulty sourcing the following olearias: *Olearia adenophora*, *O. grandiflora*, *O. pimeleoides* and *O. stuartii*.

We held no seed of any of those species in the Seed Bank, but I remembered we had collected good seed of *O. pimeleoides* in Maree and Graham's plantation when we went on a foray to the Great Western/Horsham area in 1999. When consulted, the germination book (fortunately filled in meticulously on this occasion) recorded that 21 seedlings had resulted from seed sown on 27/10/99 which had been collected on the 26th. Trust me! I remember that Lee collected me from the Goods' property at lunchtime on 26th, we were home for a late dinner, and there was ample time for sowing next day.

If seed had been collected in late October it was likely that it would all have blown away by mid-November, so a phone call was made to Maree immediately. She must have gone out there and then to the plantation because in a very few days there was an envelope with four separate collections in it. Not only from the plantation but also collections from plants near Wail and on the Borung Highway between Dimboola and Warracknabeal. A detailed map accompanied them and a note to the effect that the seed was a bit grub-infested and Maree hoped there was sufficient to germinate.

Much of it was sent off to Di with a recommendation that she should sow it fairly soon. The rest was kept for the seed bank, but it began to weigh on my mind. It looked mature but would it germinate? So a little was sown on 18/12/04 with a light sprinkle of smoked vermiculite for luck. Up it came a mere 10 days later and now there are more than 40 seedlings (4/1/05).

We are extremely lucky to have such an excellent member as Maree. It was marvellous that she acted immediately, to such good purpose, and without a word of complaint. We value highly what must have been an effort at a very busy time of year.

PROPAGATION PAGES

Maureen Schaumann pointed out two interesting articles in the November issue of the *Wildflower Society of Western Australia Newsletter*, Vol. 42, No. 4, which may have a bearing on our propagation attempts.

The first is on p.16, and the article is titled **Tainted Rain Water?**

'In July 2000 *The Australian* carried an article titled 'Pure Aussie water ain't without taint' by Damien Nowicki. It stated that rainwater in Australia is mildly acidic, ranging from pH 4.1 to 5.6. This compares with pH 7 for distilled water. A spokesman from the Bureau of Meteorology, John Cramb, said that the carbon dioxide in the atmosphere combines with the water to form carbonic acid. In still water this results in a pH of 5.6. Thus, it may be possible that the lower pH (higher acidity) which comes with rain is a factor in the observed germination which often follows directly after extended rainfall, and so be an agent for the leaching of germination inhibitors.'

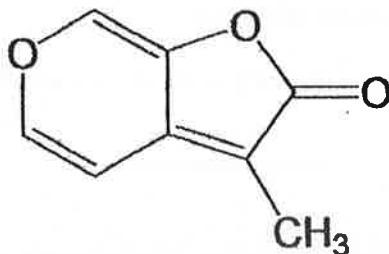
The second article on p.3 was written by Jim Barrow (President of the Wildflower Society of Western Australia Inc.) and it adds more to our knowledge of **Gavinone**, the active chemical agent in smoke that induces germination. This agent has at last been isolated and we heartily congratulate Dr Kingsley Dixon and his scientific team on this result. They were the first to identify the chemical and there were German, English, American and South African teams all in the race. The compound has been called Gavinone after a chemistry PhD student, Gavin Flematti, whose work on the problem has been mainly responsible for the team's success.

Jim Barrow was asked for permission to reprint part of his article. Not only was permission granted, but a 'brevia' was sent from Scienceexpress titled 'A Compound from Smoke That Promotes Seed Germination' by Flematti, G.R., Ghisalberti, E.L., Dixon, K.W. and Trengrove, R.D.

Reference: Scienceexpress/ www.scienceexpress.org / 8 June 2004 / Page 1/ 10.1126/science.1099944
(Supporting Online Material)
www.sciencemag.org/cgi/content/full/1099944/DC1
Materials and Methods Table S1

4 May 2004; accepted 25 June 2004 Published online 8 July 2004; 10.1126/science.1099944

Gavinone is a butenolide called 3-methyl-2H-furo[2,3-c]pyran-2-one. The structural diagram in Jim's article was taken from the Sciencexpress article and is reproduced below, together with his explanation (from his President's address) of what it means for those members whose knowledge of chemistry is rudimentary:



'As you can see, there are two rings. There are carbon atoms at the corners of the rings — but chemists take that for granted and don't bother to draw them in. There are three oxygen atoms. Their presence makes it soluble in water. The right hand ring is the part called a butenolide. There are lots of butenolides with the name and properties depending on which groups are hung on. So it's not quite correct to call it just "butenolide". Forget the pedantism — the interesting thing is that it works at fantastically dilute levels. If you get one of those sugar sachets with your coffee at a local shop, it contains about 4g of sugar. Imagine dissolving half of that in one Olympic swimming pool. That's about 1 part per billion and that is the level at which it is effective. For some species indeed it is effective down to a tenth of that and it has some effect at even a hundredth of that. And even better, there were no toxic effects at the "high" concentration of 1 part per million. So there is at least a thousand-fold range over which it is effective and this will make it easier to use.'

When Karina Kelly interviewed Kingsley Dixon and Gavin Flematti on ABC TV in October 2004 about the research we learned that there are 4000 or so chemicals in smoke, each of which has been tested on seed. After four years of work the choice had been narrowed down to three possibilities, but these chemical agents were so similar that Gavin could not separate them. He had to make the chemicals in the laboratory by chipping minute bits off each molecule, identifying them and putting them back together. Each structure so manufactured had to be tested in various dilutions against several smoke responsive species (eg. *Conostylis aculeata* and *Stylidium affine*) to ascertain germination rates. After eleven years of this painstaking work the agent has been identified.

Because Gavinone is soluble in water and works at very high dilutions it will be of great benefit to horticulture, agriculture and to ecology (in restoring mining sites and other land disturbances). One third of a teaspoon of Gavinone when diluted can be used successfully to germinate seed sown over 1 hectare of land. It can also be used to germinate weeds in farming land, all the weeds germinating at once, enabling eradication in one go. This means that farmers can sow less seed per crop in future.

Those of us whose obsession is germination of Australian plants can only hope that it will not be too long before suitably diluted and priced Gavinone solutions are readily available on Bunnings' shelves.

My thanks to Jim Burrow for his great help.

Further reference material: The ABC TV Program, *Catalyst*, screened on 14th October 2004.
<http://www.abc.net.au/catalyst/stories/s1219989>

Judy Barker reports on the germination of the AusRex species:

- *Angianthus cunninghamii* was sown on 3/8 and began to germinate 16 days later. They were odd little seedlings, the cotyledons being dark green and the true leaves very silvery. Germination was good, about 85 seedlings were potted on in clumps of 3–7 into 5cm pots on 26/10.
- *Asteridea pulverulenta* was sown on 3/8 and germinated 28 days later. By 30/10 there were 3 seedlings but 2 had disappeared by 11/12 when one was potted on.
- *Olearia rudis* was sown with smoked vermiculite on 3/8 and began to germinate 22 days later. Two seedlings had grown so quickly by 26/10 that they were potted on and proved themselves later to be *Senecio* sp. Many had germinated but only 6 remained by 11/12 and were then potted on. Now (27/1) there are 3 forestry tubes left alive. They seem to need excellent drainage and not much watering.

- On 3/8 *Podotheca cunninghamii* was sown and germinated 27 days later. By 26/10 there were 4 seedlings large enough to pot on, leaving 3 seedlings in the marg. container. By 11/12 there were 4 more to pot on and the first lot had been flowering for 2 weeks. Maureen rather sarcastically suggested that this species would win Plant of the Month if there was a December meeting. Plants were fully 2–3cm tall with single heads about 0.4cm across. She changed her tune when the head was beheld through a magnifying glass. Then it became a 'dear little thing'.

The conclusion would have to be in favour of AusRex seeds, but perhaps it would be better to sow them in late summer or autumn.

SNIPPETS

- Ros Cornish described a marvellous Wednesday Walk in late November where she saw daisy displays equal to those in WA. 'We have had some decent rain recently so I suggested that we go to a Travelling Stock Reserve on the Krawaree Road, south of Braidwood, bordering the Shoalhaven River. The first part of the Reserve is fairly open grassland with some scattered *Eucalyptus pauciflora*, *Kunzea parvifolia* (with its mauve flowers putting on a good display) and *Leptospermum obovata*. The initial effect was a carpet of yellow — *Leptorhynchos squamatus*, *Chrysocephalum apiculatum* (the short silvery -leaf form) and *Craspedia variabilis*. All were at their peak. Further in, patches of white appeared — *Leucochrysum albicans* ssp. *albicans* var. *tricolor* — mostly out but some with their lovely purple buds. Then finally, many *Calotis glandulosa* ranging from white through to pink and mauve. To add to the picture were splashes of purple from chocolate lilies, *Dichopogon fimbriatus*, the pink of *Stylidium graminifolium*, the vibrant yellow of *Gompholobium huegeli* and *G. minus*, the egg-yellow of *Hypericum gramineum* as well as the orange-red of *Dillwynia sericea* and *Pultenaea subspicata*. There were also tufts of white from *Austrodanthonia carphoides*. Beside the grassland was a large damp depression surrounded by a haze of blue — *Pratia pedunculata* and *Isotoma fluviatilis*. A remarkable display.'
- In the October 2004 issue of *Eucryphia* there appeared an article by Rosemary Verbeeten (one of our ADSG members) on the activities of the Northern Group, one of the regional groups of APS Tas Inc. Of interest to us was the following: 'Lynne Mockridge presented the plant of the month for July. It was *Euchiton umbricola* (previously known as *Gnaphalium*) a member of the Asteraceae (daisy) family. Her plant is growing well in a pot. It has attractive silvery grey leaves, hairy underneath, 2–6cm long, in basal rosettes; the flower heads, presented on erect stems, are spherical and creamy white in colour. It is summer flowering and occurs in New South Wales, Victoria and Tasmania in alpine areas. Seeds are sown in spring and cuttings (taken) in summer.'

A COINCIDENCE OF MEMBERS

by **Barrie Hadlow and Margery Stutchbury**

On January 1st 2005 Barrie Hadlow sent some prints for identification. He had taken the photos on his travels with Jenny in 2004: 'Daisy No. 2 — white-flowered and growing in association with *Leptospermum sericeus* — was photographed at Cape Le Grand National Park 50km east of Esperance. The site was coastal granite, possibly of Precambrian origin. I had noted this species at three sites within the Park during the day and at the first site, Lucky Bay, I discovered a fellow traveller equally interested in this small white malodorous flower. My colleague in Botany was another ADSG member, Margery Stutchbury, from Queensland, who (with husband Graham) was that day sightseeing in Cape Le Grand N.P. also. A very pleasant surprise, totally fortuitous! We had some meaningful ADSG discussions in this wonderful environment.'

On December Margery had sent me the account of her trip to Western Australia with Graham last year. The trip appears on p.7 minus this piece: 'At Esperance we visited the beautiful beaches, including Lucky Bay where Flinders anchored in 1842. While admiring the beautiful blue water we got into conversation with a man who was obviously a plant person. I enquired about a little white daisy growing there among the rocks, and he turned out to be an ADSG member, Barrie Hadlow — a happy coincidence!'

The 'little white daisy' was identified by Maureen and Judy as *Asteridea nivea*. It occurs in the right botanical district and confirmation only awaits the February meeting at which they hope other members will agree with the identifications. If neither Margery nor Barrie know this species it might be of interest to reproduce two articles from very early newsletters. They were written by Maureen and Judy when they were relatively young and new to the growing of daisies, and were full of enthusiasm:

Asteridea nivea (WA)
(syn. *Athrixia nivea*)

Perennial, about 25cm high.

In 1980 the generic name was changed from *Athrixia* to *Asteridea*. The common name was then Snow-white *Athrixia* so I suppose it is now Snow-white *Asteridea*. I expected snow-white heads, but the buds opened dusty pink and developed into little cream buttons, with the pink receding to a central spot and then disappearing. The 'snow-white' must refer to the stems which are densely cottony. These stems are 50–60cm long, branching, stiffly upright at first, then bending over with the weight of the developing branchlets.

The habit is open and the tangle of white stems gives the plant a ghostly air.

Fully developed heads are 10mm across and usually turn brown quite quickly. They appear at the ends of the branchlets from November to January. By February most of the heads have gone to seed, although a few heads are still developing.

The leaves are sparse along the branchlets and smell slightly lemony. They are narrow, 10–40mm long and 1–1.5mm wide, smooth and green above, white-hairy below, and with recurved margins. The achene is golden brown, 1–1.5 x 0.5mm. The pappus consists of 2–6 white bristles, barbed at the base and becoming plumose at the tips. (Bentham describes the pappus as 'elegantly plumose towards the end', which is a nice way of putting it.)

Paul Wilson kindly gave Barbara Buchanan the seed when she visited the Perth Herbarium in late '86. Sown in March '87 it germinated very well and was potted on in 60 days. The cold, wet winter had a deleterious effect on the seedlings. They became limp and the leaves turned brown. Equally unfortunate was the effect of the hot weather. Again a fair proportion of seedlings turned up their toes.

In June I planted 3 seedlings into a 25cm pot and one into a 15cm pot containing 4 parts potting mix: 3 parts perlite : 1 part worm castings (which I hoped would be a miraculous addition). At the same time I planted about 3 seedlings in the garden. After the hot spell in September carried off so many of the remaining tubed plants I panicked and planted the rest all over the garden. The only ones left alive are in the pots and one in the garden, which is so overgrown as to be hardly recognizable. I have cut one plant in a pot back to about 10cm shoots and fed it with Phostragen to see what happens.

Seed was collected from about mid-January, and cuttings seem to strike quite readily.

I must admit I can't see a role for this species unless it pulls up its socks. Bentham says it is found around King Georges Sound and Lucky Bay. Perhaps it will be a good plant for the coast. Perhaps I'm impatient.

by **Judy Barker** (from NL 20, March 1988)

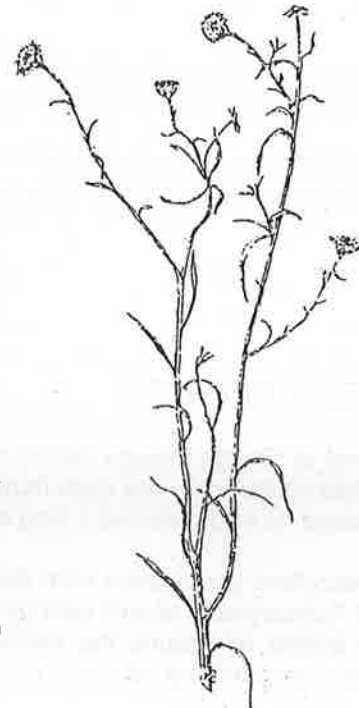
Asteridea nivea

An article on this species was written by Judy in NL 20. At that time I wholeheartedly agreed with everything she said, especially the comment in the last paragraph.

Asteridea nivea has now had a chance to grow on me since that article was written so I feel I must say a word or two in its favour.

Standing at my back door in a very uninteresting pot, it is now coming into full bloom. The flowers I must admit are not spectacular, but are certainly different from the typical daisy flower-head. Under a hand lens they are quite beautiful, appearing in the form of small creamy-pink discs, woolly in the centre and encircled by a deep pink ring found to disappear with age. At present the plant is a mass of cream and pink buttons and admired by all who see it.

Another enticing feature is that stark white stems bear the shiny, dark green leaves. These leaves provide a contrast and are sparse enough not to detract from the showy white stems.



Asteridea nivea x ½
(illustrated by Betty Campbell)

Finally, it is one of the easiest to grow from cuttings. Pieces popped beside the parent plant will root within the month, often with roots appearing along the stem.

I believe *Asteridea nivea* certainly has a place among our other daisies. Being so unusual, therein lies its appeal. *Asteridea nivea* doesn't have to 'pull up its socks' for me. I like it just as it is.

by **Maureen Schaumann** (from NL 22, November 1988)

MEMBERS' REPORTS

Matt Hurst of Wagga Wagga (NSW) telephoned his report on 10/11/04. He said that the seed of *Rhodanthe polygalifolia* collected by the Oats from their garden had germinated very well but had produced small heads. Nevertheless he had collected 2 long envelopes full of seed for ADSG.

He had excellent germination from *Brachyscome iberidifolia* from our seed bank and 4–5 plants from 20–30 seeds of *Polycalymma stuartii* sent by Syd and Syl Oats. He had put the latter in the centre of a big dish bowl and the former all around the perimeter. In July/August they both flowered at once and caused much comment of an admiring nature.

He pruned his *Olearia phlogopappa* ruthlessly from 5' to 1' and thought he had gone too far, but it has since shot from dormant buds in the old wood and now looks healthy. Matt asks if this is unusual?

Syl Oats of Elizabeth East (SA) wrote on 14/11/04: 'I sent you *Helichrysum elatum* seed as I thought, but I'm not sure what they are now. At Julie's they were about 3–4 feet (1–1.3m) high, with white flowers and they were flowering when I was at Julie's this time last year. But the ones I planted have grown very slowly, the tallest is about 9" (23cm) to around 2" (5cm) and no sign of buds. Leaves on the biggest plant are 6 x 3" (15 x 7.5cm).

We made two beds for the *Polycalymma stuartii* and, because we have had a fair bit of rain, they grew like Topsy. They got to about 2' (60cm) high — to my surprise. Our son-in-law (who collected the seed) couldn't believe it was the same plant.

We had a fair amount of rain, mostly in November. The grevilleas and eremophilas have put on so much growth they have collapsed and split when the branches got so heavy with rain.

I put the daisy seed in very early this year and had a really colourful display in early spring, despite the bad potting mix this year. We did get a lot of comments on how colourful the garden looked. We had masses of *Rhodanthe chlorocephala* and *R. manglesii*, smaller *Brachyscome iberidifolia*, *Schoenia filifolia* patches, several different *Eremophila* species and the Kangaroo Paws were good this year. I can imagine Peg's garden looked beautiful.'

Ray Purches of Wangaratta (Vic) wrote on 19/11/04: 'Delighted to receive your wry note (and the newsletter). As usual the newsletter is full of news, letters and interest. Luckily I found it again in a heap of other stuff so read it once more. Absolutely loved Peg's "Painted Lady" piece. Brevity can be beautiful.

Daisy season in the plantation has been good, but less hectic following many riceflower plants lost during the drought. Even the presumed bulletproof *Cassinia leptocephala* suffered some losses.

Still can't manage to get my two beautiful forms of *Cassinia aureonitens* to produce long straight stems, but the yellow and gold flower forms look superb together. I will be removing almost all of the *C. aureonitens* to make room for something productive but will take cuttings of both forms to preserve them in the garden. Might have a few struck cuttings for distribution at your March '05 meeting. Also will collect seed of *Ozothamnus diosmifolius* and *Cassinia quinquefaria* (if I remember) for the seed bank.'

Ros Cornish of Carwoola (NSW) wrote on 30/11/04: 'I have had quite a good display in my front garden this year, no doubt due to the pebble mulch that I put in last spring. The daisies love it and many have self sown. I am providing nearly the whole of Canberra with *Rhodanthe anthemoides* seedlings which have come up in the path. The *Leucochrysum albicans* ssp. *albicans* var. *tricolor* and var. *albicans* have flowered beautifully and are now on their second flush. Many came up from seed from last year's flowering. *Xerochrysum viscosum* is also doing well and I particularly like the 'petite' form from Lidsdale. My three plants of

Ammobium craspedioides produced a total of 13 flower heads which are now going to seed but I've noticed another few buds coming so I may get a second flowering.

Chrysocephalum baxteri is for once putting on a convincing display and my various *Podolepis* species are looking good, particularly *P. rugosa*. My patches of *Calotis glandulosa* have spread considerably in the pebbles and are flowering well. Around the pond *Brachyscome basaltica*, *B. ciliaris*, *B. dentata*, *B. melano-carpa* and *B. chrysoglossa* are growing well, as are *B. aculeata* and *B. sp. aff. formosa* (plants from Joy) in the front garden. I would recommend pebble mulch to anyone.'

Linda Handscombe of Pomonal (Vic) wrote in December '04: 'I have a few more seeds up — lots of *Xerochrysum viscosum* from Matt Hurst and lots of *Leucochrysum albicans* ex Theodore from Matt's garden. I also have one lone *Helichrysum macranthum* months after sowing. Because I planted most of my seed in spring a lot are still languishing in tubes. I'll have to pot them up for planting out in autumn.'

Linda also sent a specimen of wrapping paper she had bought at Trev's Emporium for 50c. It featured masses of heads of the red budded, branched form of *Rhodanthe anthemoides* and was a superb example of its kind.

Peg McAllister showed me (Judy) two plants in her garden in December and wanted to know the identity of them. One was an upright ozothamnus with clusters of white heads right down the stems and short blue-green leaves. In her front garden it was about 60cm tall and quite commanding of attention. It wasn't until I was tidying a patch of our back garden that I found a plant which, though similar, was inferior in every way. At its base was a tag labelled *Ozothamnus purpurascens* in very tidy writing, and I remembered that one of the members had taken cuttings and then dutifully handed the resultant plants around. So far Peg's plant is very handsome, and I must take better care of mine.

At the top of the cutting behind Peg's garden was a pleasing shrub with arching branches and clusters of white heads on one side of the branches. That character would suggest *Ozothamnus secundiflorus* but Peg does not know of another such shrub in the vicinity, so we did not know how the seed could have travelled there. *O. secundiflorus* does not occur in the area. Four species of *Ozothamnus* are indigenous in the Greater Melbourne area, *O. ferrugineus*, *O. rosmarinifolius*, *O. turbinatus* and *O. obcordatus*. It is certainly not the latter two because the leaves are 1–2 x 0.1cm, with slightly recurved margins. I think it might be *O. rosmarinifolius* which does occur in the Croydon/Ringwood area, but will take a specimen to the next AD SG meeting for comment.

Julie Barrie of Coonalpyn (SA) wrote in December '04: '2004 has brought many changes, with John securing a job with Rural Solutions SA (a branch of our Primary Industries) doing revegetation and biodiversity consultation and management. The nursery is slowing to hobby status.'

Barrie Hadlow of Theodore (ACT) sent some photographs of daisies taken on his recent trip in the hope that we might identify some or all of them for him. (I have made a start and will consult Maureen and other Melbourne members before making a final list.) Barrie wrote, 'A big thank you for sending the 'Daisies' book to us in Geraldton. I have so enjoyed it and shared it with Leon Costermans at 'High Vallee Farm' near Eneabba. He indicated that he knew your committee members responsible for the publication — or at least some of the group.'

Judy Barker of Hawthorn (Vic) reports watching a Painted Lady Butterfly flitting from one head of the Oberon form of *Helichrysum rutidolepis* to another in the early morning on 11/1/05. The Painted Lady visited almost every head in the population, the yellows and browns superbly matching the orange and yellow of the heads. It was a warm morning, later to reach 37°C. Would the heat have anything to do with the butterfly's activities?

Gloria Thomlinson of Shepparton (Vic) reported on 20/1/05: 'The main colour in the back garden at the moment is mauve/pink from clumps of *Lythrum salicaria* and *Melaleuca thymifolia* outside the screened area and along the "creek", with patches of yellow *Chrysocephalum apiculatum* among the patchwork of foliage. The mauve/pink is continued along the boardwalk to the studio by brachyscomes and *Pelargonium rodneyanum*, which has really colonised here as it has out the front. Also Maureen's double wahlenbergia runs riot among other brachyscomes and lomandras. *L. confertifolia* ssp. *rubiginosa* with its central iridescent blue hue looks really well with the wahlenbergia.'

SHOW and TELL

(October meeting) Pat Webb brought a very pleasing form of *Xerochrysum bracteatum* that she had grown from a cutting from Jill Roberts' garden in Tasmania.

Maureen showed *Brachyscome spathulata*, 2 forms of *B. parvula*, the dainty white form from Huntly and the mauve-pink from the Mornington Peninsula and the erect stems and fat, big buds of *B. basaltica* var. *gracilis* which loves growing in her soak. She had many forms of *Chrysocephalum apiculatum* — one was upright and silver-leafed, one low-growing with buds almost enclosed by leaf bracts, the coastal Anglesea form with upright stems and orange buds, and two strong growers we originally were given by John Emms. Annuals were represented by *Schoenia filifolia* ssp. *filifolia* and ssp. *subulifolia* which Maureen had sown in autumn by scattering seed into the bed around her clothes line. Other daisies were the intricate yellow heads of *Ammobium craspedioides*, and the various colour forms of *Xerochrysum viscosum*, (yellow, brown and lemon) together with the larger yellow and cream heads resulting from seed of *X. viscosum* collected in the garden. Maureen has written of these forms and probable hybrids on p. 6 of this newsletter.

Peg McAllister mentioned that it was becoming difficult to grow *Rhodanthe chlorocephala* ssp. *rosea* with simple stems when she sowed her own garden seed or that from AD SG. More stems with side shoots were appearing, each shoot tipped by a smaller head than usual. She had noticed the same thing happening with small buds forming around the flower-heads of her Flannel Flowers. Natalie suggested it was probably genetic modification caused by inbreeding and thought that a fresh lots of seed would be advisable.

(November meeting) This month the following daisies were out: *Calotis glandulosa* (very long-flowering), *Cassinia aculeata* and *C. leptocephala*, *Chrysocephalum apiculatum* and *C. baxteri*, *Olearia argophylla*, *O. phlogopappa* (white, with a profusion of flowers) and *O. ramulosa* (white, mauve and very dark mauve), *Ozothamnus argophyllus* (scented), *O. purpurascens* and *O. obcordatus*.

Others displayed were *Argentipallium dealbatum*, *Ixodia achillaeoides* ssp. *alata*, *Leptorhynchus squamatus* and *Xerochrysum palustre*.

Max McDowall brought *Xerochrysum* 'Bon Bon' which was prostrate, flowered profusely and had proved to be exceptionally heat tolerant.

SEED DONORS

AD SG is extremely grateful to the following members and friends who have contributed seed so generously: Judy Barker, Ros Cornish, Maree Goods, Barrie Hadlow, Matt Hurst and Maureen Schaumann.

SEED WANTED PLEASE — AD SG would be most grateful for donations of seed of the following species:

***Ammobium alatum* (especially the cultivar 'Bikini'), *Brachyscome formosa*, *B. parvula*, *B. tenuiscapa* var. *pubescens*, *Calotis scabiosifolia* var. *integrifolia*, *Cassinia quinquefaria*, *Ixodia achillaeoides*, *Ozothamnus diosmifolius*, *Olearia* species (not listed in the seed bank), *Rhodanthe anthemoides* (red bud, branching form) more *Podolepis* sp. 1 and *Pycnosorus thompsonianus*.** We would also like donations of fresh seed of the common species since we fear that our old seed is losing its viability.

SEED LIST

A full seed list is published in each March newsletter. Please keep this list for reference; only additions and deletions will be recorded in other 2004 newsletters. **A STAMPED SELF-ADDRESSED ENVELOPE (111 x 220mm) MUST BE ENCLOSED WITH EACH REQUEST FOR SEED. (POSTAGE REQUIRED IS USUALLY \$1 DUE TO THE BULKINESS OF SOME SEED.)** Please write to Maureen Schaumann for provenance seed or to Judy Barker for garden or commercial seed. (The addresses are on the front page.) If both types of seed are required a letter to either Maureen or Judy will suffice.

Please note that much of the seed listed below has been collected in the gardens of Study Group members, and some species may have crossed with others, especially those of *Brachyscome* or *Xerochrysum*. **One parent only is guaranteed.** Much of the seed listed has been kept in the refrigerator. The curators welcome feedback on your germination results since the task of testing the germination of so many species and the cost of such an undertaking are not feasible.

GARDEN or COMMERCIAL SEED

Judy Barker (Co-ordinator)

Ammobium craspedioides. *Anemocarpa podolepidium*.*Asteridea athrixioides*, *chaetopoda*.*Angianthus tomentosus*.*Bellida graminea*.*Brachyscome aculeata*, *basaltica* var. *gracilis*, *cardiocarpa*, *ciliocarpa*, aff. *curvicarpa*, *dentata*, *dissectifolia*, *diversifolia* var. *diversifolia* and var. *maritima*, *exilis*, *goniocarpa*, *gracilis*, aff. *gracilis*, *halophila*, *iberidifolia*, *lineariloba*, *melanocarpa*, *microcarpa*, *muelleri*, *multifida* (ex The Rock, NSW), *nivalis*, *nodosa*, *petrophila*, *ptychocarpa*, *pusilla*, *readeri*, *rigidula*, *riparia*, *segmentosa*, *sieberi* var. *gunnii*, *spathulata* var. *spathulata*, *stuartii*, *stuartii* complex, *tadgellii* (orig. Falls Ck), *tenuiscapa* (ex Spencers Ck), *tesquorum*, *trachycarpa*, sp. (Darling Downs), *whitei*.*Calocephalus citreus*, *lacteus*.*Calomeria amaranthoides*.*Calotis cuneifolia*, *dentex*, *lappulacea*, *plumulifera*.*Cassinia laevis*, *leptocephala*, *uncata**Chrysocephalum apiculatum* (Adventure Bay [Tas], Anglesea, John Emms' prostrate, Seaford suckering, Mt William, Urana [NSW]), *baxteri* (orig. Wilsons Prom), *semipapposum* (alpine form, Anglesea, Frankston, Langwarrin, Lara, Mt Buller, Seymour/Bendigo, ex Tamboritha Saddle tall form with large green leaves, ex Valley Reserve Mt Waverley, ex York Peninsula SA with fine grey leaves and small heads, form about 2.5m high with large green leaves).*Cotula alpina* (Bogong High Plains)*Craspedia variabilis* (ex ACT)*Helichrysum calvertianum*, *collinum*, *elatum*, *lanuginosum*, *rupicola*, *scorpiodes*.*Hyalosperma cotula*, *praecox*, *simplex*.*Ixiochlamys cuneifolia*.*Lagenophora huegelii*.*Leiocarpa* sp. (ex Jan Hall).*Leptorhynchus elongatus*, *hieracioides*, *squamatus*, *tenuifolius* (Croydon).*Leucochrysum albicans* ssp. *albicans* var. *albicans* (orig. ACT, Longwood [Vic], Wagga Wagga [NSW]),*Leucophyta brownii*.*Microseris* sp. (NSW)*Olearia argophylla*, *astroloba*, *axillaris*, *elliptica*, *erubescens*, *frostii*, *floribunda* (white), *glutinosa*, *hookeri*, *ledifolia*, *lirata*, *obcordata*, *phlogopappa* (white, pink, blue), *pimelioides* (Goods' fresh), *purpurascens*, *viscosa*.*Ozothamnus adnatus*, *cordatus*, *costatifructus*, *ledifolius*, *obcordatus*, *scutellifolius*.*Podolepis auriculata*, *canescens*, *lessonii*, *neglecta*, *nutans*, *rugata*, sp. 1 (the Basalt Podolepis).*Polycalymma stuartii* (Matt H. ex Oats).*Pycnosorus globosus*, *thompsonianus*.*Rhodanthe anthemoides* (unbranched form, Liverpool Range, Whitlands), *charsleyae*, *chlorocephala* ssp. *rosea*, ssp. *rosea* (Balladonia form), ssp. *splendida*, *corymbosa*, *diffusa* ssp. *diffusa* and ssp. *leucactina*, *haigii*, *humboldtiana*, *manglesii*, *polygalifolia* (fresh Matt ex Oats), *polyphylla*, *propinqua*, *pygmaea*, *spicata*, *stuartiana*, *tietkensii*.*Schoenia cassiniana*, *filifolia* subsp. *filifolia* and subsp. *subulifolia*.*Vittadinia muelleri*, sp. (white).*Xerochrysum bracteatum* — (Ebor, Pambula, Sandy Beach, dwarf mixed form, mixed garden form, white forms, tall red form, tall form [Tenterfield]), *subundulatum* hybrids, *viscosum*.**PROVENANCE SEED**

Maureen Schaumann (Co-ordinator)

Freshly collected seed is thoroughly dried and treated for insect infestation. Seed storage procedures are constantly under review. Most seed is stored in sealed foil packets at 4°C. Seed of arid and semi-arid origin is now stored at room temperature.

*Actinobole uliginosa**Allopterigeron* sp. — (Qld).*Anemocarpa podolepidium* 8/96.*Angianthus tomentosus* — (WA) Murrum Station, (SA) Kimba.*Argentipallium obtusifolium* — (Vic) Aireys Inlet.*Asteridea athrixioides* — (WA) 97.*Brachyscome aculeata* — (ACT), (Vic) Gippsland Alps; *basaltica* var. *gracilis* — (NSW) Kinchega;*bellidioides*, *blackii* — (NT); *ciliaris* — (NSW) Wilcannia, (SA) Flinders Ranges, Eyre Hwy; IronKnob, Wirrulla, (NT); *ciliocarpa* — (WA); *dentata* — (Qld), (NSW), (SA); aff. *curvicarpa*;

- diversifolia* var. *maritima*; *erigona* — (NSW); *exilis* — (SA; aff. *exilis* — (NSW); *goniocarpa* — (SA) Tooligie; *gracilis* — (Vic); *latisquamea* — (WA); *leptocarpa* — (Vic); *lineariloba* — (SA) Streaky Bay, Gawler Range; *melanocarpa* — (Qld), (NSW); *muelleri* — (SA); *multifida*; *nivalis* (Vic) Falls Creek (atypical forms), Mt McKay; *nodosa* — (Qld) Cunnamulla, Quilpie, (NSW) Narrabri; *obovata*; *oncocarpa* — (WA); *papillosa*; *procumbens* — (NSW) Diamond Head; *ptychocarpa* — (NSW) Mt Canobolas, (Vic); *pusilla*; *radicans*; *readeri*; *rigidula* — (NSW), (Vic) Falls Creek; *scapigera* — (Vic) Dargo High Plains, Gippsland Alps; *smith-whitei*; *spathulata* subsp. *spathulata* — (NSW), (Vic) Falls Creek, Dargo High Plains, Gippsland Alps; aff. *stuartii*; *tadgellii* — (Vic) Dargo High Plains, Falls Creek; *tenuiscapa*; *whitei* — (Qld) Quilpie 8/95, 9/93; *xanthocarpa*.
- Calocephalus citreus*
Calomeria amaranthoides — (Vic).
Calotis cuneifolia; *inermis*; *multicaulis*.
Campactra barbata — (Qld).
Cassinia aculeata form — (Vic), (SA); *adunca* — (NSW); *compacta* — (NSW); *laevis*; *longifolia* — (NSW); *quinquefaria* — (NSW); *subtropica* — (Qld, NSW); *tenuifolia* — (NSW) Lord Howe Island; sp. aff. *uncata* — (Vic); sp. — (Vic) Pine Mountain; (NSW) Joonama Dam.
Celmisia sp. — (Vic) Gippsland Alps.
Cephalopterum drummondii (cream large heads, pink and white, small yellow) — (WA).
Craspedia paludicola — (Vic) Lal Lal.
Erigeron bellidioides — (Vic) Falls Creek; *nitidus* — (Vic) Falls Creek; ?*paludicola* — (Vic); sp. Mt Buffalo
Erymphyllum glossanthus — (WA) Mt Magnet.
Haptotrichion colwillii — (WA); *conicum* — (WA).
Hyalosperma glutinosum ssp. *glutinosum* — (NSW, WA) and ssp. *venustum* — (WA); *praecox* — (Vic); *pusillum*; *semisterile* — (Qld); *zacchaeus*.
Lawrencella davenportii — (WA); *rosea* — (WA).
Leiocarpa supina — (SA); sp. — (Qld), (NSW).
Leptorhynchus baileyi — (Qld); *nitidulus* — (Vic) Aireys Inlet; *squamatus* ssp. *alpinus* — (Vic); ssp. *squamatus* — (NSW); *tenuifolius* — (Vic).
Leucochrysum albicans ssp. *albicans* var. *albicans* — (Vic) Winton, Alps, (ACT); *fitzgibbonii*; *stipitatum* — (NT).
Leucophyta brownii — (Vic).
Microseris sp. 1 — (Vic); sp. 2 — (Vic) Mt Buller, Mt McKay; sp. 3 — (NSW, Vic).
Myriocephalus guerinae — (WA).
Olearia astroloba; *axillaris* — (Vic) Fairhaven; *ciliata* — (SA) Kimba; *decurrens* — (SA); *erubescens*; *floribunda* — (NSW); *frostii* — (Vic) Falls Ck; *imbricata* — (WA); *phlogopappa* — (Vic); *pimeleoides* — (Vic) Hattah Lakes, (Qld); *ramulosa*; *stuartii* — (NT), *subspicata* — (Qld).
Othonna gregorii — (NT) Uluru.
Ozothamnus cuneifolius — (NSW); *diotophyllus* — (Qld); *ericifolius* — (Tas); *hookeri* — (Tas); *obcordatus* — (Vic) Frankston; *rosmarinifolius* — (Tas); *scutellifolius* — (Tas); *secundiflorus* — (NSW); *thyrsoides* — (Vic); *turbinatus* — Eagles Nest L/O; sp.1 (previously thought to be *O. hookeri*) — (NSW).
Picris evae — (Qld) nd.
Podolepis canescens; *kendallii* — (WA); *monticola*; *rugata* — (SA) Murray Bridge.
Podotheca wilsonii — (WA).
Polycalymma stuartii — (NT).
Pterocaulon sphaceolatum — (NT).
Pycnosorus chrysanthes.
Rhodanthe corymbiflora — (Vic, SA); *gossypina* — (Qld); *polygalifolia*; *polyphylla*; *pygmaea* — (WA); *stricta* — (WA).
Rutidosis leptorrhynchoides — (Vic); *leucantha* — (Qld).
Schoenia cassiniana — (WA); *filifolia* ssp. *arenicola* — (WA); ssp. *filifolia* — (WA); ssp. *subulifolia* — (WA); *macivorii* — (WA).
Stemmacantha australis — (Qld).
Streptoglossa liatrioides — (Qld).
Vittadinia decora — (Qld); *dissecta* var. *hirta*; *gracilis* — (WA); sp. — (NSW) Wagga Wagga.
Waitzia podolepis — (WA).
Wedelia spilanthes — (Qld)
Xerochrysum bracteatum — (Qld); *viscosum* — (NSW, Vic).