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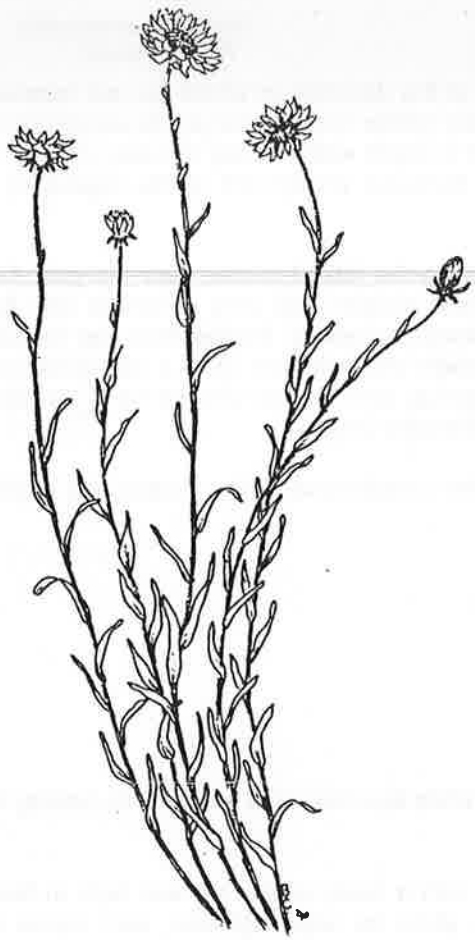
ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

THE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO. 58



x 2/3

Rhodanthe chlorocephala ssp. *rosea*
(dwarf white form)

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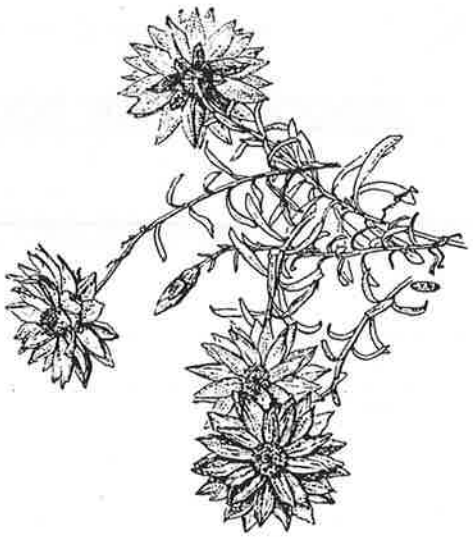
LEADER'S LETTER



Rhodanthe anthemoides
'Paper Cascade'

It is with some trepidation that I take over the reins from Judy in my new role as 'leader'. I have just begun to realise what a monumental task it is and how efficiently Judy and her two predecessors have handled the job. In doing so they have developed the Study Group from a few interested, but largely inexpert, members to what is now an Australia wide group respected for its expertise, and soon to launch a third book dedicated to the horticulture of unique Australian daisies.

Next year we will celebrate the 20th year since the group was formed by Maureen. During those years many species, cultivars or forms of daisies have appeared for sale in nurseries, both native and exotic. I think it is fair to say that this is in no small part due to the influence of a number of our members. I hope we can continue this influence in the future.

The immediate task in the new year will be to see to the publication of the 'Everlastings' book which is at last nearing completion. Following that, perhaps we could take stock and look at the direction in which we are headed. For instance, should we concentrate our efforts on further publications (either small or large), development of hybrids or cultivars, further work on germination strategies, or more in depth work on say shrubby daisies or small-headed species such as *Angianthus*? If any member has a particular preference in this regard, or a project they would like to suggest, this is a good time to do so.

On behalf of all members I sincerely thank Judy for her dedication to the job of leader over the past five years. She is untiring in her enthusiasm for daisies, a green-fingered grower (and very generous with her successes), extremely knowledgeable and an expert author and newsletter editor. Furthermore her friendly personality is infectious and she is an inspiration to us all. Although she will now take a well-deserved retirement as leader she will remain a valuable contributor to the group, and I know she will be a constant source of advice and information for myself as the new rookie. Many thanks Judy.

Finally, as the Christmas festivities fast approach, I wish everyone the compliments of the season and prolific daisy growing in the new year.

Regards, Joy

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In Memory of Vic Schaumann

ADSG members were devastated to learn that Vic had an accident while Maureen and he were on holiday at Pambula, and he died in hospital five days later.

For those members who did not know Vic, he was a tall, thin man with a lovely smile. He was born in New Zealand, did not have a very happy childhood, joined the army when he was eighteen, later came to Melbourne, met a red-head while they were both learning Italian, married her and lived happily in Melbourne thereafter. The Victorian members knew him as a most helpful, caring man with a cheerful disposition. Ever since Maureen founded the Study Group in 1981 Vic had been one of the most important members, not so much in attending our meetings (except for morning or afternoon tea) but in giving invaluable assistance at every one of our events. He helped at displays, plant sales, talks to groups, social meetings and expeditions. As Book Committee members drew up to the kerb at 88 Albany Drive Vic was always there to greet us and carry in our boxes and plants. He loved a chat on the phone if Maureen was absent. He was a very sociable person.

Vic had many interests — reading, current affairs, photography, computers, astronomy, wine, food, and in recent years took a keen interest in the delightful Schaumann garden, often being the first to find newly flowering plants.

Evan Schaumann, their only child, was also killed in an accident when he was sixteen. Maureen has very few family members, being an only child herself, but she has many friends, and none better than Joy Cook who

helped to found the Study Group. We ADSG members are now trying to help Maureen as Vic always helped us. We miss him.

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SPECIES or FORMS NEW to MEMBERS

Leptorhynchos elongatus DC.

Lanky Buttons

(NSW, ACT, Vic, SA, WA)

Seed sown in mid-January germinated in 12–20 days. Only seven seedlings appeared, two of which later died. They were potted on in mid-March and all five were placed in a 20cm pot in April, the better to gather seed. I watched them, at first with trepidation in case they too died, and when they didn't I regarded them with great pleasure. Rosettes of leaves filled the pot for months without doing anything further. Since the leaves are covered mostly with short, stiff, septate hairs, and a few short glandular hairs, they presented a beautiful haloed effect if they were lightly frosted or wet.

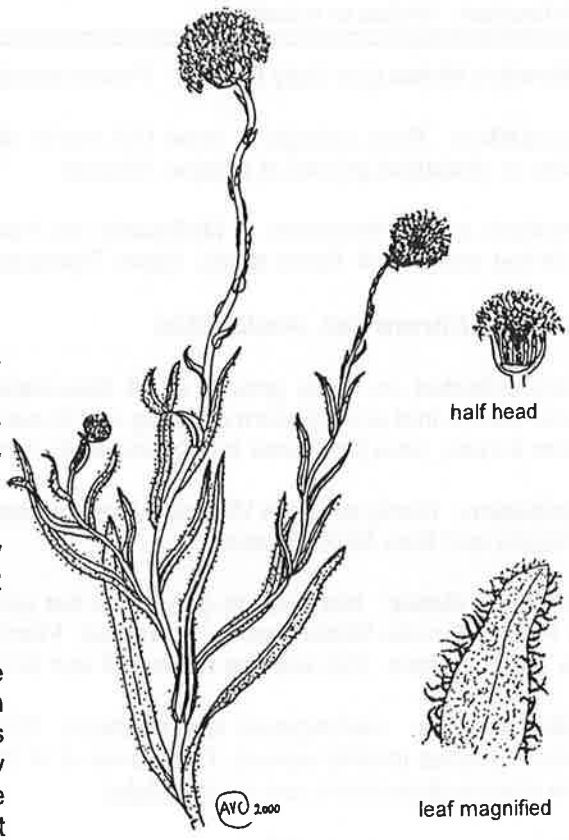
In August the plants started to grow, sending up stems. In October the stems are branching, the plants are in flower and emitting a faint perfume. It is obvious that a much bigger pot should have been used for five healthy plants.

Description: Branching, hairy stems to 48cm are upright and sprawling. Each flowering stem is tipped with a whitish bud. At first it seemed that flower-heads akin to white helichrysums would be the outcome, but these papery outer bracts became more transparent as the stems elongated and the buds enlarged. Finally green inner bracts with brown tips emerged above the whitish bracts and then bright yellow florets appeared. At this stage the heads are concave, with open florets only around the periphery. Gradually more florets open and eventually the heads are convex and 2.5cm across, the florets bending over the rim and almost obscuring the bracts.

Lower leaves are 8–12 x 1–1.5cm, lanceolate or oblanceolate, sessile, the bases almost stem-clasping. The leaves decrease in size up the stems until they are very small under the head. These small leaf bracts have papery tips exactly like the outer bracts.

The fruits are 5 x 0.7mm, brown, warted, with a relatively long, narrow neck surmounted by a pappus of 24–32 slightly barbed, white bristles.

Heads are being rubbed together so that seed will be available for members. This looks like a pleasing addition to the garden, and is probably quite tough in cultivation. It is a bit like an *Ixiolaena* when the head is fully developed. My experience with *Leptorhynchos* species lies mainly in the cultivation of *L. squamatus,* which I love for its neat, bright heads and wiry stems. *L. elongatus* is a larger, softer plant altogether but I don't think it shows to its greatest advantage in this small pot.



Leptorhynchos elongatus x ½

I picked a stem and put it in water for Ailsa to draw next day. The perfume became more noticeable indoors. When Ailsa picked up the specimen the leaves had drooped and the heads had aged, so I think this would not be a good cut flower.

by **Judy Barker**

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GENUS *HELICHRYSUM*

by Esma Salkin

The general description of *Helichrysum* in the *Flora of Victoria,* Vol. 4, p. 784 has been modified to fit Australian taxa. A key for Victorian species is included.

Brief notes on *Helichrysum* species are as follows:
Bracts are yellow, white or occasionally pink.
The receptacle is flat.
The florets are yellow, all bisexual or a few outer ones female.
The corolla is deeply 5-lobed, but female florets have 3 or 4 lobes.
Anthers are tailed at the base.
The obloid fruit can be glabrous, pitted, papillose or hairy.
The bristles of the mainly free pappus are barbellate.

H. adenophorum var. *waddelliae* x 1/3

Helichrysum adenophorum F. Muell.
Branched Everlasting, Mallee Everlasting

There are two varieties —

H. adenophorum* var. *adenophorum

An erect to decumbent annual, 15–60cm high, with stems branching in the upper half to one third. The sticky stems are rough to touch due to short glandular and septate hairs. Leaves are sessile, stem-clasping, 2–5cm long, glandular-hairy on the upper surface, woolly becoming glabrous on the underside, At high altitudes leaves are very woolly on the lower surface. The flower-head is up to 4.5cm across.

Distribution: Mallee to subalpine.

Cultivation Notes (per Judy Barker): Flower-heads 3.5cm across. Plants grow to 50 x 40–70cm.

Propagation: Root cuttings or seed (10 month old seed yielded 17% germination). Natural germination is prolific on disturbed ground at Noojee, Victoria.

Collections in the Herbarium at Melbourne are from Coleraine, Kaniva, Murrayville, Mt Abrupt (Grampians) and in wet sclerophyll forest areas, Upper Thompson Valley and at Noojee.

H. adenophorum* var. *waddelliae

Initially collected on rocky ground at Mt Speculation, Victoria, this variety is an eye-catching species with narrow leaves that are not stem-clasping and leaves are glandular (rough to touch). The flower-heads, 3–5cm across, have pink outer bracts and white intermediate and inner bracts.

Distribution: Rocky areas in Victorian Alps and as an understorey in wet sclerophyll forests at high altitudes in Victoria and New South Wales.

Cultivation Notes: Not easy to germinate but germinate prolifically after a hot fire, therefore pretreatment with Regen Smoke Water seems warranted. Plants grown by Judy grew to 54 x 44cm in pots. The heads were 3.0cm across. This species wires well and is ideal for floral art.

Similar species: *Helichrysum leucopsideum.* This species grows in locations occupied by the *H. adenophorum* varieties (mainly alpine). The leaves of *H. leucopsideum* are rough to touch, but not sticky. The claws of the intermediate bracts are not glandular.

Helichrysum rupicola DC.
(Qld.)

A low shrub, 0.2–0.5 x 0.1–0.3m, with alternate leaves, glabrous on the upper surface and woolly below. The yellow 'button' flower-heads are about 2cm across. Outer bracts are woolly. There are small bracts at the top of the stem and at the base of the involucre. The fruit, 1.5 x 0.5mm, is silvery and glabrous. The pappus is deciduous.

Distribution: This species is prevalent on sand dunes at Yeppoon and in the Byfield Forest. It is also recorded at Blackdown Tablelands.

Germination: Excellent on disturbed ground.

Cultivation: Limited experience in southern states. It lasts for 5 days when picked fully open but for 3 weeks when picked in bud. In the Byfield Forest hybrids between *H. rupicola* and *H. collinum* were observed. Hybrids between *H. rupicola* and *H. lanuginosum* have been reported.

Helichrysum rupicola x 1/3

Helichrysum rutidolepis and ***Helichrysum scorpioides*** (not described)

Identification of these two species can be a challenge for amateurs. This is due to variation within species and intermediates between the two species. The Provenance Seed Bank would welcome seed from a wide range of locations, particularly from the Blue Mountains, NSW. Please note if plants are tufted or suckering. A small pressed specimen, location and ecological details with seed collection would be appreciated or let us know which ones you are growing. Seed from provenance material in your garden is usually not suitable. It can easily hybridise with others you are growing.

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EXPLOITS OF A WANGARATTA GARDENER

by Ray (Leunig) Purches

Daisies going well here. Planted two clumps of *Rhodanthe chlorocephala* ssp. *rosea* (Pink Everlastings) in April. One lot on part of a very poor rocky lawn. Piled a heap of used potting mix complete with dead sticks — ex plants — to 30cm high by about 1.5 metres diameter. Staggered over with a couple of granite rocks which fell on top (for root protection). Heap topped with concrete sand about 5cm thick to suppress weeds and droughts. Several handfuls of *Rhodanthe* seed sprinkled on top and watered in with a fine spray over the following three days. Finished with low phosphorus Osmocote sprinkled amongst seed. First seedlings two weeks later. Unexpectedly, I now find that my sand castle is bare on each slope except for the north eastern aspect. However, these plants are growing well and are a nice deep green.

My other patch was about 3 metres in diameter using Warby gravel about 10cm deep, then 5cm of concrete sand, followed by seed and fertiliser as before. Plants are well spaced over the 7m² and are growing well. Any suggestions or explanations? Is there a maximum slope for growing pink everlastings on sandcastles, have I been invaded by gophers? And no — we don't have snails here, only slugs. Any solutions gratefully received.

Planted one of Julie Strudwick's precious *Olearia pannosa* in spring last. Put rock beside it to stop myself trampling on it later. Each time I looked it seemed smaller and browner and sadder. I felt sad too. Then in May, new leaves appeared. My *Olearia pannosa* is still struggling but exchanges smiles with me these days. Could be the start of something big.

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OLEARIAS

by Jeff Irons

Can you imagine the humble daisy with its appearance transformed by being placed upon a bush? If you can, then you know what an *Olearia* looks like. In fact the common name for olearias is Daisy Bush (or Daisy-bush). Just like their herbaceous counterparts, woody daisies can have flowers which are large or small. Some of them have large panicles of flowers. About 100 of the 140 odd species come from Australia, New Zealand has about 40, and there are a few in other places. They are all evergreen trees or shrubs. Many have ornamental foliage, and some have aromatic leaves. These attributes should make olearias popular, but some are decidedly tender and others are a bit pernickety. As a consequence only one is at all common, and a few more are seen in southern and western Britain. If we are going to continue experiencing warm winters then many of them could be tried in inland parts of Britain. Olearias will stand alkaline soil, and the late Lord Talbot de Malahide built up a remarkable collection at his home, Malahide. Now called the Talbot Botanic Garden it is administered by Fingal Council and is under the care of APS member Anne James. She has catalogued and extended the collection, which is the principal National Collection. About 50 olearias can be bought from British nurseries, so any selection of them has to be very much a personal choice. I have chosen here to describe some I have grown and like.

The genus is named after a German botanist. He latinized his name, Oelschlaeger, to Olearius. Though usually a stickler for using the correct pronunciation, in this instance I join the ranks of the ignorant and say o-leer-ee-a, like the name of the hypothetical Irish botanist. The correct pronunciation is o-lee-AIR-ee-a.

To my mind the glory of the genus is *Olearia phlogopappa*. Harold Comber was enthralled by it, and wrote that the species should be grown in all its many forms. A native of Tasmania and mainland south east Australia this shrub will reach 2m in moist soil. In dry places it is only half that height. The best forms flower so profusely in May that their leaves can hardly be seen. Usually white, it has colour variants with pink or blue flowers. In England these are less cold tolerant than the white forms. Yet in Ireland Anne James finds that they are hardier! Some growers have difficulty in keeping *O. phlogopappa* for as long as 18 months, while in other gardens it will live as long as 18 years. The species can be hardy to –18°C (0°F) with no snow cover, and will grow in soil that is winter wet. The key to longevity could be good autumn ripening, which enables young growth to build up a thick cuticle, and so protects the plant from winter cold.

There is much confusion among nurserymen's plants of *O. phlogopappa,* but the names "Comberi" and "Splendens" crop up frequently. "Comberi" plants grown at Kew Gardens have flower-heads with more space between the ray florets than those of the "Splendens" plants. They are also smaller. Though hardier than the "Splendens" form the pink "Comberi" has more purple in it. Unfortunately all these differences can really only be discerned by having all the plants together. It is best to assume that all nurserymen's names are wrong, and to buy a plant simply because you like it. One form of the species has deliciously scented flowers, and the leaf scent of others is, at times, decidedly unpleasant. Cultivated plants rarely set much seed, but I have had self-sown seedlings of *O. phlogopappa* appear in the Mountain Avens underneath them.

The alpine *O. frostii* has an undeserved reputation for tenderness. Coming from a small area in the Australian Alps it grows well in places with climates as different as Malahide and Munich. It has to be said though that under Irish conditions it is not particularly winter hardy. A small shrub with an open habit, it is rarely more than 0.5–0.7m high, and bears 4–5cm daisies in early summer. Usually lavender in colour, they can be white. Though rare, pink forms occur in the wild. This is a shrub benefiting from an understorey of low growing plants. This species rarely lasts long in dry soil, but is long-lived in moist soil, even with the winter water table at soil level for a week or more. There is an unusual plant outside the glasshouses at RBG Edinburgh. It has just a single stem and is nearly 1m high. This species does not set fertile seed every year, and while most provenances give immediate germination, some need stratification. The immediate strains usually have a small proportion of seed which germinates after stratification. It is desirable to grow on such seedlings. This maintains the species' mechanism for survival.

Olearia algida is an Australian species from above the snow line. It can be upright or low growing, and in British nurseries *O. floribunda* is often sold as *algida*. Both species have tiny dark green leaves clustered along their branches, pressed close to the stems. The leaves are revolute. This is a botanical term signifying that the edges are curled under. Unless you know both species it is almost impossible to tell them apart using just their descriptions. Unless you know both species it is almost impossible to tell them apart using just their descriptions. If anyone wants to try; the leaves of *O. algida* are more revolute than are those of *O. floribunda.* Their margins curl under so much that they almost meet, and the leaves look like tiny blobs. They are also wider at the base, and in the plants I know, darker in colour. Small white flowers appear in summer, and can be spectacular. Confined almost entirely to alpine gardening circles, this is a species that should be grown more widely. In the wild the species can have an upright habit, but all the nursery plants I have seen in Britain were wider than high. The unfamiliar will probably find it simplest to use this as a diagnostic feature and eschew any purported *O. algida* with an upright habit. In the wild this species is rarely more than 0.7m high. I have seen taller plants on Tasmania's Central Plateau.

O. microphylla has been offered in the APS seed list. Known commonly as 'Bridal Wreath' it has slender branches covered with white flowers in late winter and early spring. Possibly it will survive outdoors in the south west of Britain, but for most of us the species is an indoor plant.

The Twiggy Daisy Bush, *O. ramulosa*, is another Australian species, this time not very cold tolerant. It can vary from the small cushion of coastal forms to a forest shrub 3m in height. Although small, less than 1cm across, the blooms can cover the bush completely at flowering time. Usually white, they can be blue, and a selected form is sold in Britain as "Blue Stars". Graham Hutchins obtained it from the Tasmanian nurserywoman Margaret Kinsey. The main flowering is from late August to October, or even into November. Some years see a brief June flowering too. The species is not very wind stable, and because of its uncertain life span a continual stock of rooted cuttings is desirable. Like *O. microphylla* it is an excellent conservatory plant.

Olearia ramulosa

O. argophylla is a tree, found in fern gullies and other moist parts of south east Australia. Its mid-green oval leaves are quite handsome, as are the large heads of white flowers borne in early summer. The seed offered a few years ago in the APS list came from trees seen

milder parts of Britain. Since its wood makes a good cabinet timber the species is a good tree to plant for posterity.

Tasmania, Victoria and South Australia are the homes of *O. floribunda.* In Tasmania it grows from sea level up to 1000m or so. An upright shrub, it has tiny leaves and profuse flowers in early summer. In the wild there are forms with blue or mauve flowers but in British gardens I've seen only white flowered plants. Individual flowers have 3 to 7 ray florets. Plants will grow to 2m or even more. Pruning after flowering has ceased will enable the grower to keep plants to about 1m. As mentioned earlier, this species has been confused with *O. algida.* You can separate the two with ease only when they are in flower, and even then you need a hand lens. At the base of each flower head there are some small scale-like things. They are called phyllaries. Those of *O. floribunda* have a small bunch of cottony hairs near their tips. Those on *O. algida* do not have hairs.

Olearia lirata and *O. stellulata* create a problem. These two species are now believed to be the same taxon (N. Lander pers. comm.). What this means is that the two species are simply different forms of the same plant. However, until the revision is published validly they have to be mentioned separately. At the Talbot Botanic Garden a plant of *O. lirata* obtained from the National Collection at Inverewe was obviously not the correct species. Possibly other plants elsewhere are also named incorrectly. Both species have leaves with a prominent network of veins and the leaf surface between the veins looks lumpy. The flowers are in much branched panicles, not directly on the branchlets as in *O. phlogopappa.* Both species can be quite tall, up to 5m high. True *O. lirata* can be seen at the Talbot Botanic Garden and at Ness Gardens. There is a plant called *O.* x *scilloniensis* which is supposedly a hybrid between *O. lirata* and *O. stellulata.* Since its parents are the same species, it should be called *O.* "Scilloniensis" — with double quotes because the name is unregistered. It was described in the *Gardener's Chronicle* for June 15th, 1951. However, the plant was known some years before that, because it is described in Arnold-Forster's 1948 book *Shrubs for the Milder Counties.* Writing in *Practical Gardening,* in 1993, Graham Pattison stated that the plant arose in 1910, and gave *O. phlogopappa* as one of the parents. This may not be a mistake because Bentham's description of *O. lirata* includes *O. phlogopappa* in part. It could be that the *lirata* parent was actually *phlogopappa.* The plant I grow as *O.* "Scilloniensis" is pure phlogopappa with not a trace of heavily reticulated leaves or flowers in panicles. Clearly there is confusion in *O.* "Scilloniensis", just as there is in *O. phlogopappa,* and I have not been able to clarify things with information from Tresco. Once again the best advice is to buy a plant because you like it.

Olearia argophylla x ¼

Pruning olearias is quite simple, just clip over with shears after flowering. Many do not take kindly to severe pruning, so if large branches have to be removed it is wise to spread their removal over several years.

Propagation from cuttings is best carried out between late October and early February, because shoots which are growing vigorously do not root. Seed germinates easily. *Olearia* seed is usually supplied uncleaned, and the proportion of viable seed is often low.

The plants mentioned have been my choice. The adventurous gardener will find even more to choose from in the Plant Finder's lists.

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THE CHARMS OF *BRACHYSCOME TENUISCAPA* var. *PUBESCENS*

by **Pat Webb**

Aust. Plants for Containers

(Pat is the Leader of the ~~Garden Design~~ Study Group)

The little plant you kindly brought me last December, *Brachyscome tenuiscapa* var. *pubescens,* is flowering away outside my kitchen window — a great delight.

I potted it on into a 20cm pot (from the tube) in March, and it has now spread over the whole pot, ready for splitting up and repotting again after this burst of flowering is finished. It flowered first for us on Christmas Day — a lovely surprise; then at the end of January it decided that was enough. This flowering started, much to

my surprise, in July, and each day I see new buds appearing. It certainly is a great container plant. I love their sturdy blue/mauve flowers on the 12–15cm stems. During the summer I kept the pot in the shade of my Huon Pine, and over the winter period it has been out in full sun (when we've had any) and it appears quite happy. Thank you for introducing me to this delightful little brachyscome.

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The Systematics of *Olearia* (Astereae) and *Rhodanthe* (Gnaphalieae), combined approaches using molecular and morphological data.

by **Edward Cross**

(Edward Cross is a PhD student at CSIRO Division of Plant Industry and the Australian National University in Canberra, working with Randall Bayer, Michael Crisp and Christopher Quinn. He completed his undergraduate studies including his work on the systematics of *Olearia* at the University of New South Wales, Sydney. He has been a member of ADSG since 1998.)

Olearia Moench. (Astereae, Asteraceae) is one of the largest (ca. 180 spp.) assemblages of daisies in the Australian region (Nesom 1994). Members of *Olearia* are recognised by their shrubby habit and in many cases by a dense indumentum on the lower leaf surface. In almost all characters including leaf hair morphology, achene vestiture, the number of bristle series on the pappus and chromosome number there is a great deal of variation. This has made assessing the relationships within *Olearia* and between *Olearia* and other genera problematic.

Bentham (1867), based largely on variation in the abaxial leaf tomentum, recognised five sections within *Olearia.* The validity of these groups and their applicability to non-Australian *Olearia* have been questioned. *Olearia ramulosa* (Australian endemic) has hairs placing it in several sections (Willis 1955), while *Olearia heterotricha* (New Guinean endemic) has hairs which do not conform to any section (Koster 1966).

Many affinities between *Olearia* and other genera have been proposed. Early taxonomists considered *Olearia* to be closely related to the Northern Hemisphere *Aster* (Hooker 1867; Cheeseman 1906). More recent studies have associated *Olearia* with Australian genera including *Achnophora, Celmisia, Damnamenia, Erigeron* (*pappocromus*), *Pachystegia, Pleurophyllum,* South American *Chiliotrichum* (Bremer 1994), *Oritrophium, Hinterhubera, Novenia* (Nesom 1994), the Madagascan genus *Madagaster* and the Hawaiian genus *Remya* (reviewed in Heads 1998). Many of these studies, however, fail to consider that similarity may be a result of shared ancestry or convergent or parallel evolution. This makes assessing the validity of these relationships difficult.

The *Rhodanthe* Lindley (Gnaphalieae, Asteraceae) is a smaller (ca. 47 spp.) though equally problematic genus endemic to Australia. *Rhodanthe* are recognised by their herbaceous habit, their mostly plumose, occasionally barbellate pappus bristles and densely villous achenes (Anderberg 1991). As in *Olearia*, there is a great deal of morphological variation including leaf hair morphology, chromosome number, the nature of the anther appendages and capitula morphology (Wilson 1992). As a result, Wilson divided this assemblage into 11 sections. Several of these sections appear to be more closely related to taxa outside of the *Rhodanthe* such as *Chrysocephalum apiculatum* and *Leucochrysum albicans* and hence the monophyly of *Rhodanthe* is questionable. At the generic level affinities with *Cephalipterum, Erymophyllum, Hyalosperma, Ixiolaena, Gilberta, Leptorhynchos, Myriocephalus, Podolepis, Podotheca, Triptilodiscus* and *Waitzia* have been recently proposed (Anderberg 1989; Wilson 1989; Wilson 1989; Anderberg 1991; Wilson 1992). Members of *Rhodanthe* may also be related to *Anemocarpa, Argentipallium, Chrysocephalum,* and *Leucochrysum,* amongst others, due to their co-occurrence in the now illegitimate *Helipterum.* Due to difficulties in interpreting the phylogenetic significance of the varied morphological forms, however, the affinities of *Rhodanthe* are presently unclear.

In cases such as these molecular data have proven especially informative of relationships between taxa. Molecular methods have many advantages including the large number of variable characters, often typified by relatively low levels of homoplasy and fewer problems of determining homologous states (Hillis 1987; Doyle 1993). When used together with morphology, congruence can be sought and new systems of classification can be formulated.

In brief, the ITS molecular data set for *Olearia* suggested that it is not monophyletic and that it requires re-appraisal. Within Astereae, relationships were complex: some Australian members of *Olearia* and the South American *Chiliotrichum* may have diverged early in the evolution of the tribe, while other groups of *Olearia* appear to have evolved much more recently. Although Bentham's sections were only of limited use in defining

monophyletic groups within *Olearia*, other characters such as the coverage of hairs on the achene were informative of relationships. This work is currently being prepared for publication.

At present a molecular dataset consisting of 2 chloroplast and 2 nuclear regions is being assembled to determine relationships in *Rhodanthe*. All currently recognised species in *Rhodanthe,* along with strong representation from all the groups mentioned above and *Helichrysum* are required for the completion of this project. At a later stage a morphological database will be constructed and subjected to cladistic analysis.

My sincere gratitude is extended to Judy Barker and other members of the ADSG who assisted me in providing plant material and seed for the *Olearia* and *Rhodanthe* projects. Further material of *Rhodanthe, Helichrysum* and allies with provenance details would be greatly appreciated.

Glossary

Homology: A similarity in plan and detailed structure of organs in different species resulting from their descent from a common ancestor; often a similarity despite difference in functions.

Homoplasy: Similar features in different species having independently evolutionary origins; a similarity not resulting from common ancestry; convergent or parallel evolution.

Monophyletic: A group of taxa that are descended from a unique common ancestor that is also a member of the group.

Paraphyletic: A group of taxa that are descended from a common ancestor that is not unique to the group, i.e. the common ancestor is also the ancestor of taxa that are outside of the group.

Polyphyletic: A group of taxa that are descended from more than one ancestor.

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ANNUALS — BED PREPARATION AND NUTRITION

(These replies were sent by two of our members in response to a plea for information for the Everlastings Project.)

At Mount Annan

by Lotte von Richter

I have spoken to a member of the horticultural staff, Dave Wilson, who is involved with the direct sowing of the large areas of native daisies here at Mount Annan. The display has been in the same area for 3–4 years now, using the same 3–4 species — *Rhodanthe chlorocephala* subsp. *rosea, Schoenia filifolia* subsp. *subulifolia,* and *Rhodanthe manglesii* in pink and white.

The area is a raised bed about 20–25cm high that is cultivated by rotary hoe into a fine seed bed in about May every year. Some Multigrow is thrown on (about 30g/m^2) and some slow release iron. On top of that is spread the seed. This seed is mixed with our potting mix and spread evenly over the prepared bed. We use about 4g of seed per square metre and the potting mix is 1 coir : 2 sand and includes some slow release

Nutricote fertiliser but this is apparently not necessary for this seed sowing exercise. The area is maintained damp for the first 2 weeks as it is critical that the seeds do not dry out. Once the seedlings are established they can be fed with Aquasol every 10 days or so depending if they are running behind schedule or not. The seed they use is bought new every year as collecting from our own plants seems to result in washed out looking colours!

At Porongurup

by **Mark Saxon**

Many of the *Rhodanthe, Schoenia* and *Bracteantha* fall into a class I call gross feeders. We use high rates of fertilizer application both at planting and as side dressings (up to three in a season) during the growth stage. This includes the use of very high nitrogen content formulation such as urea or DAP. We have even applied urea as a foliar spray broad acre when conditions have been dry. This all equals more tillers and vastly increased bud formation. I have noted some flowering and vegetative growth anomalies with very high rates of nitrogen but it is unusual.

I usually try to time potassium applications at or close to bud burst to stimulate flower size and number as well. **Larger discs mean more seed.** I have heard it said that making the flower larger reduces the pigment available for the flower and hence makes it less attractive. It's rubbish.

I have never seen unfertilized plants equal cultivated material either for size or appeal, but this perception is an individual thing. In years of collecting and cropping I can't remember seeing a volunteer crop equal the original in either size or cover without applying fertilizer.

I have grown the daisy species in our commercial seed list many times in the past. You could apply my comments safely to them and be categorically right. We have trialled many others, however, and I guess you could extend my comments to cover all the *Rhodanthe, Schoenia,* and probably most other annual Asteraceae in WA. I have been involved in cultivation trials over the years for a large number of species in the genera *Scaevola, Velliea, Ptilotus, Gomphrena, Swainsona, Calandrina, Lobelia* and a host of other native annual dry land species. My comments also apply to them.

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DAISY ONSLAUGHT CONTINUES IN CANBERRA

by **Ros Cornish**

Last year's propagation and sale of daisies by the Growing Friends (of the National Botanic Gardens) was so successful that we decided to repeat the exercise this year. As the instigator, I decided to also include some local grasses in the propagation session on 3 June. Many of the people who bought our daisies last year were knowledgeable about grassland plants and we are always being asked to propagate grasses. I hoped that combining local daisies and grasses would provide an interesting propagation session for our members resulting in a wider variety of plants to sell to the public. Besides, I'm nearly as passionate about grasses as I am about daisies so this was an opportunity to try and propagate some.

I reduced last year's long list of daisies to 24 species, six of which were not local but have performed well in our garden (south east of Canberra) which is colder and more exposed than most of Canberra. The grasses all occur in the southern tablelands. We used seed obtained from SGAP Canberra and ADSG, some of which was several years old. This did not concern me unduly as we had plenty of daisy seed and could sow thickly and, with the grasses, I had read that many of them have long dormancy periods so hopefully we would avoid that problem. The seed was sown into punnets containing a mixture of vermiculite and perlite. In most cases the seed was placed on the surface and watered in, but with very fluffy seed we put a little of the mixture on the surface to prevent it from blowing away. Most of the grass seeds were large enough to poke them into the mixture. It was interesting to watch the awns of some start to "drill" the seed into the mix when we sprayed them with water.

Unfortunately, on the day, it became apparent that we would not be able to use the seed bed that we had had access to in the past which has bottom heat and is kept moist by capillary action — it was full. Instead we put all the punnets in our igloo on our misting bed (with bottom heat) which we normally use for cuttings and hoped for the best. I was pleased to find at our next meeting, one month later, that many of the punnets contained seedlings and some were ready for potting up. My feeling is that the seedlings were not as advanced within a month as they were last year but the conditions they experienced were probably a little cooler as the seed bed is within a building rather than an igloo. However, this saved us having a mid-month working bee for potting up — a plus given Canberra's July weather!

At our August meeting we found that a lot of the grasses were ready for potting up but the daisies had come to a standstill — some even going backwards. The result was certainly not as good as last year's. Those that know more than I felt that the misting treatment was having an adverse effect so all remaining punnets were moved off the bed. All the daisies that had germinated were potted up and most had quite reasonable root systems, despite their retarded-looking state. We will still have a satisfactory array of daisies and lots of grasses for our next sale, and in the process we have learnt a bit more.

Growing Friends Propagation — 3 June 2000

Species	Local	Germinated by 1/7/00	Potted up by 5/8/00
Daisies			
Brachyscome aculeata	Yes	Yes	Yes
Brachyscome ascendens	No	No	No
Brachyscome chrysoglossa	No	Yes	No
Brachyscome diversifolia	Yes	No	No
Brachyscome spathulata	Yes	Yes	No
Bracteantha bracteata (mixed colours)	Yes	Yes	No
Bracteantha bracteata (dwarf)	No	No	No
Bracteantha viscosa	Yes	No	No
Calocephalus citreus	Yes	Yes	No
Calotis lappulacea	Yes	Yes	No
Chrysocephalum semipapposum	Yes	Yes	No
Helichrysum rutidolepis	Yes	Yes	Yes
Helichrysum scorpioides	Yes	Yes	Yes
Leucochrysum albicans ssp. *albicans* var. *albicans*	Yes	Yes	No
Leucochrysum albicans ssp. *albicans* var. *tricolor*	Yes	No	No
Leucochrysum albicans ssp. *alpinum*	Yes	No	No
Microseris lanceolata	Yes	No	No
Podolepis hieracioides	Yes	Yes	No
Podolepis jaceoides	Yes	Yes	No
Pycnosorus globosus	No	Yes	Yes
Rhodanthe anthemoides	Yes	Yes	Yes
Rhodanthe chlorocephala ssp. *rosea*	No	Yes	Yes
Rhodanthe polyphylla	No	Yes	No
Grasses			
Austrodanthonia carphoides	Yes	Yes	Yes
Austrodanthonia laevis	Yes	Yes	Yes
Austrostipa bigeniculata	Yes	Yes	Yes
Austrostipa densiflora	Yes	No	No
Austrostipa scabra var. *falcata*	Yes	Yes	Yes
Austrostipa rudis ssp. *vernosa*	Yes	No	No
Bothriochloa macra	Yes	No	Yes
Cymbopogon refractus	Yes	Yes	Yes
Dicanthium sericium	Yes	Yes	Yes
Dichelachne crinita	Yes	No	Yes
Elymus scaber	Yes	Yes	Yes
Joycea pallida	Yes	Yes	Yes
Microlaena stipoides	Yes	Yes	Yes
Sorghum leiocladum	Yes	No	No

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HELICHRYSUM SPECIES (Continued from NL 57) by Judy Barker

Helichrysum newcastlianum

newcastlianum — a reference to the origin of the species, the Newcastle Range

Description: A very attractive small, bushy shrub, 30–50 x 30–50cm. Leaves are sessile, 2–5 x 1–1.4cm, elliptical or lanceolate, silvery-grey due to the dense covering of hairs on both surfaces. Flower-heads are 2.5–4cm across, held singly at the tips of stalks to 15cm long. The bracts are narrow, white or salmon-pink.

Flowering period: Flowers most of the year.

Cultivation: Although this species is very ornamental it is not easy to grow, at least in cool temperate climates. Excellent drainage is required and the foliage should be kept as dry as possible. Propagate from seed or cuttings.

Distribution and habitat: Qld. The *Encyclopaedia of Australian Plants suitable for cultivation* Vol. 5 (Elliot and Jones) observes that it is 'common in open forests and woodlands of the ranges and tablelands of north-eastern Qld, usually growing in shallow clays or stony soils'.

Experience: It is a surprise to read old notes and to find that I must have sown seed in autumn 1988 because '6–8 seedlings remained in the margarine container of 3 : 1 perlite : peat moss over winter'. In November they were all transferred as one into a 30cm pot of 1 : 1 Propine BC 321: perlite. They were still alive and flowering in the pot on 1/5/89. This year I have one seedling left alive from seed collected by Irene Cullen in 1999. It is in a pot, and at 15cm high it is producing a pink bud.

Helichrysum oligochaetum

oligochaetum — a few long flowing hairs, possibly referring to the few pappus bristles

Description: A small annual, 20–30 x 20–30cm, which is not well-known. Stems are hairy. Leaves are sessile, narrow-lanceolate to ovate, 2cm x 5mm, with broad, stem-clasping bases. Bright yellow flower-heads with short bracts, 1–2cm across, are held singly at the tips of stems.

Flowering period: September–December.

Cultivation: The only reference I could find to this species was in the *Encyclopaedia*. It is stated there that it flowers profusely and conspicuously, and is a candidate for cultivation. Propagation is from seed or cuttings.

Distribution and habitat: WA. It occurs in heavy soils subject to periodic inundation.

Helichrysum oxylepis

oxylepis — having sharp scales, possibly referring to the bracts

Dune Daisy

Description: A perennial, 20–50cm high, with a woody rootstock. Stems are erect, ascending or sometimes prostrate. Leathery leaves are elliptic or obovate, 3–5cm x 3–15mm, with a blunt apiculate tip. The margins are revolute and the bases narrowed. Leaves and stems may have a few woolly hairs but usually become glabrous with age. Flower-heads are yellow to orange, 2–3cm across, held singly at the tips of stems. The bracts are numerous, and have pointed tips, somewhat similar to those of *H. collinum* but shorter, and the claws do not have woolly hairs.

Flowering period: Spring to autumn.

Cultivation: *H. oxylepis* is an attractive plant but is rarely grown in cultivation. It could be a good coastal subject. Propagate from seed, cuttings are difficult to strike.

Distribution and habitat: Qld. Widespread in the coastal areas of southern Queensland where it grows on sand dunes, sandy pockets on cliffs and occasionally at the margins of freshwater seepage areas near the high tide mark.

Experience: Pat Shaw sent seed in 7/90 but there is no record of its germination.

Similar species: *H. collinum* is distinguished by the acute to acuminate leaf apices. It never grows on sand dunes.

Helichrysum pumilum

pumilum — small, probably referring to the habit

Description: A charming perennial, prostrate to 10cm x 30–60cm. Leaves in basal rosettes are linear, 2–5cm x 1–2mm, rather leathery, The upper surfaces are shining, dark green, with a channelled midrib; the lower surfaces are white and densely woolly. Flowering stems to 10cm long are tipped by single white heads, 1–2cm across. The outer bracts may be crimson or brown. There are two varieties — var. *spathulatum* has shorter, spathulate leaves (2–5mm across) in the rosettes, and both surfaces are hairy. The flowering stems are shorter (to 6cm), and the heads are smaller.

Flowering period: December to January in the natural habitat.

Cultivation: The description is most attractive but this species is rarely seen in cultivation. If its roots are protected it should do well in sunny situations in peaty soil but may need summer watering. Propagate from seed, cuttings or by division.

Distribution and habitat: Tas. Variety *pumilum* occurs in western and south-western herbfields and at sea level. It generally grows on deep peaty soils. Variety *spathulatum* is only found on the mountains of central-western Tasmania where it usually grows in shallow soils or crevices in rock outcrops.

Helichrysum ramosum
ramosum — much branched

Description: A herbaceous perennial, 60–90cm high. Leaves are oblanceolate to elliptic, 1.5–4cm long, almost sessile, glabrous above and with a few woolly hairs or glabrous below. Small heads are in dense clusters at the tips of branchlets. The bracts have blunt-tipped white blades and do not appear to radiate. (The only reference to this species found was in *How to know Western Australian Wildflowers,* Part IV, by Grieve and Blackall.) They observe that the stems die back after flowering and produce laterals the following season.

Flowering period: October to December, sometimes January in the wild.

Cultivation: There are no reports of cultivation. From the illustration this species looks somewhat like *Chrysocephalum apiculatum* or *C. semipapposum,* so it would probably be propagated by seed or from firm basal shoots.

Distribution and habitat: WA. It appears to be widespread, occurring in the following botanical districts: Austin, Darling, Stirling Range and near coastal areas, Warren and near coastal areas.

Special notes: Members have sometimes mentioned seeing white- and pink-flowered *C. apiculatum* specimens. Perhaps they have been *H. ramosum.*

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REPORT ON ADSG DAISIES

by **Ros Cornish**

In November 1997, John and I were able to visit Melbourne briefly and attended our first ADSG meeting. We were greeted warmly, put faces to names, tried to participate as much as we could and marvelled at the professional way the meeting was run and the contributions members made. Needless to say, we left having made many new friends and armed with cartons of daisies to try in our conditions.

Many of them had been grown for the book project and were already flowering — *Cephalipterum drummondii, Lawrencella rosea, Rhodanthe chlorocephala* ssp. *rosea, R. diffusa* ssp. *diffusa, haigii, R. polyphylla, R. stuartiana, Schoenia macivorii.* They provided instant colour and interest to our garden which was still fairly barren from the usual frosty winter. However, we went straight into a long hot summer and it wasn't long before they succumbed. I was able to collect seed from *R. polyphylla* and grew some plants which did very well last season and were greatly admired.

Some of the plants did well for the whole summer and flowered beautifully — *Leptorhynchos tenuifolius, Podolepis rugata, R. humboldtiana* — but didn't reappear after winter. The stars though are those that have survived two summers and (nearly) two winters — *Cassinia laevis, Chrysocephalum apiculatum* (tall, silver form),*C. baxteri, C. semipapposum* (silver form), *Leucochrysum albicans* ssp. *alpinum, Olearia erubescens* (still very small, has not flowered yet), *O. lanuginosa, Ozothamnus rodwayi* var. *oreophilus* (still very small, has not flowered yet), *P. jaceoides, R. anthemoides* (Liverpool Range). It is perhaps not surprising that these have survived as they are relatively hardy and a number of them are local or nearby (*C. apiculatum, C. semi-papposum, L. albicans* ssp. *alpinum, P. jaceoides, R. anthemoides*). I have tried to grow *C. baxteri* a number of times without long term success but one of the two plants we were given seems to have decided that it likes its spot, sheltered by a large *Brachysema melanopetalum* and is still alive having flowered last season.

Many thanks to Judy, Esma, Natalie and Joy for such lovely plants. I will make an effort next season to collect seed from those that have survived so that I can have more of them.

Ammobium craspedioides (a postscript)
I am pleased to report that my *Ammobium craspedioides* plants reappeared in the garden in autumn, as soon as the hot weather stopped and we had some rain (actually snow in May this year!). I seem to have at least six rosettes, several of which are quite large, so it looks as though they are multiplying. Those that I kept in pots did not die back completely but retained a small amount of greenery. They too have grown. I think that I will keep them in pots for another season just in case anything happens to those in the garden.

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NAME CHANGES — and thoughts arising from further reading of the *Flora of Victoria* Vol. 4

by Esma Salkin

1. ***Ozothamnus pholidotus*** F. Muell. is the new name for *Haeckeria pholidota* (F. Muell.) J. H. Willis. (p. 741)

2. ***Ozothamnus* sp. 1** which is distributed 'through alps, usually on margins of wet heathland communities. ... A taxon closely allied to and previously confused with *O. hookeri,* which is confined to Tasmania. The mainland taxon differs from its Tasmanian counterpart by its larger leaves, and inflorescences with more numerous, pedicellate capitula.' (p. 739)

3. In the introduction to *Ozothamnus* Dr Chris Puttock lists hybrids between *Ozothamnus* species and also some species of *Cassinia.* (p. 733)
   — Bev Courtney's hybrid *O. obcordatus* x *Cassinia aculeata* is listed.
   — *O. stirlingii* x *O. thyrsoideus* is also listed. What would that be like?

4. In the introduction to *Cassinia* Dr Puttock lists hybrids between *Cassinia* and *Ozothamnus* (p. 742). The cross '*C. laevis* x *O. ferrugineus*' must have happened in the garden situation as *C. laevis* as I know it is from arid areas and *O. ferrugineus* is found in moist areas.

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SNIPPETS

- In July *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.
- Shirley Dixon, one of our retired members who lives at Tura Beach, reported by phone that she has a plant of *Rhodanthe chlorocephala* ssp. *rosea* that is one of the best plants in her garden. This plant has a dark pink head (7cm across) at the top of the stem and there are 20 unopened buds on short axillary stems down the main stem to a distance of 5cm from the base. The only seed she has ever sown of this species has come from Fothergill's Seeds or from ADSG seed, and other plants have self-sown. She has the normal, simple-stemmed plants as well as plants with axillary stems but they look somewhat tired, and the buds are hanging down. The plant that had impressed her was the one she described, and it may have been particularly robust. Members have grown the 'tired' variation Shirley describes from batches of our own seed.
- ADSG thanks Esma Salkin for her generous donation of the profits from a polybox of plants that were sold at the APS Spring Plant Sale.
- Angair thanks the members of ADSG for their contribution to the Angair coffers. A record of $684.50 was made at the stand over the Nature Show weekend.
- The ADSG Plant Sale held at Peg McAllister's home on Saturday 30th September was a happy, and profitable event for those members taking part. We thank Gloria Thomlinson for her part in manning the two seed boxes, and for her excellent sales abilities. We also thank Peg for allowing us to use her superb garden as the venue for the Sale.

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MEMBERS' REPORTS

Pat Clarke of Victoria Point (Qld) reported by telephone on 21/6/00 that the leaves of the form of *Bracteantha bracteata* on Morton Island are less hairy than those of the Fraser Island form and the flower stems are up to 1m high. The Morton Island plants grow very near the water. She has a cutting grown plant of a small leaf form from Fraser Island which is now over 30cm wide.

Three of the *Calomeria amaranthoides* she raised from ADSG seed have survived, and 3 plants of *Brachyscome scapigera* from Stanthorpe have also survived. Pat battles against many odds to keep her daisy collection together. Her health is poor and she has had two recent moves interspersed with spells in hospital. It says a great deal for her spirit that she retains a keen interest in daisies.

Pat says David Hockings has found a *Brachyscome* sp. east of Cohen Silver Plains that is new to him. It is 1m high with large white flowers. Stems shoot from the base and leaves are narrow with dentate margins at the tips. David has been trying to breed a good, strong-stemmed *Bracteantha bracteata* for some years and will display the result of his efforts at the Nambour Show this year.

Corinne Hampel of Murray Bridge (SA) writes in 6/00: 'I have heaps of daisy seedlings screaming to be potted on at the moment and too little time, which I hope to rectify soon. The seeds you sent me I was able to put in straight away, storing the leftovers that had been at 4°C back in the fridge. I'll put them in at the end of July. Some species did not like the sudden autumn we had this year, and sulked for quite a while.'

John Emms of Loch (Vic) writes on 10/7/00: 'The seedlings of mine mentioned (in NL 57, p. 33) are all progressing with the exception of *B. iberidifolia*, which has become a victim of the recent frost (all are outside at the mercy of the elements). I'll have to sow more *B. iberidifolia* seeds when the frosts have finished.

On two recent visits to Kangaroo Island, SA, I was attracted to the Azure Daisy Bush, *Olearia rudis* var. *rudis* which grows in sand over limestone and I wonder how influential pH is in raising such coastal species. On Kangaroo Island the substrate must have been between pH 8–9+!'

On 13/7/00: 'Re *Argentipallium obtusifolium*, I came across a note in an Ivan Holliday guide book where he describes it as — "Small, short lived, spreading plant to 12cm high. Flowers in spring. Favours disturbed or burnt heath on Kangaroo Island".'

Lyndal Howard of Belair (SA) writes on 11/7/00: 'I am still growing all the daisies I can get hold of. I can grow annual daisies in troughs once they come up, but in the ground they get scratched up by birds, or possibly eaten by slugs. I put wire netting over them and snail bait around.

I am interested in the Plants of Tasmania Nursery. Our only chance of getting new daisies seems to be the plant sales, and anything unusual is generally sold out in the first half hour. I am looking forward to lots of flowers this spring — we are having a wet winter. I have almost got rid of Soursobs so will have more time to spend on interesting things.'

Barbara Buchanan of Myrrhee (Vic) writes on 12/7/00: 'The garden has got to get a bit of priority soon — heaps of cleaning up after the snow, quite beautiful but much more destructive than the previous fall about three years ago. Planting is always tricky — not before the autumn rains, not while the ground is heavy and there are still frosts, not too late if it is going to be dry again ..... oops, it's next year again.

The daisies I have most success with are the olearias. I have quite a few scattered about altho' some perhaps need to be treated as semi-permanent and renewed with cuttings. *O. pimelioides* from the Goods' seed germinated well. I pricked out until I got tired of it and handed the punnet on to Jan (Hall). I planted a few, but I think only one of all those I left has survived the snow and frost. In the pots they died wholesale. I was jealous reading of everyone else's *Pycnosorus thompsonianus.* Mine have just sat all summer long, or shrunk and disappeared. Wrong spot maybe.'

Brian Walker of Greenacres (SA) writes on 13/7/00: 'We still continue to grow and love our daisies. One of my favourites, *Olearia rudis,* I grew in association with *Themeda australis, Mentha diemenica, Lasiopetalum* sp., *Lomandra longifolia* and *Templetonia retusa.* I do like the idea of growing native daisies with Australian grasses, it just appeals to me. *Bracteantha* spp. are still strong favourites, particularly as we can get good colour and growth habit forms from Julie and John (Barrie).

Whenever I dead-head the *O. rudis* I often see a tiny white spider working amongst the foliage — fascinating! I have been hoping to see more native butterflies in the garden but to date only the odd one or two. Not much hope I guess in the metro area where most of the native plant species that they rely on for food have long gone.'

June Rogers of Horsham (Vic) writes on 17/7/00: 'I enjoyed Esma's talk on "Olearias etc" at our meeting last Friday night, and took the opprtunity to avail myself of some seeds. I had mixed results from my autumn plantings, both with Regen 2000 and the smoked water — probably my fault! One good success was *R. polygalifolia* from seed collected from my own plants several years ago. I tried to persuade them not to flower just yet by disbudding, but they got the better of me and today the first flowers are out. They're in pots, a window box and some are in the garden. The latter are the furthest behind as the others were in the igloo until just lately. *R. chlorocephala* ssp. *rosea* seedlings have come up prolifically in a garden where I threw the stems last year, so should look good later on.

I gave Maree (Goods) a plant each of *Podolepis jaceoides* and *P. rugata,* plus *Pycnosorus thompsonianus,* and planted the rest in my garden to hope for a good show. *Craspedia paludicola* has performed very well in a wide, shallow pot, and this year has probably tripled in size — I have high hopes for it.'

Ian Picken, a new member from Lachlan (Tas) writes in August 2000: 'I have several prepared garden beds which are empty and my wife and I would like to fill them with a variety of daisies. I'd be grateful for any advice on what seeds I should try from the Group. The garden areas are basically in full sun, built up about 150–200mm. Elevation is 340 metres so we get frost and occasional snow (like today).'

Pauline Croft of Mt Gravatt (Qld) writes on 15/7/00: 'Seeing the *Bracteantha* from 1770 listed in the latest newsletter I think it is time to add some new blood to my population of *Bracteantha*. I picked a seed head of *B. bracteata* on Morton Island in 1995. It had the typical *bracteata* flower — single, gold, medium size head but extra large leaves. The first seedlings of course were true, but since have blended into the general mix. This year I have a self-sown throwback, a multi-stemmed plant, 50cm x 60cm wide, with large leaves. The flower, though, is rather poor and reflexes quickly.'

Bruce Wallace of Terrigal (NSW) writes on 27/8/00: 'We have found that much of the seed collected from our rhodanthes etc. has not been fertile but, from observation, there seemed to be little insect/bee activity when they were flowering. So for this year's APS display during the Flora Festival we purchased some packets of Yates seed, *Rhodanthe chlorocephala* ssp. *rosea* and *Schoenia filifolia* ssp. *subulifolia*. These have been growing steadily but, due to cold weather and that the Flora Festival is two weeks earlier (Aug 30 to Sept 2), the eight large bowls of daisies are only just showing colour. At least they will look good at our place.

Last August we had the chance to travel with a company up the Canning Stock Route — four vehicles, twelve paying passengers and five crew. It was a great trip with the flowers and bird life etc. although the annual daisies along the way were all but finished as it had been dry. The tour started in Alice Springs, went out to Giles and then across the Gunbarrel Highway to Wiluna, up the C.S.R. to Bililuna, and then returning to Alice Springs down the Tanami. This was one area that both Thel and I wanted to see for a long time. The sunburnt hills, the endless red sandhills, miles of space, campfire nights, sleeping out — it was great!'

Barrie Hadlow of Theodore (ACT) reported on 5/9/00: 'I posted to you two seed lots from 1999 of *Bracteantha bracteata* Sandy Beach. I'm pleased there is interest in it from the Study Group. Our original garden seedling is heading for its fourth season of growth, so it's proving to be remarkably perennial in our climate. Hard pruning about two weeks ago will not inhibit it, I'm sure — so I will watch (and report) its progress after this shock.'

Jeff Irons of Heswall (England) reports on 15/6/00: 'I grew some more *Craspedia crocata* this year. One went into a 12 inch (30cm) pot, with a compost of equal parts of leaf mould and peat. When I took it to the Herbarium there were 16 flower heads. No fertilizer had been given. My *Calomeria* is growing at 1½" (3.75cm) a day. It is in a 15" (37.5cm) pot filled with the leaf mould : peat mixture. It is now 4½' (1.35m) high with 20 axillary flower stalks. On 21/7/00 it was 1.8m and still growing. It had 47 flower stalks.'

9/00: 'This year the British summer, like your recent winter, was cold. Usually I harvest seed of *Olearia frostii* in August. This year by the end of the month the plants had not even begun to produce flower buds.

Last year I reported that my 4 year old *Calomeria amaranthoides* had been discarded because it had grown to be too large and gawky. Before dumping the plant I took two cuttings and Ness Botanic Gardens took 20. This year, wherever their situation, they all died in July. It was as if they had all been programmed to have a certain life span and then die. Because of our atrocious 'summer' those outdoors were not in flower at the time they died, only in bud. This kind of thing has happened before. Having flowered for three summers the Sawyers Hill form of *Rhodanthe anthemoides* died in March, just as winter was over. The same thing happened to all the seedlings that had been distributed, wherever they were. My only plant has set a little seed, and that had low viability, so the form has been lost.'

Linda Handscombe of Pomonal (Vic) writes on 29/8/00: 'Last year I picked lots of *Ixodia achillaeoides* from a friend's place just 3km up the road. I manage to strike it easily from cuttings, but can't seem to establish it in the garden. We planted lots of plants out in a lower area of the block last spring . No rain finished them all off but one. The property that I pick from has a 3 acre cleared area that the owner burnt, and it is a forest of ixodia. He has it growing around his fruit trees and all around his house. David said we could try it from seed this year as he has some of that smoked water solution. Ixodia grows along the roadsides just 1km away, so you'd think it should be easy.

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ANOTHER SEED SOURCE

Erica Vale Australia Pty. Ltd, 1747 Anzac Ave, Mango Hill, Qld. (P.O. Box 297 Kallangur, 4503). This is the source of the rhodanthe called *Helipterum* 'Ebony White'. Margery Stutchbury recommends that soil wetter be used as a pretreatment. She says she had no germination the first year but good germination the next year after a soil wetter soak.

ASGAP AUSTRALIAN DAISY STUDY GROUP

Statement of Payments & Receipts — July 1, 1999–June 30, 2000

RECEIPTS	$	PAYMENTS	$
Members' subscriptions	707.00	Newsletter	260.35
Seed sales	43.10	Postage	242.65
Bank interest	3.57	Subscriptions	108.50
Plant sales	126.80	FID	4.35
Other	122.01	Stationery	102.98
		May Meeting	33.90
		Sundries	216.53
		Seeds	27.00
		Gifts	24.95
Total receipts	1002.48	Total payments	1021.21
Loss for year	18.73		
SUMMARY			
Cash at bank at beginning of year	1461.21		
Loss	18.73		
Cash at bank at end of year	1442.48		

Garden Visits and end-of-year break-up on Tuesday, 28th November

We start at Bob and Dot O'Neill's at 10.30am for morning tea:
49 Hunter Road, Wandin North. MELWAY 121 C3. Ph. 5964 4523

After lunch (BYO) we will proceed to Shirley Carn's at approx. 1.30pm, where plants will be available for sale:
31 Henderson Road, Silvan. MELWAY 120 H8 Ph. 9737 9531

Next we will descend on Evan and Leanne Clucas at around 3.00pm:
Corner Warburton Highway and Wellington Roads, Wandin. MELWAY 119 A10
(As parking will be a difficulty at Evan's we will need to consolidate passengers into as few cars as possible. Please ring Joy at 5158 0669, or 9762 7799, if you need a lift or can offer one.)

NEW MEMBERS

A warm welcome to two new members:

SEED DONORS

Thank you to the following members and friends: Pat Clarke, Barrie Hadlow, Rod Horner, Jeff Irons, Gloria Thomlinson.

Garden and Commercial Seed Bank

Additions:
Bracteantha bracteata (Sandy Beach, Fraser Is), *Brachyglottis brunonis*
Chrysocephalum semipapposum (Bendigo/Seymour silver form)
Olearia lirata (cultd. orig. Mersey R. ,Tas)

Deletions:
Bracteantha 'Bright Bikini'

Provenance Seed Bank

Additions:
Brachyscome ciliaris (Alice Springs), *Calotis cuneifolia*
Olearia lirata (Mersey R., Tas; 1/96)
Vittadinia sp. (Wagga Wagga)

Deletions:
Calotis scabiosifolia var. *scabiosifolia*
Helichrysum lanuginosum

SUBSCRIPTIONS

Subscriptions were due on 30th June 2000. A red cross in the box is a further reminder.

NEWSLETTER DEADLINE for NL 59 is 31st JANUARY 2001

INDEX for the ADSG NEWSLETTERS for 2000 (including NL 56, pp. 1–18; NL 57, pp. 19–36; NL 58, pp. 37–54)
(Illustrations are underlined.)