

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

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THE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO. 78*Helichrysum scorpioides*

Helichrysum scorpioides X ½
(illustrated by Gloria Thomlinson)

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WEB PAGE <http://asgap.org.au/daisy.html>

LEADER'S LETTER

We would like to welcome new members Wendy and Peter Cox who are members of the APS West Gippsland Group. Wendy is currently President of the group and Peter is Secretary.

At our weekend meeting in May we were pleased to welcome Neville Walsh, Ross Dennis and country members Jan Hall, Barbara Buchanan and Ray Purches. Numbers were slightly depleted with Judy Barker, Gloria Thomlinson, John Armstrong, Anne Kerr and Matt Hurst not being able to attend. Ray Purches very kindly brought flowers for Judy who is recovering well from her hip operation. Special thanks go to Barbara Rooks and Brenda Moore for their help on Saturday, to those who provided such luscious food for Saturday's dinner and to Brenda and Tony Moore and Meryl Webb whose beautiful gardens we visited on Sunday.

Ross Dennis, our 4th Esme Salkin Student spoke about his project studying the relationships between *Leucochrysum molle* and the *Leucochrysum albicans* complex. A written outline of Ross's work is given later in this newsletter. After dinner, Jan Hall gave a talk, illustrated with some beautiful slides, about setting up their new waterwise garden and this too is outlined later.

Some time ago the AD SG decided to investigate production of DVDs as a means of providing information about Australian daisies to a wide audience at a cheaper rate than through publishing books. Many smaller and more distant APS groups find it difficult to attract speakers but can have these discs in their libraries to lend out to members or to show at their meetings. Further advantages are that discs can be produced in small numbers and are easily upgraded.

We wholeheartedly congratulate our member Joy Greig who has produced the first such DVD entitled 'Cultivation of Australian Olearias'. This production is a result of the many years Joy has spent studying and growing olearias in her beautiful garden at Mallacoota and of the many exploratory trips, discussions and correspondences she has had with other members.

Joy's disc was shown to a small group in Gippsland who thought it excellent and have purchased a copy for their library, as have several others. The DVD is now available from the AD SG for \$15, which includes postage within Australia.

Regards, Natalie

As subscriptions are now due (see Page 34), we ask that these be mailed to our treasurer, John Webb , 99 Fiddlers Green, Gloucester Ave., Berwick, 3806. Please do NOT mail them to me.

COMING EVENTS — Locations and topics from July to November for 2007

6. **17th July** — Pat and John Webb's, 99 Fiddler's Green, 57 Gloucester Rd, Berwick. **111-C-9**. 9769 7406
* Outlines of some lesser known daisies.
7. **21st August** — Brenda Moore's, 62 Ennismore Cres, Park Orchards. **35-D-12**. 9876 1267
* Continuation of Outlines.
8. **18th September** — Maureen Schaumann's, 88 Albany Dve, Mulgrave. **80-D-2**. 9547 3670
* The genus *Podolepis*.
9. **16th October** — Barbara Rook's, 1 Sunrise Hill Rd. Montrose, **52-D-9**. 9728 5455
* The genus *Pycnosorus*.
10. **20th November** — Shirley Carn's, 75 David Hill Rd, Monbulk, **125-A-2**. 9756 6147
* Christmas Breakup.

SUMMARY OF *LEUCOCHRYSUM ALBICANS* TALK

by Ross Dennis

The genus *Leucochrysum* currently contains five species. The *L. albicans* species is split into two subspecies *alpinum* and *albicans*. The *albicans* subspecies is further split into three varieties including *tricolor*, *buffaloensis* and *albicans*.

As the name suggests the *buffaloensis* variety is restricted only to Mt. Buffalo, the diagnostic feature separating this variety from *albicans* is a more triangular shape of involucral bract. The variety *tricolor* is so named due to the three colours present in its inflorescence; purple outer involucral bracts, white inner bracts and the yellow of the florets. *L. albicans* subsp. *alpinum* differs from the *albicans* subspecies in having broader leaves more densely covered in hair, only ever exhibiting white involucral bracts and range is restricted to the alpine regions of Victoria and NSW.

A morphometric analysis of the *Leucochrysum albicans* complex was carried out over summer at the Royal Botanic Gardens. The analysis was based on 13 characters and examined 118 Melbourne Herbarium specimens. A preliminary analysis including seed, floret, form, leaf and inflorescence characters found only inflorescent and leaf characters to be helpful in discerning the taxa. Plants of these taxa were also raised to compare the diagnostic features seen in the herbarium specimens to living plants grown in controlled conditions. The characters were found to be consistent between the living plants and the pressed specimens.

A further examination was made of leaf hairs and seed coating surface with the Scanning Electron Microscope (SEM). The chromosome numbers were also investigated.

Currently recognised species, *L. graminifolium* and *L. molle*, were used to compare the degree of difference between taxa within the *L. albicans* complex in order to assess a better ranking for these taxa.

(The dendrogram groups individuals based on their relative similarity to each other combining those that are most similar first.)

The *buffaloensis* variety didn't form a separate group but was distributed within the *albicans* variety, all other specimens formed groups corresponding to current classification, variety *tricolor* was the first to group with the *albicans* variety, and the *alpinum* subspecies was the last to group to the *albicans* complex after *L. molle* and *L. graminifolium*.

(The ordination graph arranges the individuals examined in two dimensional space based on their score from each character. Those specimens exhibiting similar characters will be grouped together on the graph, and the distance between different groups indicates the relation to other specimens. We are also able to assess the influence of the characters on the position of the individual to examine their relative importance.)

Again variety *buffaloensis* is distributed amongst the *albicans* variety indicating that the characters which distinguish var. *buffaloensis* are present in the range of characters observed in var. *albicans*. The *tricolor* variety was the closest cluster to the *albicans* variety.

The leaf hairs are composed of usually three thickened basal cells which abruptly taper to a ribbon-like extension composed of long collapsed cells. This is a common appendage amongst members of the Gnaphalieae tribe, and the structure was the same amongst all taxa examined. However, size and density varied amongst taxa. Most noticeably *L. molle* had the lowest density but the largest basal cells, while *L. albicans* subspecies *alpinum* had the greatest density and variety *tricolor* had the smallest basal cells. While the point which connects the seed to the receptacle (carpopodium) has been found to be useful as a micro character in other genus, there were no features found in the taxa examined.

In conclusion five taxa should be recognized from the six taxa examined. *L. albicans* subsp. *albicans* var. *buffaloensis* is indistinguishable from var. *albicans* and does not warrant recognition as a separate variety.

Varieties *tricolor* and *albicans* are non overlapping but variation is continuous (although bract colour is the only distinguishing character). *L. albicans* subsp. *alpinum* is distinct and should receive similar specific rank to *L. graminifolium* and *L. molle*. The glandular trichomes and the hairs are the "stalked glandular hairs on branches and leaves, frequently cottony" referred to in Flora of Vic. The hair density observed with the SEM was consistent with the character analysis. The glands and hairs are common to all taxa and common amongst the Asteraceae family. Seed exhibited much variation but according to morphometric analysis are not consistent with groups. All taxa have $2n = 16$ chromosomes, with *L. molle* $2n = 18$.

Suggested key to the taxa

1. a) Leaves spatulate to broadly obovate, margin flat, densely woolly, lacking obvious mucronate tip; Inner involucral bracts lanceolate to ovate, white, outer involucral bracts purple to brown (especially apparent in early stages of capitulum development) ***L. alpinum***

b) Leaves obovate to filiform, margin gently recurved to tightly revolute, cobwebbed to cottony or glabrescent, with mucronate tip; Inner involucral bracts suborbicular to broadly ovate or ovate, lanceolate to elliptic, white or yellow. 2.

2. a) Annual herb; leaves lightly cobwebbed, obovate to oblanceolate; inner involucral bracts suborbicular to broadly ovate, rounded, flat to obtuse at base of laminae, yellow.

..... *L. molle*

b) Perennial (or short lived perennial); leaves cottony or glabrescent, obovate to oblanceolate or filiform; inner involucral bracts obovate to ovate to lanceolate, white or yellow..... 3.

3. a) Leaves filiform, margin tightly revolute, glabrescent; involucre bracts narrow-elliptic.

..... *L. graminifolium*

b) Leaves cottony, margin recurved to revolute obovate to oblanceolate or linear; inner involucral bracts ovate to lanceolate, white or yellow. *L. albicans*

L. albicans a) Inner involucral bracts yellow.*L.albicans* var. *albicans*

b) Inner involucral bracts white.*L. albicans* var. *tricolor*

A 'NO-WATER' DROUGHT RESISTANT GARDEN

by Brenda Moore from the talk given by Jan Hall

In May 2007, Jan Hall gave our members an interesting presentation on drought resistant, water-wise gardens based on her recent experiences in creating a garden in an inhospitable environment in Yarrawonga.

Over two years ago Jan and husband Alan moved from a large acreage and nursery on flat clay plains, with hot dry summers and cooler moist winters to a flat two hectare windswept block adjoining an airport - this resulting in a happy husband and a wife with a determination to create a garden in extremely difficult conditions.

The house was built with passive solar heating and is sited facing east-west with big windows to the north. Water tanks were installed to harness any available water and keep it on site. With the house completed, Jan and Alan drew up a garden plan based on ten metre grids so that they could keep a record of what was planted where.

The property has a slight gradient to the back of the block. This gradient was deliberately 'disturbed' by putting in a mound and an ephemeral wetland. Early in the project, twelve truckloads of clay soil collected from a previously owned property were used to form this huge mound which now contains maybe 30-40 metres of soil, sandy loam, compost and gypsum. Jan still adds gypsum and dolomite lime to every planting hole. There are apparently no landscapers in Yarrawonga, so Alan valiantly took on a lot of the heavy work. (Well, he did have the pleasure of looking at the aircraft hangar in the background!)

A bulldozer was brought in to deep rip and break up the clay loam which probably had been untouched for the past forty or so years. Any existing vegetation appeared to be imported, with just a few native grasses. With the prevailing winds coming from the south-west it was decided to have windbreaks all around the property. Indigenous Box Iron Bark, Eucs., Wattles and other suitable large trees were planted and have been continuously added to.

Planning involved thinking about sustainability, being water wise and harvesting water, careful selection of plants, checking where they originated from and what type of conditions they needed so that the garden could be zoned efficiently.

Zone 1 covers the area around the house and includes the vegetable garden and the things that Jan 'can fuss over' and spot water as necessary.

Zone 2 contains plants that need to be helped through their first summer.

Zone 3 consists of indigenous and other tougher plants and covers the area furthest from the house.

As far as possible, the garden is designed on a system of mounds and drains to catch water and allow it to seep into the soil. Water is collected at one corner of the house and goes into a pond, with the landscape designed so that any overflow goes down a specially constructed dry creek bed to an ephemeral wet land. Jan and Alan have made a wide spoon drain along the length of their mound to act as a seepage line for any water that collects. A large rubble drain approximately 60 x 60 cm has been filled with broken bricks and topped with gravel - with plans for more attractive river pebbles to be added as a final covering at a later stage. Smaller drains carefully dug out along either side of the paths collect any available moisture and plants which need moisture are planted near these drains. If the road gets flooded there are aggy drains to take away the water from where it collects and move it to where it can be useful. An effluent system

containing 300 metres of drip line irrigates trees in part of the windbreak and these have grown well, providing some shelter for the property at last.

We learned that Jan is pretty expert at finding a use for free or inexpensive, available materials e.g. river pebbles were collected from a discarded heap by the roadside and used to line the pond. (The frogs quickly found the ponds and the birds quickly found the frogs - but Jan says there have always been some survivors to carry on the cycle). Second hand crazy paving was used in the paths. Logs for the garden are plentiful as trees are cut down at the airport at times. Some unwanted boulders have been acquired from a neighbour. Together, these have resulted in a naturalistic effect in the garden.

As well as working valiantly on practical garden tasks, Jan and Alan, together with the APS members in the region, in particular Barbara Buchanan, have produced a comprehensive little booklet entitled "*It's Only Natural - Water-wise Gardening in North-East Victoria*". It contains lists of suitable water-wise plants for the area as well as some easy to follow garden designs and other useful information. Wangaratta APS members collaborated with the local authorities and the agencies that edited and paid for the printing of the booklet.*.

Jan showed us the photographs of the development of her garden which she has used to illustrate her talks to local community groups and interested gardeners and some inspiring slides of gardens and landscapes she has learned from. Her talk was very interesting and informative and demonstrated how dedicated and hardworking gardeners can apply their skills and knowledge and, through careful planning, not only survive in difficult circumstances but also create a place of beauty.

We were most appreciative of Jan's input to our meeting and the time and energy she put into her presentation despite an already demanding schedule. Thank you Jan.

*To access the booklet "*It's Only Natural*" go to the Wangaratta council web site at www.wangaratta.vic.gov.au.

Click on 'Environment and Waste' on the side menu, then click on 'Water Use', then click on 'Water wise'.

**A detailed article by Jan entitled "*No-water gardening*" can be found in the APS Vic. quarterly magazine "*Growing Australian*" for March 2007. If you haven't read it yet - you should.

Acanthocladium dockeri

by Natalie Peate

(from the Greek *akantha*, thorn; diminutive of *klados*, a branch; because the branchlets end in a spine)

Very appropriately, *Spiny everlasting* is the common name given in *Flora of South Australia* to this excellent 'anti-personnel' and 'small animal protecting' plant for dry areas. It is called *Spiny Daisy* in the newspaper article following.

Occurring in South Australia and possibly still in NSW, it was long thought to be extinct as previously only known in SA from a single specimen collected in 1910 near Overland Corner SA. *A. dockeri* was rediscovered about seven years ago and other populations have been found in SA since, including one located on a roadside between Blyth and Brinkworth that we visited on the way to the Eyre Peninsular some years ago. Measuring about 5m long X1-2m wide X 1/2m tall it was probably a single plant spreading from underground stems. The overall appearance was silvery green with furry, silvery green stems ending in sharp, glabrous spines and small, about 1cm X 5mm, silvery green leaves. Flower heads were about 1cm across with yellow outer and disc florets and fawnish bracts. Seed did not germinate but cuttings struck well. Several plants were given to the RBG Melbourne, where they are growing well both in a garden bed and in the nursery, and to the RBG Cranbourne. Some were also given to members of the AD SG but these may not have survived. My plant finally died but I have been given 2 plants propagated from those given away.

Bentham says, in *Flora Australiensis* 1866, that it was originally found on sand hills near Darling River, NSW. It was named *Helichrysum Dockerii* by Ferdinand Mueller in 1861.

References:

Flora Australiensis Vol 3, 1866, George Bentham, assisted by Ferdinand Mueller.

Flora of South Australia, Vol 3, 4th ed., J. P. Jessop and H. R. Toelken, editors.

SEARCH IS ON FOR RARE PLANT

2007.)

(*The Flinders News* on 28th February

The hunt is on throughout the Mid North and the Flinders ranges for sightings of one of the most endangered plants on earth — the Spiny Daisy.

Thought to be extinct, the elusive plant was rediscovered on a roadside near Laura in 1999 by local landholder and Greening Australia member, Paul Slattery. Within a year, another two populations were found on roadsides near Laura and a fourth population was found near Hart. According to Mr. Slattery, each population consists of only one plant. Since then, despite a number of searches there have been no more sightings — until now.

Spiny Daisy Recovery Team member, Anne Brown, of Greening Australia, was driving along a road near Telowie in the southern Flinders Ranges earlier this month when she spotted a familiar grey foliated shrub out of the corner of her eye. On closer inspection she saw that it was the elusive Spiny Daisy.

"I couldn't believe it," Ms Brown said. "I've driven along this road many times and never seen it — the recent rains must have freshened the foliage and made the grey stand out," Ms Brown said.

The recent discovery of the fifth Spiny Daisy population is the first recorded for the Telowie area, and it gives members of the Recovery Team new hope that there could be more populations in the region. Members of the Recovery Team are always on the lookout for new populations of Spiny Daisy.

"It's a hardy plant with distinctive grey leaves, twin spines on the ends of the branchlets and small yellow flowers," Ms Brown said.

According to Environment and Heritage Department threatened species community liaison officer, Annika Everaardt, the recovery of this amazing plant is only possible because of a successful partnership. Those involved in the partnership include staff from the Northern and Yorke Natural Resources Management Board and the Department for Environment and Heritage, members of the Recovery Team and community groups. Local councils also provide help as they manage the roadsides that the Spiny Daisy calls home. Ms Everaardt said, like many other discoveries, a combination of knowledge, persistence and good luck is needed. "There have still been no records of the Spiny Daisy on private property, and the Recovery Team urges any landholders who think they may have this unique plant on their land to give them a call," she said.

DROUGHT TOLERANT DAISIES

(In NL 77 we begged our members to write about drought tolerant daisies for publication in later newsletters. If global warming and climate change alter our climatic conditions drastically we will all be glad of such information. Barbara Buchanan responded heart-warmingly quickly, and made the Interim Editor very happy.)

Barbara Buchanan of Myrree (Vic) reports on 14/3/07: 'I call it death by a thousand cuts, finding something else conked out every time I go into the garden, so mostly I just avoid going. I can't write about the garden as such, and am afraid of putting a jinx on the plants I choose to write about, so I have no conscience about not contributing to the last NL.

We have adequate drinking and house water but no garden water apart from the shower and washing machine buckets, and it has been like this all summer long. At first it was hard to know how to use the bucketfuls, which plants needed it most and which were going to survive long enough to repay watering them. It was just so pathetic an amount compared to the needs. So I concentrated on an area near the entrance which I had reclaimed from a *Feijoa*, into which I had put a selection of small daisies to brighten the entrance. These are still flowering happily and doing their job of welcome. It is also close to the washing machine — less carrying necessary. I had put in a few new olearias but I doubt if any have survived. I'll check after the rains. One big factor has been the amount of shade, plants in full sun definitely fared worse

There are six olearias which have hardly missed a beat and have mostly never been watered.

Olearia astroloba needs no introduction. At the height of the heat some of the bushes looked scraggy and lost a few branches, but I think there were always one or two flowers to be found. Currently they are showing a modest growth spurt and have a lot of smaller than usual flowers. I still have not seen a good seed set.

Olearia lanuginosa makes a nice grey carpet that is now throwing a sprawling arm or two up among taller shrubs. It never loses its fresh clean look, just spreads gently. I have had it layering for easy propagation.

Olearia iodochroa is another star. One plant dates from the very first plantings here and is still earning its place. I lost it once among others around it, but when they died there was little ioda with a long bare main stem, but not ugly and twiggy. I am particularly fond of its neat shiny leaves and the iodine-and-starch blue of

the flowers as they open. They do fade, but they also last a long time on the bush. A neat little fellow for my new town garden, where I hope to have a cottage garden effect in the front and expect to use a lot of daisies. We won't be moving in for quite a time but hope to get the garden under way if it rains.

Olearia passerinoides in contrast is inclined to grow straggly and produce dead twigs, the sort I have been cutting out furiously this summer. I suspect it needs shade to survive without water, but it should be able to be placed so that its skirts are hidden, and the fine wispy fresh green foliage currently topped by white flowers can add to the cottage look. It appears too delicate to me to survive the summers, but it does.

Then there is the mystery *Olearia sp.* nobody can identify for me. I wonder if it's a seedling that popped up in my garden. It grows to head height and covers itself with pale blue flowers for weeks in spring/summer. In dry years it does get twiggy and I seem to be forever cutting out twiggy stuff but I think it's worth it. Its growth is a neat upright column which is a desirable but not common shape for use in garden design.

Finally *Olearia erubescens* small leaf form, another desirable foliage plant only growing to a foot or so, whatever that is in metric. In good conditions it can produce red new growth flushes. In spring the flowers completely smother the leaves but it is fairly short lived compared to the others I have described. There is a taller larger leaved form which is showier in flower but not nearly as neat and tidy in habit, and I suspect three of my plants have died. Still they have withstood normal summers without water.

I haven't included *Olearia pimeleoides* because this climate does not seem to suit it very well, but my plant was there last time of looking, and it is too far away to ever have had water. It may do better in Benalla.

I started off saying there were four O's to mention. I seem to have found a few more. I plan to write about my ideas for the small town garden which will include a lot of daisies, for the next *Growing Australian*. I have sung the praises of these before, but here you have them collected for the particular drought tolerant theme.

DAISIES GIVEN TO RBG CRANBOURNE BY AD SG

by Josie Vaganiance

(Josie Vaganiance is the Co-ordinator of Horticulture at the Royal Botanic Gardens Cranbourne. We are extremely fortunate that Josie will contribute to the AD SG newsletters. The following letter from Josie will introduce her proposal:

'At John Webb's request attached are notes about some of the plants given to the Royal Botanic Gardens Cranbourne (RBGC) by the Daisy Study Group.

The plants I have selected are *Olearia pimeleoides* and *Olearia ramulosa*.

John's request has prompted me into writing about the Asteraceae family in the Australian Garden and I hope I can send them to you on a regular basis for your newsletter.'

Olearia pimeleoides

This olearia features in the Dry River walk in two beds. The plants in both beds are growing well, although not in flower at present. The plants are up to 1 metre high and have been pruned 2-3 times (formative pruning) to promote a dense habit.

The new growth with the downy white stems is dominant, which makes the plant very attractive even without flowers. The plants are located with *Swainsona greyeana*, *Jacksonia horrida*, and *Ixiolaena tomentosa*. Nitrogen in the form of IBDU and Phostrogen have both been applied to these plants over the growing season.



Photo by Josie Vaganiance

Olearia ramulosa

The *Olearia ramulosa* is flowering at present (23/3/07) and is being mobbed by various insects because of its fragrant, white flowers. They can be seen in the Water Saving Garden in the middle terrace. Of the fifteen, twelve now survive. In fact the *Olearias* were trimmed back to about 3cm high by rabbits in spring and have grown well since then. The remaining plants are multi-stemmed gems to about 15–20cm and have been flowering over this last month. These plants have been treated with nitrogen in the form of IBDU and sulphate of potash over the growing season.

DASIES IN THE ROYAL BOTANIC GARDENS CRANBOURNE

by Pat Webb

On a cooler Sunday (February 25th) John and I visited the Australian Garden as visitors, to enjoy it without guiding visitors — and to look specifically at some of the 60 species of Asteraceae that have been planted in the Garden.

Personally, I have two favourite areas in this garden — the Dry River Bed and the red Mudstone area in the Eucalyptus Walk. It was great to see the growth and development of the eucalypts and banksias, especially the ground-cover banksias — *B. burdettii* — which are growing so well.

Of course, many of the daisy species were at their best in the spring and early summer. At the February meeting of AD SG we were discussing the effects of the long, hot dry on the daisies in our own gardens. How they were going in the Australian Garden is of interest to us.

Looking at the Red Sand garden near the Ephemeral Lake sculpture as one arrives, the *Xerochrysum* 'Dargan Hill Monarch' planted in the north-south axis attracts attention immediately. They have been spectacular for many months. I was delighted to see that the garden staff had been busy 'dead-heading' during the week. It is worth remembering that the Australian Garden plants are receiving some water in this early establishment phase. Jason Davenport, the Horticultural Manager says 'At a later time, the water for the majority of the landscaped area will be turned off and the plants should survive on natural rainfall.'

Near the Ephemeral Lake sculpture in the Red sand garden are some *Ixodia achillaeoides* (small leaf). These plants continue to grow well and look neat and compact. However, it is quite a different story along the Eucalyptus Walk where there are several *Ixodia* growing near the mudstone rocks. These are looking quite sad, with one or two dead plants. I was looking at these plants with Eleanor Hodge (the Volunteer Master Gardener 'on duty'). She says she has had *Ixodia* die suddenly. Last year I remember these plants looking happy and healthy. Close by are several *Ozothamnus diosmifolius*. These have been growing well over the past two years, with long periods of flowering. Having been regularly tip-pruned, they have been much admired. I do notice that one or two plants are becoming quite woody.

In the Dry River Bed, the Arid Garden and on the banks of the Serpentine Walk, there is an extensive planting of *Chrysocephalum apiculatum*. These plants were spectacular up to early December, but have now been cut back. Some of the *C. apiculatum* var. *ramosum* are seeding, and small plants are appearing in the pebbles and paths.

There are several *Olearia* species in the garden, but I couldn't identify them all today, (no labels in some areas), but some I do know and watch with interest. *Olearia astroloba* is in the Futures Exhibition garden and the Eucalyptus Walk. After a pruning in late spring it was soon in flower again. This plant in the Eucalyptus Walk is not looking well. The *Olearia pannosa* ssp. *cardiophylla* in the Eucalyptus Walk Box area are not at all happy looking either.

Of course, the *Brachyscome* species are well represented in many parts of the garden. Overall, my personal opinion is that in some areas they seem overwhelmed. Along the wide path to the *Xanthorrhoea australis* and *Kingia*, the *Brachyscome multifida* mauve form is used as a border plant and they seem diminished. I enjoy the small patches of *Brachyscome* in such areas as amongst the Mudstone and again in the Home Garden. Various species of *Brachyscome* — *B. diversifolia*, *B. 'Pilliga Posy'*, *B. multifida* var. *multifida* and *B. 'Amethyst'* look appropriate and blend well with the surrounding flora.

Helichrysum rutidolepis is growing in various areas of the Garden and has been very showy. It has never been cut back and now I note it is seeding in the gravel and pebbles.

Whilst I had noticed the plant previously, I had not stopped to look closely at *Calomeria amaranthoides*, a monotypic genus which is endemic in SE Australia. I note it can grow to 4m — currently the three specimens growing in the Rockpool Promontory are about 1m in height. They have large green leaves on top of a thick

stem with prominent white/green markings. It is not a pretty plant. By the illustration in Costermans' *Native Plants and Shrubs of SE Australia* it should be quite spectacular with large panicles of loose weeping flowers. We shall be watching out for the flowers. I understand they give off a strong incense-like perfume and the plant dies after it flowers. A Daisy Group wander together next spring could be fun and interesting.

References: *Encyclopaedia of Australian Plants:* Elliot and Jones
Everlasting Daisies of Australia: AD SG
Native Trees and Shrubs of SE Australia: Leon Costermans

AN UNKNOWN OLEARIA SPECIES

by Beth McRobert

'Ever since September I've been going to send the enclosed specimen. It was found growing on the edge of a State Forest in Brisbane's western suburbs. There is no recording of an olearia in that area according to our Herbarium. The Western Suburbs SGAP members who found the plants took a sample to the Herbarium, who were unwilling to say it was *O. nernstii*. I asked for a sample to send you — so herewith the sample and some seeds, and I hope they will be of interest to you.'

Beth's specimen is a stiff, strong-looking branch, obviously hairy. Under the microscope the hairs are cream, coarse, appear to be stellate and extend along stems, flowering stalks and even on the bracts. The leaves are alternate, stalked, narrow-ovate to lanceolate, 2–7 x 0.4–2cm, dark green above and paler below. Both surfaces have obvious veins, the upper with a few stellate hairs and the lower with a tangled mass of stellate hairs. The blades are flat, and the margins of the mature leaves are lobed. The heads are in loose corymbose clusters, each one top-shaped, about 10mm long and 7mm wide. There are about 12 white ray florets per head, 10mm long. The achenes are hairless, pale yellow, cylindrical, 4mm long, vertically ridged. The white pappus, 4.5mm long, consists of 2 rows of barbed bristles of different lengths.

Beth's letter indicated that it would be worthwhile to look up a description of *O. nernstii*, a species with which I was unfamiliar. The following description was found in Stanley, T. D. and Ross, E. M. (1986). *Flora of South-eastern Queensland*, Volume 2, p. 521.

'14. *Olearia nernstii* F. Muell.

Shrub up to 1.5m tall; Stems loosely ferruginous or whitish stellate tomentose. Leaves alternate; petioles 0.5–1 cm long; blades narrowly ovate, apex acute to acuminate, base cuneate, margin remotely toothed, rarely ± entire, 3–10 cm x 1–2.8cm, loosely stellate tomentose below, sparsely so above or ± glabrous or scabrous. Heads in terminal corymbose panicles; involucre broadly turbinate, 0.7–1.2 cm broad, 4–7 mm long; rays white, 5–10 mm long; disc florets yellow. Achenes 2.5–3.5 mm long, glabrous; pappus 4–5 mm long.

Widespread in the eastern Moreton district, also recorded from the Wide Bay district. Flowers mostly spring, occasionally autumn.'

Neville Walsh has since confirmed that Beth's specimen is *Olearia nernstii*.



Olearia sp. from Brisbane's western suburbs
 Photocopy of dried specimen x ½

Seed production of pink paper daisy (*Rhodanthe chlorocephala* subsp. *rosea*) and yellow strawflower (*Schoenia filifolia* subsp. *subulifolia*) (Asteraceae)

Julie A. Plummer, David T. Turner and D. Cheongsaat

Plant Biology, Faculty of Natural and Agricultural Sciences, The University of Western Australia.

(This is a brief summary of a completed project made possible by a grant from the Australian Flora Foundation for research into the biology and cultivation of Australian flora. The summary appeared in the Australian Flora Foundation *Newsletter* January 2007 and AD SG has received permission to reproduce it from Ian Cox, Secretary, Australian Flora Foundation Inc. The Foundation's website, www.aff.org.au contains a full report of this project.)

'Everlasting daisies provide a stunning display of flowers in Western Australia during the wildflower season. Two of these species, pink paper daisy (*Rhodanthe chlorocephala* subsp. *rosea*) and yellow strawflower (*Schoenia filifolia* subsp. *subulifolia*) have recently been brought into cultivation.

The impact of water deficit on plant growth, flowering and seed yield were examined in both glasshouse and field experiments. Adequate watering, particularly during early seedling growth, was essential for high yield. Water deficit modified the plant canopy by reducing stem number and branching which limited the sites for terminal inflorescence and seed production. The same proportion of stems produced inflorescences in well-watered and water-deficit plants, and stem number contributed more to seed yield than any other component. Water deficit reduced seed weight of *R. chlorocephala* but only at the lowest level of irrigation (25% of A pan evaporation). Well-watered *R. chlorocephala* produced more seeds per plant than water-deficient plants. Differences in seed number were entirely due to differences in stem number. In contrast, water deficit reduced seed number per inflorescence and seed weight in *S. filifolia*, and this effect was more profound than in *R. chlorocephala*. Water deficit had no consequent effect on *R. chlorocephala* seed quality measured as seed germination. This contrasted with *S. filifolia* where water deficit reduced seed viability 6 months after harvest.

Germination of seeds of both *R. chlorocephala* and *S. filifolia* were poor at harvest. Seeds were stored at a range of temperatures (5–65°C) for 10 months. *Rhodanthe* seeds lost dormancy within two months when stored at room temperature (25°C). They withstood storage temperatures up to 55°C and after ten months at this temperature, germination was still 90%. Yellow strawflower was 100% dormant at harvest and required a long period of dry storage (3 months at 25–40°C) to overcome dormancy. Heat (65–105°C for 12 hours to 13 days) was further investigated as a means of overcoming dormancy. Seeds exposed to 80°C for 11 days germinated (88%). Seeds exposed to >80°C had reduced germinability due to reduced viability.

The mechanisms of dormancy were further investigated. Seedcoats of *S. filifolia* were permeable to water and dormancy was imposed by the embryo. Exogenous gibberellic acid (30µM GA3) alone, or in combination with KNO3 (10mM), broke dormancy in intact seeds. Chlormequat and paclobutrazol, which interfere with gibberellin biosynthesis, reduced germination in seeds in which dormancy had been broken by either dry storage or heat. Applied GA3 reversed this inhibitory effect. Thus GA biosynthesis was required for the germination of dormant *S. filifolia* seeds. Dry storage or heat facilitated the transition of seeds from a dormant to a non-dormant stage by increasing the ability of seeds to synthesize endogenous gibberellins.'

REMINISCENCES OF JOINING AD SG (on the occasion of its 25th birthday) by **Bev Courtney**

It was about 1982 or '83 and I had just discovered native plants. I'd joined SGAP (as it was known then) and had found my way to a flower show and plant sale at Karwarra Gardens. Just inside the door on the left hand side was a diminutive display by something called the Brachyscome-Helipterum Study Group. Diminutive was the word. The flowers (Australian daisies as I learned) were mostly tiny and displayed in a fascinating collection of equally tiny bottles and vases which, as I learned later, were Judy's collecting passion.

The brachyscomes with their soft ray florets were in shades of purple, mauve and white. The helipterums fascinated me most for nearly all of them were dried. Dead as dodos, they still retained their bright colours I remember tiny yellows and whites, but there must surely have been the striking pinks of *H. roseum* (now *Rhodanthe chlorocephala* ssp. *rosea*) although I don't remember it.

Some time later, serendipitously as it seemed, my copy of *Australian Plants* came in the mail and on the back cover a small item caught my eye. The Brachyscome-Helipterum Study Group was inviting new members. Simply send \$5 and you would be rewarded with enough seed to get you going, it said.

I duly sent off my \$5 and awaited the mailman and the seed. When it came it was a charming and apologetic letter from Maureen. The article in Australian Plants had been an error, she said. The Study Group membership was full and she was very sorry, but here (returned) was my \$5. The letter went on to say that if a vacancy occurred I was free to join.

I was mortified. Rejected! She didn't want me! Humph! In a mixture of rage and disappointment I threw the letter and the \$5 into a drawer.

Life went on. At some later stage another letter came from Maureen. A vacancy had occurred and if I was still interested, I was welcome to join. Monthly meetings were held at her home (address given) on the first Tuesday of the month.

So it was that I found myself on the next first Tuesday of the month, driving down Police Road, Mulgrave, looking for the turnoff to Albany Drive, wondering what had prompted me to do it. I'd never joined anything before and, in those days, was always painfully shy of meeting new people, and here was a subject I knew nothing about. I hoped there would be a crowd and I could lose myself in a corner, but no, it was a private home; there wouldn't be room for a crowd. I pulled up outside number 88 and walked up the drive with a thumping heart.

Maureen opened the door with a welcome that put me at ease straight away. She led me down the passage into the family room and the sea of smiling faces panicked me anew. As she went round the room introducing people I think I stammered something inane like: "I'll never remember all your names". Actually it wasn't all that bad. There were two Joys, which cut things down a bit and Alf (Salkin) was the only male, so that was easy. I remembered Esma too, with a slightly severe look and a manner that had me putting her down as a retired headmistress. "You'll need a copy of Gwenda Davis' Revision of the Genus *Brachyscome*", was the first thing she said. "I'll bring you a copy to the next meeting." "Oher.....thank you", I said, wondering what on earth it could be. She was true to her word and I left the next meeting with the copy.

After that followed many years of first Tuesdays, first at Maureen's, then later at Esma's as she took over the leadership of the Group. There were trips away, garden visits, May meetings, flower shows, and plant sales, book writing and book committee meetings. There were sad times too, and people no longer with us: Evan, Betty, Beth, Julie, Vic, then very sadly, those stalwarts of the native plant world, Esma and Alf. I can't begin to remember it all, but it was a part of my life that I will never forget. Thank you to all those (still extant) members who made AD SG such a delight to be part of.

MARCH MEETING DEMONSTRATION

by Judy Barker

This meeting was held at Peg McAllister's on 20th March. She had gone to some trouble for her demonstration on how to divide plants, and held her audience spellbound while she showed us how easy and successful it could be if the McAllister formula was followed. First she explained that, although this was usually the right time for division, the drought had held some genera back. They had remained dormant rather than getting on with their normal development on receipt of autumn rain. For example, the adventitious roots on clumps of *Orthrosanthus laxus* var. *gramineus*, and *Anigozanthus* 'Gold Cross' were shorter than usual. Roots are called adventitious if they do not grow as branches of the primary root. In Peg's examples they grew from the bases of stems and were white and relatively thick in contrast to the old roots which were longer and brown.

The following species had been dug up the day before, wrapped in damp newspaper and placed in plastic bags:

1. *Frankenia pauciflora*. The specimen came from a large pot and had a mass of fine brown roots under the stems. Peg traced the position of the roots and cut the stems to provide a smallish superstructure to suit the size of the remaining roots. Several new plants could be obtained from this material.

2. *Pycnosorus globosus*. Peg had dug up one plant, the base of which seemed to separate naturally into three sections. Each had some strong roots. Roots and leaves were cut back.

3. *Anigozanthos* 'Gold Cross'. This cultivar had appeared in one of Peg's gardens and she had recognized its potential and had named it 'Gold Cross'. At a later stage it was PBR'd as 'Cross of Gold'. It is a perennial

with branched rhizomes. Peg showed us that quite a large rhizome could be cut into two or three good divisions, but each division must have its own healthy adventitious roots. Those pieces without their own roots were discarded.

4. *Blandfordia grandiflora*. Division of these perennial herbs was described as 'tricky'. Some of the audience had not had success in previous attempts, but we were all keen to try again when we saw flowers hanging on a stem of one of Peg's potted divisions. Before dividing clumps they had to be observed to be vigorous and showing signs of new growth. Rather than adventitious roots being seen when they were levered up, 'dingle dangles' would be observed. The advice given was that not many divisions could be expected from one clump. The leaves should be trimmed, and the roots if necessary. Peg had already prepared two pots and these were generously given away. Of the three pots given to me some time in February, all had clumps of 5–7 leaves. Just four days before this presentation I had noticed a flowering stem about 15cm high in one pot. Such stems must creep up on the observer because I had been hand watering these pots and had not noticed. Peg twitches off the outside leaves to give the centre room to send up a flowering stem, so I had followed this advice and that may have urged one pot into action.

5. *Brachyscome multifida*. Peg had removed the central, oldest part of a white-flowered plant that had sent out healthy lateral shoots in several directions where new, young plants were established. She clipped this specimen up in no time, each piece having several good roots and expressed the opinion that there would be no worries getting this species going.

6. *Orthrosanthus laxus* var. *gramineus*. This perennial herb is one of Peg's favourites. It is frequently used in all sorts of positions and never fails for her. In this case she had dug up a clump and potted some pieces on the day before the meeting. It still left three pieces which could be gently detached, each having strong roots and a few adventitious roots. The roots and leaves were cut back before potting.

7. *Halgania cyanea*. This desirable little plant would never grow at our place until Maureen suggested that it liked alkaline conditions. It immediately received a mulch of limestone toppings and has never looked back — nor have two other species of *Halgania*. Peg has it ramping away in her front garden, suckering enthusiastically under brickwork and popping up in the drive. She had followed a sucker gently along its length, making sure that there were roots beneath the shoots it had produced. The sucker had been gently exposed, cut at both ends, and dug up from the soil. It was a matter of a moment for her to snip it up into about four divisions.

8. *Halgania preissiana*. Peg sometimes acquires pot-bound plants which she tips out when she gets home. She re-pots them in her own compost after pruning roots and leaves. If it suckers, as this species does, she also cuts off suitable suckering growth and repots it too. A nice plant, growing strongly was shown to us as the parent plant from a shopping expedition, and another pot held its sturdy sucker, also obviously growing.

There are a few rules to remember when next we attempt to divide plants:

1. It is important to work on one division at a time and finish it. First dig out the plant.
2. Shake off as much soil as possible and even soak in a bucket of water, the better to see where to do any cutting. Prepare the divisions, pot them and water in well. If using commercial potting mix for potting up divisions always try to include some soil from the garden so that it will wash around the roots and hold potting mix and roots together.
3. Choose cool weather for dividing, or at least take the plant into shade to keep the roots out of the sun.
4. When Peg is preparing divisions and is cutting back bundles of leaves she likes to make an inverted 'V'. It is a very neat shape.

NAME CHANGES

Some name changes in Asteraceae (and other families) appeared in an article written by Jan Sked in the SGAP Qld. Region *Bulletin*, December, 2006 on p. 33. The article is titled **More Taxonomic Changes to Queensland Plants** — Sorted by Old Name.

Jan's introduction states 'The following is a selection of taxonomic changes from the list printed in the "Queensland Herbarium Achievements" 2004–2005. This list covers new plant names and taxa — July 2004

to June 2005 — and has been compiled by Peter Bostock and Ailsa Holland with assistance from Queensland Herbarium staff and Research Associates.

I have sorted the list alphabetically by species. These taxonomic changes are in addition to the ones previously printed in the December 1998, March 1999, March 2001, March 2002, September 2002, December 2003, June 2004 and June 2005 Bulletins.

* = plants marked with an asterisk are introduced species.
auct. non = of author(s) other than.'

Old Name	New/Current Name	Family
<i>Cassinia</i> (new species)	<i>Cassinia capensis</i>	Asteraceae
<i>Cassinia compacta</i> (auct. non F. Muell. : Everett in Harden 1992)	<i>Cassinia straminea</i>	Asteraceae
<i>Cassinia compacta</i> (auct. non F. Muell. : Everett)	<i>Cassinia telfordii</i>	Asteraceae
<i>Cassinia longifolia</i> (auct. non R. Br. : F.M. Bailey)	<i>Cassinia straminea</i>	Asteraceae
<i>Cassinia longifolia</i> var. <i>straminea</i>	<i>Cassinia straminea</i>	Asteraceae
<i>Centrantherum punctatum</i> ssp. <i>australianum</i>	<i>Centrantherum australianum</i>	Asteraceae
<i>Othonna gregorii</i>	<i>Senecio gregorii</i> (reinstated)	Asteraceae
<i>Senecio</i> (new species)	<i>Senecio brigalowensis</i>	Asteraceae
<i>Senecio</i> (new species)	<i>Senecio depressicola</i>	Asteraceae
<i>Senecio</i> (new species)	<i>Senecio interpositus</i>	Asteraceae
<i>Senecio cunninghamii</i> var. <i>serratus</i>	<i>Senecio lanibracteus</i>	Asteraceae
<i>Senecio hispidulus</i> var. <i>dissectus</i>	<i>Senecio bathurstianus</i> (reinstated)	Asteraceae
<i>Senecio hispidulus</i> var. <i>hispidulus</i>	<i>Senecio hispidulus</i>	Asteraceae
<i>Senecio lautus</i> (auct. non G. Forst.: G. Benth. & F.M. Bailey)	<i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>	Asteraceae
<i>Senecio murrayanus</i> (auct. non Wawra: Qld Herbarium)	<i>Senecio tuberculatus</i>	Asteraceae
<i>Senecio pinnatifolius</i> (new variety)	<i>Senecio pinnatifolius</i> var. <i>serratus</i>	Asteraceae
<i>Senecio</i> sp. Birdsville	<i>Senecio serratus</i>	Asteraceae
<i>Senecio</i> sp. Blackdown Tableland	<i>Senecio prenanthoides</i>	Asteraceae
<i>Senecio</i> sp. Bunya Mountains	<i>Senecio nigraphicus</i>	Asteraceae
<i>Senecio</i> sp. Cooroy	<i>Senecio brevitubulus</i>	Asteraceae
<i>Senecio</i> sp. E in <i>Flora of NSW</i>	<i>Senecio prenanthoides</i>	Asteraceae
<i>Senecio</i> sp. Enoggera	<i>Senecio prenanthoides</i>	Asteraceae
<i>Senecio</i> sp. Main Range	<i>Senecio longicollaris</i>	Asteraceae
<i>Senecio</i> sp. Mt Huntley	<i>Senecio scabrellis</i>	Asteraceae
<i>Senecio</i> sp. Mt Mowbullian	<i>Senecio distalilobatus</i>	Asteraceae
<i>Senecio</i> sp. Tara	<i>Senecio queenslandicus</i>	Asteraceae

CONGRATULATIONS

To Peg McAllister whose PBR'd *Brachyscome* 'Metallic Blue' has sold 41,710 plants in USA and 36,832 plants in Europe. This is a truly excellent result for Peg's long-flowering, easily grown selection with the profusion of large, bright mauve daisies.

MEMBERS' REPORTS

Matt Hurst of Wagga Wagga (NSW) reported on 16/2/07: 'Things have been patchy the last month with the hot weather putting a stop to most gardening activities. I have planted lots of *Xerochrysum bracteatum* and *Podolepis rugata* at the Nursery. As that white *Xerochrysum* I wrote about in my last report went so well I just had to see how they would go when massed. Two forms of *X. bracteatum* have been put out, the most promising being a low basal type with genes from the Sandy Beach form. Flowers are so far white and yellow, the other forms seem to be typical annual forms — more open and with many colour forms.

The *Podolepis rugata* plants are doing OK — some seem to be quite vigorous while others have not done a great deal. All are watered daily and given some light doses of fertiliser. Sadly, nobody seems to notice any of them even though they have been put in prominent positions.

We had some rain this week that was not widespread, unfortunately. We got 30mm at home but the Nursery (which is 5km to the east) got 12mm, and the weather station in the city got 0.2mm for the same day.'

Gloria Thomlinson of Shepparton (Vic) observed on 20/2/07: 'We are still able to use watering systems here on alternate days. I am, however, saving water from rinsing and run off (while you wait for hot or cold water to come through) for the pot plants and the spring plantings. I have lost some of the latter. Where I added water crystals I had success. Without rain I have watered the garden once a month.

My *Acacia* 'Green Mist' had a very bad infestation of scale so I sprayed it with white oil on the coolest part of the day, but still it burnt and gradually died back. It was a lovely specimen and will leave a big hole in the landscape. I've noted three different types of scale this year, all on acacias.

On 3/3/07 Gloria added the following: 'We have had rain of sorts. It really wet the foliage. How wonderful it is to see plants respond to that, like no amount of watering can do. Today I potted on some very neglected cuttings with some amazing root systems. The next job is to start planting the pots held over from spring — if it rains properly!

Did I tell you that I have a worm farm for the kitchen scraps? It's working well. I syphoned off some worm juice last week and fed a light solution to some plants that looked in need of some TLC.'

Barrie Hadlow of Theodore (ACT) writes on 21/2/07: 'I have come across yet another Ellis Rowan "daisy painting" which is troubling me to identify. As before, there isn't a date (between 1870 and 1922) to tell me where she might have been at the time of painting. The scene reminds me of WA's Stirling Range area, but this is only a guess. I have used the *Flora of the South-West* to no avail. Perhaps another *Olearia* sp.? The distinctive discolourous leaves I cannot trace, yet hoped they would quickly lead me to the plant's identity.

I believe I have possibly about 180 paintings to identify from the approximately 900 acquired by the Government in 1929 for the Nation. Others have helped at times it seems. Recently I noticed a list of Ellis Rowan's paintings that botanist Alex George had tackled, and even he put an occasional "?" following a determination. I haven't any idea how many of these paintings might be daisies.'

(Barrie is doing an excellent job with these paintings. ADSG has suggested an identification from time to time and we have begun to understand what a difficult task it is! The painting Barrie refers to was of a few branches of clusters of white daisy heads in the foreground with a beautiful backdrop of a distant range, and a carpet of herbs on the ground. There was no knowing how tall the daisy grew, nor the identity of the ground covering herbs. The leaves were indeed the identifying features, being large, dark green above and paler (probably due to woolly hairs) below, but they didn't help our identification. They were the shape of leaves of *O. rudis*, but the flower-heads of that species are larger, mauve to purplish and usually borne singly. The leaves of *O. rudis* are concolorous.)

Christina Leiblich of Kimba (SA) sent seed with a card on 26/2/07: 'We had some rain here about Christmas and on January 18/19/20. Tropical in origin. Have had many hot days (40–42°C) and humid as well. One farm had about 4 inches (101.6mm). There are still lagoons there so maybe something other than weeds will show their heads.

Regarding seed: *O. ciliata* no. 1 had some cow manure dug in before flowering last year. The leaves became lighter in colour, as did the flowers. (Ungrateful, that.) However, that plant had the most flowers and seed. The *O. pimeleoides* plant living dangerously near a crossroads is now no more due to the road works upgrade.'

Ros Cornish of Carwoola (NSW) reports on 5/5/07: 'We have had a little bit of rain which has relieved the pressure slightly of having to water. We are still losing some plants. I plan to do a lot of work in the garden over winter. There are heaps of plants in the shadehouse that really must be planted. It has been interesting to see many plants flower once the rain came. We have another flush of *Leucochrysum albicans* (var. *tricolor* and var. *albicans*), *Brachyscome rigidula* is flowering in profusion locally and a number of my *Podolepis* spp. are flowering — even the bottlebrushes are in flower again. It's amazing what decent rain can do.'

EDITOR'S NOTE (mid-May 2007)

Barrie Hadlow has sent me a CD of the Canning Stock Route Plant List and accompanying photos. He and Jenny took a conducted tour with Diamantina Outback Australian Tours in August 2006, the Centenary year

marking the commencement of construction work to create the stock route. Barrie took photos and notes of plants seen as they were moving along and has recently identified the plants as far as possible and has combined his photographs with them in the CD. I have been most impressed with the result. If any member would like to borrow it please contact me.

As you see from the above articles and reports, we are all concerned about the falling levels of our water catchments and the lack of rain. The long, hot summer has meant that we have been forced to seek numerous ways of saving water so that we could water our plants. In many cases this involved bucketing and hand watering. At least in Melbourne we are still allowed to water with hoses and mains water for two hours twice a week. In most country towns there is no watering with mains water and some towns have to truck water in. We have installed three tanks each holding 2100 litres. They collect water from our roof and the roof of the double garage, and this has proved sufficient for us to water the tubes and the newly planted species. Lee tells me that 1mm rain is 1 litre on every square metre. Our roof area is 130sq metres so that we collect 130 litres from each 1mm of rain. Our tanks were installed by lunchtime one day in March and 23mm fell overnight. This fall alone half filled the tanks and a subsequent 14mm finished the job. So far the garden is holding up well — the plant losses seeming to be no greater than the losses over most summers. Species that have died are mainly elderly croweas and some tetathecas. Of daisies, *Olearia myrsinoides* has lost a few branches but is growing still, *Podolepis* sp. 1 has returned with the rain and I'm watching to see whether *Leptorhynchos squamatus* will revive. Nothing will kill *Brachyscome angustifolia*!

I am grateful to all those members who have written articles for this newsletter. I am about to have a hip replacement and will miss at least the May meeting. Natalie will finish the newsletter. Let us hope that better than normal winter rains begin to fall soon. Judy.

PLANT SURVIVAL OR DEATH

We have asked members for the names of species that have withstood the prevailing drought this year, and some members have already complied with our request.

APS Maroondah members have been gathering information on the hardiness of plants in gardens during this period of drought. They have prepared a table so that details of plant deaths or survival in as many gardens as possible can be entered. Very useful information could be amassed in this way.

At least the plant names, approximate age and date of death should be entered. They have included a column for comments in which they would like features of individual gardens recorded that might have had an influence on a plant's death or survival. Examples would be situation (top of a rise, low-lying damp spot), degree of overhead or root protection, use of mulch or soil wetting agents. An important fact to know would be the amount of water the plant received on average.

Symbols are suggested for the following:

Soil type — S = sand
 SL = sandy loam
 L = loam
 CL = clay loam
 C = clay

Age — Y = young
 M = mature
 O = old

Mulch — N = none

This seems to be a useful collection of facts. Barbara has already given us much information of this kind for her olearias, as has Pat for the daisies of RBG Cranbourne. If other members could help us, would you be able to include at least some of the above facts in your lists?

SHOW AND TELL

(March meeting) Natalie showed us specimens of *Olearia astroloba*, *Chrysocephalum apiculatum* 'Golden Buttons', and a fine-leaved form of *Xerochrysum bracteatum* in flower.

Barbara Rooks showed us a specimen of an everlasting daisy with a small yellow head and very silvery leaves. As it didn't strike a chord as an Australian species, we thought it may have been a *Helichrysum* from South Africa or New Zealand.

SEED DONORS

We are grateful to the following members for donations of seed: Judy Barker, Ros Cornish, Christina Leiblich, Beth McRobert, Maureen Schaumann.

Among the species sent to ADSG by Christina is seed of an *Ozothamnus* sp., which she described as being creamy yellow, very bushy, about 30cm high. It was collected on 9/2/07 on Kimba–Cleve Road, SA, on the crown of the road next to the bitumen. It certainly has the folded-over leaf tip and the right achene for the species that was known as *Helichrysum bilobum* ssp. *bilobum* or ssp. *scabrum*. Since the botanical district in which it was collected is EP (Eyre Peninsula) it must be ssp. *bilobum*, which is now *Ozothamnus retusus*. Subspecies *scabrum* does not occur in EP and is now *Ozothamnus scaber*.

SEED BANK

Garden and Commercial Additions

Brachyscome parvula

Leucochrysum albicans ssp. *albicans* var. *tricolor*

Olearia ciliata no. 1 and no. 2 (both from pots with soil from bush)

Provenance Additions

Leucochrysum albicans ssp. *albicans* var. *albicans* (Tarago Road, NSW)

Olearia nernstii (western suburbs, Brisbane)

Ozothamnus retusus (Kimba–Cleve Rd, SA)

SUBSCRIPTIONS NOW DUE 2007/2008

Subscriptions are \$10.00 per year for members within Australia and \$20.00 per year for overseas members. Please send subscriptions to our treasurer, John Webb, 99 Fiddlers Green, 57 Gloucester Ave, Berwick, Victoria, 3806. Cheques should be made payable to the 'Australian Daisy Study Group'.

SUBSCRIPTIONS WERE DUE ON JUNE 30th 2007

Those members who have paid to July 2008 will have a green dot in the rectangle.

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DEADLINE FOR NOVEMBER NEWSLETTER — 1st OCTOBER 2007