

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTSTHE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO.27

Dear Members,

Autumn in Melbourne is my favourite season, days are calm and pleasantly warm. It is time to review the garden, to find solutions for the trouble spots, plan planting for the year, prune, sort pots and collect and sow seed. In my trouble spots (in spite of heavy downpours) moisture had barely penetrated the surface layer of soil. It was obvious that water was just running off, so I set to - pruned or removed tired shrubs and dug the soil shallowly to expose lower levels to moisture. Gypsum was applied liberally and later the bed was raked to a fine tilth for seed sowing. To my surprise a good cover of regenerating seedlings appeared after follow-up rains.



Olearia rudis x 1/3

Seed collection has been very instructive. It is quite obvious when flower-heads such as the helichrysms are infested with insects; the head does not 'blow' properly or else the head is covered with a fine black grit. When the flower-heads are free of insect infestation the bracts dry, reflex slightly and release seed with such force that they stack loosely in a tangle of pappii above the receptacle. The seed is ready for 'Take Off' and it is then very easy to see the fertilised seed. It's bigger, plump and usually darker than the seed that has not been fertilised. With brachyscomes, the florets die and fall from the head, to show achenes tightly stacked on the receptacle. As the head ages the seed begins to fall, although in some species (such as B.linear-iloba) it remains on the head. Of course we have all, in our ignorance, collected a bag of florets and other trash, heads almost ground to dust by insects, achenes cemented together around a pupal case, or shrivelled and empty achenes. Or else we have collected in a plastic bag only to find the precious collection a mouldy mass a few days later.

I'm very pleased with the number of propagation records and seed donations coming in, but again disappointed that the Seed Bank is not being used more frequently by members.

In the last newsletter I asked members to report on brachyscomes growing in your area. Keep the information coming in. A small committee is beginning to collate all our data on brachyscomes. Periodically, I will be seeking information on location, habitat, cultivation, seed or cutting material, etc., on specific species. For 'starters', we need data for and, more importantly, seed of B.ascendens (S.Qld), B.diversifolia var. dissecta (Qld. and NSW), B.dissectifolia (NSW), and B.xanthocarpa (SA). Please note that the first and last are 'Rare or Threatened' species. Members are reminded to strictly obey Conservation Laws.

ADSG is putting on a display at the Maroondah Wildflower Show on August 11th/12th. We need help in setting up on 10th and for manning the display. We will have seed, books and tubes for sale, and advice for the asking. Please let me know if/when you can assist, (telephone (03) 232 6213).

Well, back to peering into pots to see what has appeared or disappeared overnight.

Regards,

Esma.

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SPECIES OR FORMS NEW TO THE GROUP

Cassinia aureonitens (NSW)

(aureonitens = shining gold)

Cassinia aurea R.Br. 1818 non 1813

Yellow Cassinia

Peter Vaughan wrote of this species in NL18, p.19. He said, "The specific name describes the flower — yellow and shiny. This is a daisy of sandstone country, grows up to 1.5m. Flowers are in summer, presented in compact heads. A very attractive daisy, in fact one of the best." This aroused my interest as it sounded like a good specimen for floral art and an unusual shrub for the garden.

Peter sent us seed collected in '86 and I sowed it in May '87. It germinated well after about 30 days and by mid-October I had 15 tubed seedlings to show for my trouble.

I thought cassinias were generally as tough as goats' knees so tried planting them in the garden in various situations as soon as roots protruded from the bases. Not one survived! This taught me a lesson I should have learnt long ago; that I should pot on and never plant small tubes just before summer.

I must have potted a couple of seedlings into 12.5cm (5") pots because in March '88 I took some cuttings which I potted on in September. Only one survived. This cassinia was proving difficult!

Luckily, Jeff Irons wrote that month suggesting that my problems with the species might be overcome if I supplied soil moisture and atmospheric humidity in the summer. Immediately I put this pot in a saucer of water and kept it in dappled shade. In February '89 I tried cuttings again. They struck and were transplanted in late July. Some of the cuttings had looked dead, but before I got around to throwing them out some had shot from very bare sticks. (There is sometimes merit in tardiness.)

It is this pot in the saucer of water that produced clusters of buds in November and December '89. The buds slowly turned yellow-green, then shiny citrus yellow. I cut about ten stems in December, but did not have time to paint them à la Maureen (see NL22, p.46). I don't think they need to be painted as they have remained stiff and have not faded. When I showed my rather rough bunch to Jane Lamb, of Bloomfield's Dried Flowers, she pronounced them "Darling". Obviously this is a good species for "filler".

The remainder of this poor, mauled plant continued to flower over January, and in March/April is shooting again.

The whole plant was only about 20-30cm high by 35cm across, and quite open in habit. The lower parts of the stems are leafless, but the last 12cm is leafy. The leaves, 23-53mm x 3-5mm, are dark green, paler beneath. They are of thin texture and feel slightly rough to the touch. The mid-rib is depressed and the margins turn under slightly.

The clusters are about 4.5cm across and these small clusters have a relatively



Cassinia aureonitens x ½

long common stalk. The individual heads are on small stalks, 1-3mm long. The outermost bracts are fawn, the inner bracts quite bright yellow. When developed the corollas extend beyond the bracts, but the inner bracts do not radiate.

In an effort to make Cassinia aureonitens easier to grow in Melbourne I have done three things:-

- . I have put the plant that flowered and a plant in a 12.5cm pot (grown from cutting material taken in February '89) together into a 300cm pot and placed a large saucer beneath.
- . Taken more cuttings in January '90 from the '89 plants.
- . Sown seed sent by Jeff Irons from the U.K. labelled Mt.Wilson, NSW, which I hope was collected from his garden. This seed germinated well in 19 days when sown in early March.

There is a hyphen in the specific name in Encyclopaedia of Australian Plants suitable for cultivation, Vol.2, (1982) by Rodger Elliot and David Jones. There is no hyphen in it in Plants of New South Wales. A census of the Cycads, Conifers and Angiosperms, (1981) by Jacobs, S.W.L. and Pickard, J., nor in Flora of the Sydney Region, (1982), by Beadle, N.C.W., Evans, O.D., Carolin, R.C. and Tindale, M.D..

The Encyclopaedia gives the dimensions of C.aureonitens as 2-4m x 1-2m. It does not look as though it will get to that size - more like Peter's 1.5m. When I have a few more well grown plants I will cautiously try them in the garden again.

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Pithocarpa pulchella

(W.A.)

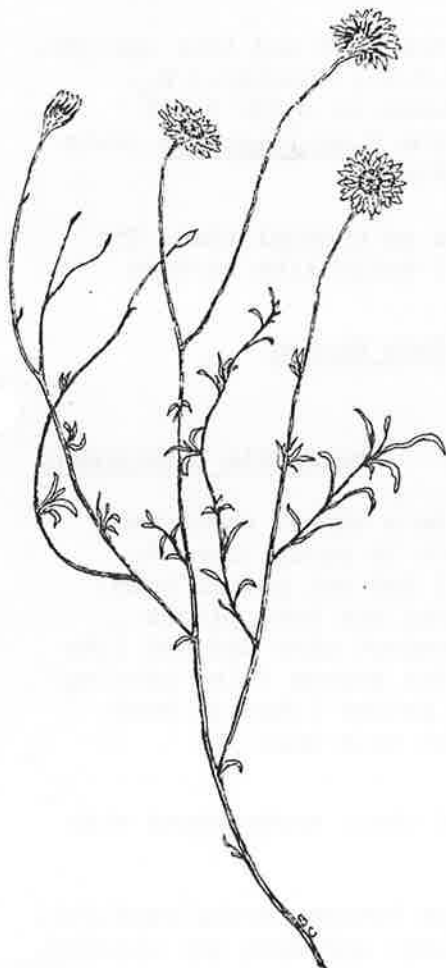
(pulchella = beautiful)

Beautiful Pithocarpa

James and Max Frew, who grow handsome cut flowers at Longford near Sale in Victoria, kindly presented me with a pot of Pithocarpa sp. in April 1988. It was labelled Pithocarpa corymbulosa. Evan Clucas (from Kuranga Nursery) propagated it for us from cuttings. When we visited the Frew establishment last December James again gave us about twenty tubes of a Pithocarpa species which he said was different. I think it may be the same and that both are P.pulchella, though it is growing slightly differently from the original '88 plant.

In How To Know Western Australian Wildflowers, Part 4, (1975) by Grieve, B.J. and Blackall, W.E. there are four Pithocarpa species listed, P.achilleoides, P.corymbulosa, P.melanostigma and P.pulchella, and they are described as annual herbs. The original plant looked as though it was almost one year old in April '88 and it did not die until November '89. Could it be a short-lived perennial when given summer water?

For a period of time (from about July to early January) the '88 plants appear to consist of numerous leafless, much-branched, grey-green, horizontal stems approximately 30cm long with ascending ends. At the end of January the tips of the stems begin to thicken



Pithocarpa pulchella x 2/3

and little, dark, vertical lines can be discerned on them. By February there are many branching stems tipped with obvious buds striped red. A few small, grey-green leaves can be seen sprouting from short stems near the tips. In April the buds are white with red markings beneath some of the outer bracts. The buds begin to open in mid-April to white everlasting, 10-15mm across, with radiating inner bracts. Flowering continues through May.

The second plants ('89) have fewer stems at this stage; they are more upright and branch less. The stems are equally woolly.

The leaves on both plants are sparse - chiefly appearing on the lower parts of the stems. They are grey-green above, paler below, 5-15mm x 1-2mm, sessile and linear, with a short apiculate tip. Most leaves are alternate, but sometimes sprout out in little clusters. The stems are whitish with long hairs. The achenes are papillose.

The heads are single and terminal on long stalks, 25-50mm long, but sometimes four heads may appear to form a rough corymb.

It is not P.corymbulosa though because -

- . the involucre is 10-15mm across,
- . the inner bracts have spreading blades,
- . there are occasionally four heads, but never nine or more heads in a corymb,
- . the tips of the inner bracts are red or red-brown beneath,
- . the involucral bracts are clearly differentiated,
- . the achenes are papillose.

It is not P.melanostigma because it does not have a stigma with darkly pigmented papillae.

The '88 plant might be P.achilleoides because it is much-branched and less upright, The Flora of the Perth Region, Part 2, (1987) by Marchant, N.G., Wheeler, J.R., Rye, B.L., Bennet, E.M., Lander, N.S. and Macfarlane, T.D. states on p.697 that "There seems little by which to distinguish P.pulchella from P.achilleoides Lewis & Summerhayes: these two species may prove to be conspecific."

This is a quaint, rather attractive plant which flowers at an unusual time. The flower-heads and stems dry well and are very ornamental. I would like to keep growing it.

Judy Barker.

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Helichrysum diotophyllum (NSW., Qld.) by Gloria Thomlinson.

For two years two plants have grown here in a sunny, sheltered northerly aspect, reaching a height of 65cm in sandy loam. As they are rather spindly plants naturally I had not pruned them. I intended to try this year after flowering, but both plants succumbed in the very hot conditions. I suspect they did not like me watering the annuals nearby so often. Has anyone tried pruning? Does it like only open, hot conditions? I rather liked it when I had it! What has been the experience with this one?

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On Saturday, April 7th., members discussed their experiences with H.diotophyllum:-

Bev Courtney grew some plants from cuttings (which strike readily). They were planted in a dry spot in the garden and were not watered. The lower growth dried off, but they flowered. The heads do not dry very well, they are better fresh. Some in pots have flowered in spite of being very pot-bound.



© 1999

x 2/3

Helichrysum

diotophyllum

Jenny Rejske had plants in pots which died because they were too wet. She is growing plants again from cuttings.

Esma's plant died in a pot. Colin Jones had only owned one plant in a pot for one hour. It was still alive.

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WANDERING AROUND MOUNT KOSCIUSKO

by Thelma and Bruce Wallace.

After many weeks of planning the day in January arrived. The one hundred and forty Bendigo Field Naturalists, Victorian Nature Photographers and friends ascended Mt.Kosciusko for a fortnight of mountain wanderings.

Because of the large numbers, we were allocated the first week at the Southern Alps Ski Lodge at Charlottes Pass, where the road to the top ends.

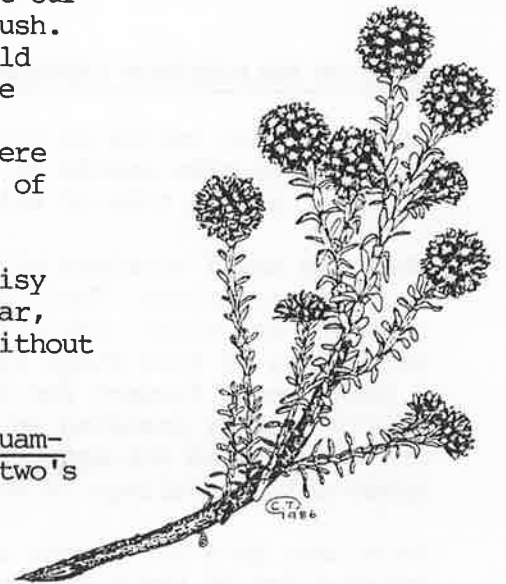
Each day we hiked out in a different area, and each day we claimed the flowers were better than the previous day. Although I was disappointed with Mt.Kosciusko itself as the floral display was replaced by people. It seemed that every holiday-maker in the area decided to walk the path to the roof of Australia that day.

Away from this track the Alpine Sunrays, Helipterum albicans subsp. alpinum, were just perfect - glistening white in the brilliant sunlight. The differing forms of Craspedia stood proud on their long stems among the rocks. Silver Snow Daisies, Celmisia asteliifolia, formed large carpets of silver and white amongst the snow grass, a scene which was repeated again and again.

A small but beautiful patch of Chamomile Sunray caught our attention, tucked away amongst rocks and Alpine Mintbush. The mat forming Silver Ewartia, Ewartia nubigena, could easily be overlooked, mistaken for a large lichen. The colourful butterflies that were resting on the large flowers of the Alpine Podolepis, Podolepis robusta, were just as beautiful, which made us realise the blending of nature to create such a landscape.

Not as breathtaking as the Alpine Sunray, the Snow Daisy (Brachyscome nivalis var. alpina) was still spectacular, although it was hard to find a plant in full flower without insect damage to some florets.

Some large patches of Scaly Buttons, Leptorhynchos squamatus, were waiting their turn to flower in a week or two's time. Scattered through the Snow Grass were Erigeron pappocroma and the brachyscomes, adding their bit of colour to this giant garden. It made one stop, often, to take it all in. I don't think it was the steepness of the track.



Helichrysum alpinum x 2/3

The Alpine Everlasting, Helichrysum alpinum, appeared almost as two different plants; first with red buds and then later with a mass of small white flowers.

Although not a daisy, a very interesting discovery was made. Fairies' Aprons, Utricularia dichotoma, were found growing along Spence's Creek. This plant has not been recorded growing on Mt.Kosciusko before.

As it was the first time I had been to Mt.Kosciusko there was so much to take in and so many new plants to me. The scenery was magnificent - the sky so clear, the light reflected was only of beauty. All too quickly the week passed and it was time to pack our bags and leave this beautiful country, but I vow to return one day.

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Podolepis gracilis

by Bev Courtney.

I pounced eagerly on the seed of this species when it appeared in the seed bank last year, because, of the twenty or so Podolepis species, only two have flowers which are not yellow.

Podolepis gracilis is listed as having pink flowers, and a pink podolepis promised to be something different and perhaps special. (The other non-yellow podolepis is P.capillaris, which has tiny white flowers.)

Seed was sown in February and germinated in only six days. Within a month seedlings were being pricked out and were ready to go into the garden a couple of months later.

I put them in a sunny, well drained spot and sat back and waited. For a while nothing much happened. The cluster of radical (basal) leaves grew, the outer ones reaching up to 15cm long and 1 to 2cm wide. At this stage I think the plants must have been attacked by aphids (which I missed), because the leaves began to take on the warped, wrinkled appearance typical of aphid attack. They recovered, however, and at last the long-awaited flower stems began to appear. I was a bit disappointed that they were so tall, up to 40cm, because I had been hoping for a more compact species like P.canescens which was lovely in my garden last year.

The flower stems branched near the top, producing many buds which opened to pastel pink flowers 1 to 2 cm across. Well worth the wait!

Podolepis gracilis occurs only in Western Australia along the coast from the Murchison River in the north to King George Sound in the south.

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MORE ON HELICHRYSUM LEPIDOPHYLLUM

by Maureen Schaumann.

After my poor review on this species in the last newsletter (NL26,p.4), I would now like to make amends by mentioning a few points in its favour. These were not apparent at the time of writing my previous article.

When the small clusters of flowers matured, they not only increased in size, but improved in colour. Their original dull, off-white shade gradually changed to a much whiter colour, making them more acceptable as both a fresh and dried flower. Harvesting at this stage is recommended.

I picked some flowers for a display and was amazed to find that they dried beautifully just by standing in a vase without water. After a month the stems were still stiff and the attractive, minute, scale-like leaves had retained their dark green colour. Foliage is aromatic, reminiscent of Boronia (says Vic.).

Excellent as a cut flower or use as a filler when dried. I am even tempted to spray a few of the clusters a soft pale pink.

Schoenia cassiniana (repeated from NL26,p.4 in order to right Editor's error.)

A very pretty annual bearing clusters of pink everlastings. When hung upside down to dry the stems usually droop when returned upright. Painting behind the flower-heads with lacquer helped to prevent this. It is difficult to know the right time to pick because the top flower in the bunch usually opens first, the side ones later. I solved this problem by picking and wiring each flower separately, just as they partially opened and when the flower colour was at its deepest pink. If left until fully opened, the colour usually fades to white. Stems will take a fine wire easily.

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SPECIAL PROJECTS REPORT

October 31st. Meeting

Helipterum anthemoides Forms

by Esma Salkin.

A general description of the species is given. A brief description of forms notes the differences between them, their cultivation and propagation. The features of forms are listed in the table (p.26) for comparison.

Helipterum anthemoides is a variable species, widespread throughout eastern Australia, extending from southern Queensland to Tasmania with an outlier in the Lofty Ranges, South Australia. It can be found in alpine, subalpine and drier areas, often on rocky escarpments.

H.anthemoides is a tufted perennial herb, 20 - 30cm x about 30cm, with numerous decumbent to erect stems, usually unbranched, arising from a woody rootstock. The leaves are alternate, narrow linear to oblanceolate, sub-erect and crowded or decurrent, reticulate, conspicuously glandular-pitted, hairs of two types (sessile and septate), margins entire, recurved, wavy, a few septate hairs on the margins. In some forms the leaves are deflexed (bent downwards) to coiled, the colour is grey-green or blue-green. Flower-heads are single, terminal, cupped or star-like; outer bracts scarious red or brown, intermediate bracts white; disc yellow. The achenes are silky-hairy. Receptacle flattened or conical.

FORMS:- (The names generally refer to provenances.)

- **'Wine Bud'**. This form is well known in cultivation and marketed as Helipterum anthemoides 'Paper Baby'. Branching stems, leaves largest in group, oblanceolate, grey-green; buds wine coloured, flower-head cup-shaped from April/May through winter. Propagate from side shoots or seed. Tip prune to produce more blooms and prune lightly after flowering to produce a second crop of flowers.
- **'New England'**. Habitat, rocky escarpments oozing with moisture in spring. Branching stems, leaves blue-green, oblanceolate, smaller than previous form, deflexed to coiled; buds wine-coloured, flower-head not cupped but open. This form is still being assessed, but is doing well in Bev Courtney's garden at Frankston. It seems to need moisture and good drainage. Seed production has not been observed. Do not prune after flowering, but wait until new growth at the base of the plant is well established, then old stems should be removed. Propagate from side shoots or root cuttings.
- **'Kiandra'**. Alpine form. Unbranched, glabrous stems, leaves grey-green, crowded, appressed, deflexed at the tip of the stem. Flowering stems are erect, and display star-like flowers in summer. Stems may be decumbent in the early stages. Plant in groups and protect from drying out. Germinates well from seed. Ideal in a hanging basket.
- **'Higgins Plains'** (via Licola, Vic.). Habitat, shallow soils above rocky creeks. component of Poaceae meadow with Helipterum albicans ssp. albicans var. incanum. Leaves are narrow, crowded, appressed, mucronate, margins slightly undulate. Blooms in summer. Decumbent. Hardy in the garden in a north facing situation with the root zone shaded. Rarely pruned. Fertile seed is produced in moderate amounts from a few plants. Propagates easily from seed.
- **'Cradle Valley'**. Tasmanian species from alpine meadow grazed by cattle. Plants are markedly decumbent and bloom in summer. One seed-grown plant in a pot flags in heat, probably due to the restricted root zone and heat transference from the pot.
- **'Barfold'**. A recently discovered form from a rocky gorge on private property



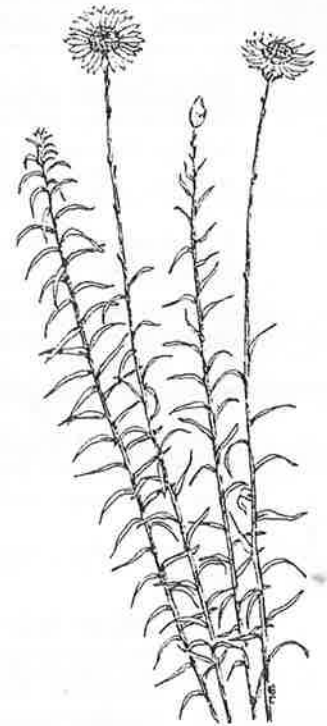
x 2/3

'Wine Bud'

Kiandra)  
x 2/3

in central Victoria. Seedlings are similar to those of 'Wine Bud', but its individual characters soon develop. Stems are decumbent, long and twisting, but are erect and hardened in open situations. Leaves are linear, mucronate and noticeably undulate. Seed production in cultivation is low. Plants are proving difficult to keep alive. As with all non-branching forms, propagate from seed or vegetatively from stems pulled from the base of the plant (where stem and root merge), preferably after flowering. New growth appears at the base of the stem. Leave in the cutting medium until growing strongly, then cut off the old stem and transplant.

- **'Whitlands'**. Habitat, rocky terrain oozing with water in spring, indicating that moisture and good drainage are the primary requirements. The leaves are narrow, linear, mucronate, not crowded, the stems have infrequent glandular hairs and the flower-head is star-like. This is a difficult form to keep going. If plants survive do not prune until new growth is well established.
- **'Liverpool Range'**. Similar to the above form and for me equally difficult to keep alive. The stems are marginally glandular, the leaf is mucronate with entire margins and the flower-head star-like.
- **'Queensland'**. Similar to the two previous forms. The stems are glandular, the leaves not mucronate and the flower-head larger. Some members cultivate this form with ease; for me it is not a good performer. It has died in the garden and it has died in pots, but with four more plants struggling to survive in Melbourne's late summer, I'm about to try again.



Helipterum anthemoides  
(Queensland form) x ½

**DISTINGUISHING CHARACTERS: Helipterum anthemoides forms**

	Wine Bud	New England	Kiandra	Higgins Plains	Cradle Valley	Barfold	W'lands	L'pool Range	Qld.
Habit branching non-branching	+	+	+	+	+	+	+	+	+
Stems erect decumbent glabrous	+	+	+	+	+	+	+	+	+
hairs sessile septate	+	+		+	+	+		+	+
Leaves length (mm) width (mm)	25 4-5	17 3	10 1	10 1	20 2	20 1.5-2	15 1.5-2	10 2	20 2
margins entire undulate	+	+		+	+		+	+	+
surface reticulate	+	+	+		+	+	+		+
upper sessile septate	+	+	+	+	+	+	+		+
lower sessile septate	+	+	+	+	+	+	+		+
mucronate						+	+	+	
Flower-head cupped star-shaped	+		+	+	+	+	+	+	+
bracts red brown	+	+		+	+	+	+	+	+



BREAKTHROUGH BY COLIN JONES

by Judy Barker.

Colin has managed to germinate seed of Helipterum polygalifolium - a species which has defied determined efforts by other members for many years.

He germinates his seed in a fibre-glass house. His pots or punnets sit on top of a large plastic tray (the plastic cover of a fluorescent light) filled level with bluestone metal chips, 1/4 - 3/8 inch in size. There are two Nylex microspray sprinklers playing on the pots for 7 to 8 minutes morning and evening. His mix is 2 parts perlite : 1 part peatmoss.

On 6/4/90 Colin pulled the pappus off the seeds and sowed flat on the surface of his mix. For that whole week in April it was about 25°C outside and 30°C in the glass house. After four days the seed began to germinate and finally yielded 90% germination.

We have long known that certain arid zone seeds gave us low or no germination and were working on all sorts of methods to break this deadlock. It looks as though Colin has struck exactly the right combination of temperature, humidity and day length. Whether the removal of the pappus has a bearing we do not yet know. The tray beneath the pots means there is a moist climate and if necessary the pots receive water from below by capillary action.

Maureen and I were especially intent on being first with the answers to this problem. Colin has put our noses out of joint, but we are delighted with his success. Needless to say, he has been given Helichrysum davenportii to test him out and is cravenly suggesting the Melbourne weather may now be too cold. Further reports will follow.

Have a medal, Colin!

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BRACHYSCOME CILIARIS

by Colin Jones



In May '89 we ventured forth to the Flinders Ranges. On the way through Peterborough we decided to make an unscheduled detour to Broken Hill and Menindie.

One might say that there isn't much to see in the month of May. Well I was pleasantly surprised to find Brachyscome ciliaris in profusion as well as a number of other daisies. Two variants of B.ciliaris were sighted, namely var. lanuginosa with two types of seed and var. ciliaris.

Only var. lanuginosa (grey seed) was found in the extensive area from Menindie to Broken Hill to Peterborough. However, as we moved into the Wilpena Pound area the two variants and two seed types of ciliaris mentioned above were located.

Distribution was as follows:

- 1. var. ciliaris - Rawnsley Park - west side of Ulowdna Range.
- 2. " " " - Wilpena Pound - halfway to Homestead.
- 3. " " " - 2km north of Huck's Lookout on Blinman Road from Wilpena Pound.
- 4. var. lanuginosa (grey seed) - 2km nth. Huck's L/O " " " "
- 5. " " " (black seed) - 2km east of entrance to Rawnsley Park.
- 6. " " " " " - Hilltop near Bunyeroo Gorge.
- 7. " " " " " - About halfway from Hawker to Parachilna.
- 8. " " " (grey seed) - " " " " " " " "

How does one identify the difference between the two variants and two types? While Davis specifically mentions indumentum I think the capitulum and the leaves are more specific. The capitulum of var. lanuginosa is 5-7mm and of a shape →  whereas that of var. ciliaris is 3-5mm in diameter and of a shape → 

In respect of the two seed colours for var. lanuginosa, the top surface of a mature capitulum is either grey or black in line with seed colour. The leaves and shape of the plant are of a sharper/harsher appearance for var. lanuginosa than for

var. ciliaris.

Since returning to Ringwood I have grown (in pots) plants from specimen seed collected. All have produced seed though, as was reported by Esma back in July 1985, var. lanuginosa is a far more prolific producer than var. ciliaris. However, I think var. ciliaris is the more attractive plant.

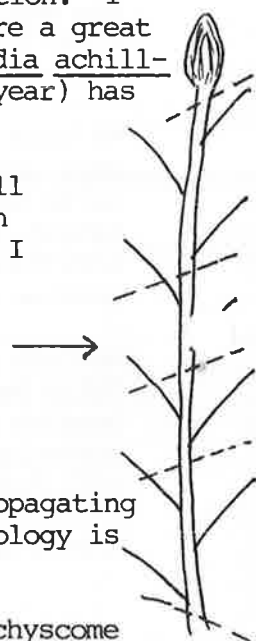
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MEMBERS' REPORTS

**Angus Stewart** (from Longford, Victoria, 21/11/89) writes on seed propagation. "I use standard methods with the usual variable success. Slugs and snails are a great problem. Helichrysums seed themselves freely in our sandy soil here. Ixodia achillaeoides has presented dormancy problems. Long term storage of seed (one year) has yielded some success."

On vegetative propagation:- " Helichrysum bracteatum forms strike from all parts of the stem. I use cuttings of two or three nodes and I dip them in an auxin solution of NAA and IAA mixed together (2g/litre of each) which I make myself.

A stem of H.bracteatum showing where cuts are made. The bottom leaf of each cutting is removed. Cuttings strike in two to three weeks and are then planted out. I think this method would be easily applied to most Australian daisies, either annual or perennial.



Cuttings are held in a simple shadehouse with no mist or bottom heat. Propagating medium is sharp sand. The bottom line is KEEP IT SIMPLE - no fancy technology is needed - in fact in my experience it may be detrimental (e.g. misting)."

**Pat Shaw** (from Macgregor, Queensland) writes, "I have registered the Brachyscome 'Valencia' with the ACRA in Canberra naming B.segmentosa and B.angustifolia var. heterophylla as parents, and have sent all the relevant material, slides etc., to them. Have yet to receive a reply. A local nursery is propagating the plant and they are producing a colour label. P.S. Valencia is my second name.

A new addition to the garden here is Brachyscome dissectifolia. It is being sold in a few nurseries, Target stores for one, and on enquiry was told a nursery in Lismore, NSW., was supplying the plants. My first attempt to grow it was a failure. A few seeds collected and sown have produced six seedlings. Have purchased another plant and will send seed as soon as possible."

**Lorraine Marshall** (from Keon Park, Victoria, 28/4/90) writes, "I have maintained Helipterum anthemoides in pot culture for six years and it continues to flourish."

**Natalie Peate** reported at the May Meeting that she planted one Schoenia cassiniana before last winter and it is still thriving and still in full flower. She is taking cuttings and asks could it be a short-lived perennial? Natalie (full of news) also told us she had acquired a plant of Ixodia achillaeoides from Phil Dowling (near Mt.Gambier) which is pure pink and has light green leaves!

**Barbara Buchanan** (from Myrree, Victoria) has pointed out that her garden conditions in Canterbury were "lush" not "bush", see NL26,p.14. (Sorry.) She writes in April, "I was weeding near a clump of Brachyscome graminea today and marvelled at how far it had spread. Although parts of it have died off there is plenty of fresh material underneath and around. It has been flowering for months too. The B.nivalis look a bit tired now and will until next spring; one B.diversifolia plant has reappeared with cooler weather and + regular watering. B.aculeata and B.nova-anglica are still looking great. B.melanocarpa between them is a bit swamped by a Linum marginale."

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MEETING REPORTS

MEMBERS' DISCUSSION ON PRUNING DAISIES

March Meeting (with additional comments in April)

by Beth Armstrong.

Annuals — No pruning required, simply pick and/or dry the flowers.

Perennials — There was general agreement that most daisies can safely be pruned when new growth appears at the base of the plant.

We discussed why some plants die after such treatment and some thoughts were:-

1. The cut stems are hollow and allow the entry of water, fungi or other pathogens.
2. The old, straggly stems are still in some way contributing to the plant.
3. Perhaps we overfertilise after pruning for the size of the plant.
4. The new growth is not well enough established — perhaps we have been too eager to prune. Wait until the new growth is 5 to 7.5cm (2" to 3") high.

Shrubby species — Generally prune lightly after flowering and don't cut back beyond the green leaves.

Brachyscome multifida — some forms die back in the middle. Is this a sign of stress? Cut back when flowering finishes, feed and water well.

Calotis spp. — stoloniferous forms need to be constantly nipped back to prevent uncontrollable spread.

Calotis cuneifolia — prune back to strong growth in early autumn. This also cleans up the burrs.

Helichrysum adenophorum var. waddelliae — is a perennial in the garden given the right conditions so don't be too eager to cut off the old, straggly stems.

Helichrysum apiculatum (Mount William form) — try pruning in September to avoid losing the December flowers. In general, wait for the new growth.

(Fairy Cove form) — does not produce much basal growth so needs to be cut back cautiously after flowering. Perhaps one should take cuttings and start again.

Helichrysum baxteri — try pruning off the old growth when new growth appears, but it is perhaps better treated as an annual or not pruned at all.

Helichrysum bracteatum (Dargan Hill types) — most growers replace them after twelve to twenty-four months by cutting grown plants prepared well in advance. They do not respond to hard pruning. When picking flowers cut to the next budding shoot to promote a new flower.

Helichrysum cordatum — regrows from the ends of old branches as well as shooting from each leaf axil. Don't cut back too far.

Helichrysum cuneifolium — Betty Campbell pruned her bush in late February down to half size and it responded by producing new shoots. Betty now reports a later burst of hot weather killed the plant. A smaller plant with lighter pruning survived. Jenny lost both her garden plants, and after seeing plants in the bush feels that more shade is required.

Helichrysum leucopsideum (two opinions) — try pruning only half the growth in February, or prune the old growth when the new growth appears in March/April.

Helichrysum ramosissimum — a hardy one; no pruning problems. This one is able to regrow from its roots even if pulled out. One member has it growing and flowering prolifically in pure builders' sand or is it builders' pure sand? (A contradiction of terms I think!)

Helichrysum rosmarinifolium — Maureen finds it produces new growth on old wood so straggly or untidy growth can easily be removed at any time.

Helichrysum viscosum — perhaps better not pruned except for picking flowers for wiring. Alternatively, wait until the new growth is strong and well established.

Helipterum anthemoides (Queensland and Whitlands forms) — keep removing the old stalks (unless the heads are wanted for seed) and pick heads for drying and wiring. Even apparently dead plants may regenerate after rain. One suggestion was to burn the dry plant (see NL 26, p.14).

(Higgins Plains form) — no need to prune.

(Wine bud form) — as in the Daisy Book.

Ixodia achillaeoides — Maureen finds that if she picks all the flowers the plant only lives twelve months. Now she picks about half the flowers and leaves the rest to seed. She removes the seed heads only and by then the stems have new shoots.

Minuria leptophylla — when new growth appears on the dry branchlets prune back lightly to encourage a second flush of flowers.

Odivia achlaena — benefits from stems being picked and soon sends out new growth.

Olearias — Jenny prunes lightly after flowering and tidies up dead growth.

Olearia phlogopappa — Joy prunes old stems hard back to base after new growth is well established.

Olearia tomentosa — Jenny finds this species does not like to be pruned. Maureen lost a plant after heavy pruning in November even though there was green growth below the cuts.

Podolepis spp. — Bev. finds that the plants die down completely, but grow again after summer rain. Plants kept well watered over summer have kept growing.

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#### MEMBERS' DISCUSSION ON SUMMER WATERING

by Judy Barker.

Alf opened the discussion with a characteristic statement. Before the summer season he feels he should not water, but he does. Then he wishes he hadn't because he has to keep on watering. If he hadn't started, the plants would have become smaller and probably survived the summer. In the bush a lot of daisies are herbaceous perennials, such as Brachyscome angustifolia, Helichrysum leucopsideum and H.scorp-ioides, and these species survive the summer by dying back to the perennial root and shooting away again after good autumn rains.

Alf's preferred method of watering is a drip system on a timer (four times a day, four minutes at a time), together with the application of a heavy mulch. He uses everything in the mulch — even an old mattress! Our minds ran riot until we heard he eviscerated it and discarded the springs.

By contrast, Jenny Rejske has a sprinkler system in the back garden and waters once a week for an hour. Everything is green and beautiful here, but the front garden (which is not watered) is dry and dusty and many daisies have disappeared.

Julie Strudwick feels that she must water or plants like Helichrysum bracteatum 'Dargan Hill Monarch' will die. She has elevated beds and lives in north-eastern Victoria near Benalla where they experience hot, dry summers.

Barbara Buchanan, now living in the same area as Julie, has paid attention to putting plants with the same watering requirements in the same beds.

Val McConchie (from Emerald in the Dandenongs) does not water at all in the bush area where there is competition from stringybarks. This area is transformed when it rains. She waters the moisture loving daisies in the garden plot around the house. Val has experimented with a sand bed made by excavating soil and filling to a depth of about 50cm with a truckload of concreters' sand. This bed is neither watered nor fed and has produced fantastic root systems for the following daisies: Brachyscome angustifolia var. heterophylla, B. diversifolia, B. multifida (Grampians pale form), B. segmentosa, and B. spathulata. Many Western Australian species have died in this bed although it was primarily designed for them.

Colin Jones tries to suit his watering to his plants' original habitats. For instance, he cut down on the watering of Helipterum albicans. He had always seen it growing en masse in hard situations which dried out in summer. He has produced these conditions for it in his garden and now it seeds itself there. He keeps the water up to his alpines right through the summer because this is basically how they grow naturally. His Podolepis robusta in sun for half a day has had four flower-heads. (Applause for this feat!) Colin also noted that rosettes growing up the flower stalk produced aerial roots. He picked these off, planted them up and they are now growing on in pots. He assumes the dampness in the air in alpine conditions would have kept the aerial roots moist.

Esma notices plant losses in late autumn. She surmises that the water table drops, which causes stress and later death. She is not keen on drip watering in her "Disaster Bed" and thinks overhead watering may be better. Brachyscome spathulata, which was a picture in spring, has died back, but she is waiting to see if it regenerates. She feels the presence of ants in the bed and hot brick paving all round it may cause some of the disasters.

Bev. Courtney hand waters with a can once a week and puts the water wave sprinkler on for an hour once a month over summer. She has friable clay which remains moist over winter and her land slopes slightly to the north-west. She plants out in late autumn and winter into holes the same size as the root ball so that the smaller plants can get their roots down before summer (see NL28). She has learnt from experience where to put plants — the small, moisture loving plants are not planted in the light soil higher up because it is too well drained and dries out in summer. She observed that seedlings are always tougher than cutting-grown plants because the roots seem to go further down. Her Podolepis sp. (see NL 25, p.38) normally dies over summer. Because she had not time to tidy up this summer these 'dead' plants were not pulled out. She has noticed that after 2" (50mm) of rain in February her Podolepis sp. have all shot — even the 'dead' ones in pots. Bev and Bob Mylius agreed that a lot of plants do not want to be watered in summer; they want a rest. If they are watered they may be forced into unnatural growth.

Ruth Marriott (from Mt. Martha) was watering every night for 1 to 1½ hours. She set up her watering on a timer designed to deliver different volumes to different groups of plants. In the front garden her alpines did well at ground level using drippers delivering 64 litres/hr. for 20 minutes every second or third day. In the back garden, where the plants needed less water, her drippers deliver 2 litres/hr. The only problem was that some leads were too long for the poor water pressure and the plants at the end of the line did not receive enough.

#### GENERAL CONCLUSIONS:-

1. Drip watering delivers to the root system and saves water. The rate of drip can be altered to suit plants' requirements. The drip heads should be constantly checked to be sure they are not blocked.

2. Overhead sprays are better for massed annual plantings. It is impossible to provide individual drippers to a large number of small plants.
3. The timing of the watering is of importance. Early morning is probably best as fungal attack is lessened and flower-heads can dry out more quickly.
4. A heavy mulch is desirable, but avoid contact with stems or trunks by using pebbles or screenings. An organic mulch will not allow much self-seeding, whereas a sand mulch will.
5. Finish spring plantings as early as possible before the hot weather.
6. Do not pull out seemingly dead plants until after good autumn rains. Who knows, they could be herbaceous perennials.
7. Consider the origins of your plants and arrange your watering regime accordingly.
8. In natural conditions the roots of many plants are protected, either by an overhead canopy or close planting or because they are growing among rocks.
9. Design and plant a bed over winter and resolve NOT TO WATER it next summer. Observe what happens (and write me an article for the Newsletter).

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APRIL MEETING

GROWING DIFFICULT DAISIES

by Group Members

The members produced a list of plants they found difficult to grow and discussed successful methods (if any).

Helipterum anthemoides (Queensland and Whitlands forms).

Bev Courtney has the Queensland form growing well behind a crowea. She never waters it. Beth Armstrong has three plants of the Whitlands form in a pot with a saucer beneath. They are growing well and flowering profusely now - with lots of water.

Ixodia achillaeoides.

This is usually a short-lived shrub in cultivation. Jenny Rejske has one about five years old and so have the parents of Bob Mylius. In both cases the shrubs are completely neglected and never watered. Beth Armstrong feels that seedlings are tougher than cutting grown plants. She germinated ten seedlings from Anglesea seed (kept for one year before sowing) in 60 to 90 days. Plants may need the sort of pruning Maureen advocates (p. 30). All forms grow well in our coastal conditions at Fairhaven, which may mean they have formed mycorrhizal associations. They are never watered there.

Haeckeria ozothamnoides

We have had mixed fortune with Arthur Hall's seedlings. Bev put one under a correa in a fairly dry spot. It does not get much sun, is browning at the base and is 30cm high. The other is nearby in full sun. It has a prostrate correa protecting its base and was watered through the summer. This one is now 60cm high and has had one lovely yellow flower cluster at the tip. The side growths are striking easily in March/April. I only have one of my three plants left alive. Two were put in sunny beds during a burst of hot weather and may not have received enough water. They died. The other was planted earlier (in late spring) in dappled shade with water every third night for one hour. It is 1.3m high, very narrow, and has not flowered yet. Barbara Buchanan reminds us that this species can become very untidy and straggly in the bush, so it should perhaps be tip pruned. The clusters should be excellent prospects for 'filler' in floral art.

Helichrysum baxteri

Most members find this a short-lived species and feel it should be regarded as an annual. Colin Jones grew a seed batch and found 90% of the seedlings died after one year; only 10% survived to be perennial. Esma has one plant in its third season, but Joy Greig took the prize because she has had one plant for five years. It is growing almost at the base of her rockery and is cut back when it looks miserable. It was concluded that H.baxteri needs a cool root run. Perhaps it is another herbaceous perennial in nature.

Shrubby helichrysums

It was suggested that the browning of the leaves could be a survival mechanism to beat the heat, or it might be mildew attack. It does not kill plants, but leaves them looking far from attractive. It was generally agreed that shrubby helichrysums need to get their roots well down.

Helichrysum cuneifolium

Julie Strudwick is growing a plant on an eastern slope where it receives no water. It has been covered in flowers and has not browned off so far. Betty Campbell had a beautiful specimen about two years old, 1.5m x 1.5m, growing in the open in clay soil in 50% sun. It was a mass of flowers for two months in spring. In December/January it began to brown off, in February she cut it back quite hard and it later died. She has another growing behind the first which was lightly pruned and which lives on. Betty's daughter has severely pruned a plant growing in hot, open conditions and it has sprouted again, but it looks so woody and ugly it will soon be pulled out.

I have several plants in various positions growing in sandy loam. Some have yellowing leaves, some brown off, some have died. The best specimens are in dappled sun and I have part-pruned them in cool, moist weather. They are alive, but have not achieved the Campbell standard.

Helichrysum secundiflorum is another species difficult to establish. Jenny Rejske has had one for two years in semi-shade. Another has survived in clay all through the summer in full sun. Perhaps plants need mycorrhizal associations and cultivation over several generations.

Finally, we touched on those problem species which germinate, but fail when transplanted into tubes. Beth Armstrong and I germinated seed of Helichrysum milliganii which she had collected in Tasmania. I knew that she had trouble when she potted on her seedlings, so I postponed doing mine. I dithered over the five seedlings in the middle of my marg. container until they were quite large. One day Beth noticed these seedlings and suggested I pot them holus-bolus into one pot. Now I have a mound of attractive, hairy, stiff foliage in one 25cm terracotta pot of Propine potting mix BC321 : Perlite, 1:1. In spring three attractive flowers were produced. (I do admire Beth's incisive logic.) This will probably be the way to treat Helipterum fitzgibbonii, H.floribundum and H.stipitatum, with which I have had trouble in the past. Helichrysum adenophorum var. waddelliae, H.blandowskianum and H.newcastlianum have responded positively to this treatment.

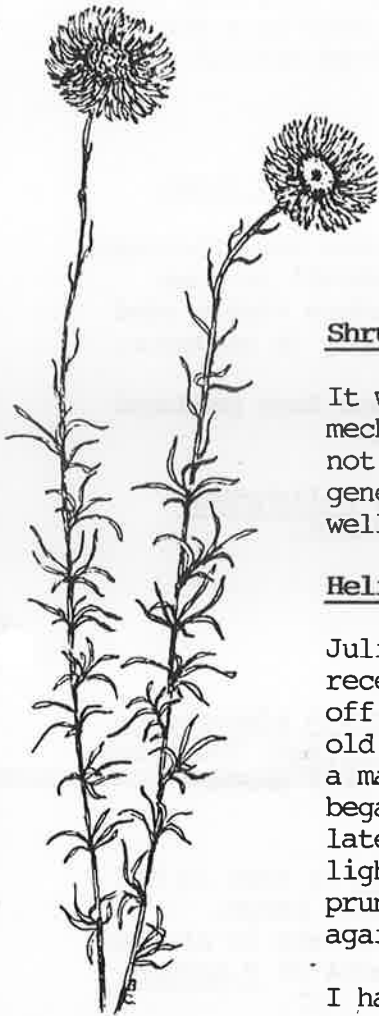
by Judy Barker.

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HELICHRYSUM CUNEIFOLIUM AS A DRIED FLOWER

by Gloria Thomlinson.

I agree with Maureen that Helichrysum cuneifolium shows great potential as a dried flower - with this difference - I love my dried H.cuneifolium without its leaves too!



Helichrysum baxteri

x 2/3

Just a matter of opinion I know, but the leaves were so easy to strip off, leaving the stem with a downy appearance. It looks good in an arrangement that does not require the "clutter" of leaves. Incidentally, this species is good as a cut flower. The leaves keep well for quite a long time in water - even without additives.

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ALPINE DAISIES IN RINGWOOD, VICTORIA

by Colin Jones.

No! That is not where they were found, but they can be found there now, flourishing in my garden. While it will be necessary to use the 'Bog Method' in some situations for alpine daisies, most plants will survive and produce viable seed if they are in shade for a part of the day and if the water supply is adequate.

A number of plant colonies have been established in my garden and have produced flowers and viable seed. These have survived so far as follows:-

Third summer - Podolepis robusta, Helipterum anthemoides (NSW), Helichrysum acuminatum, H. scorpioides, Craspedia glauca (yellow), Brachyscome aculeata and B. scapigera.

Second summer - Helipterum anthemoides (Vic).

In October '89 I planted four further colonies - Celmisia sp., Craspedia glauca (orange), Helichrysum adenophorum var. waddelliae and Helipterum albicans subsp. alpinum. The first two colonies have produced flowers which I hope will produce viable seed.

An interesting aspect I have noticed with Helichrysum acuminatum is that it has been promiscuous with H. bracteatum plants in the white/pink colour range. Seedlings from last year's H. acuminatum flowers have produced flowers in similar colours to the H. bracteatum while maintaining the acuminate bracts of H. acuminatum.

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LETTER FROM THE UK (March 1990)

by Jeff Irons.

Here there is a great deal of fuss over the use of peat in gardening. It is fostered by the Greenies because there are only about  $439 \times 10^6$  hectares of peat left in the northern hemisphere. The commercial nurserymen say that there is no substitute for peat as a compost mix. Nevertheless there is great interest in substitutes. The latest to arrive is a product made from coir which, though untried, is claimed to be the next best thing to peat. It has the advantage of giving foreign earnings to Sri Lanka.

The popular horticultural writers who used to encourage gardeners to dig in lashings of (expensive) peat now tell them to dig in lashings of (even more expensive) compost or leafmould. You will appreciate that British mini-gardens do not have the space for compost and leafmould heaps, so people have to buy those materials.

The extracts enclosed come from a feature prompted by this anti-peat campaign. The following extracts are taken from "Growing Media - Alternatives to peat" by Gill Valentine, Horticulture Week Supplement, March 16, 1990.

BARK

Abundant renewable waste material. Estimated 500,000 tonnes per year harvested from British woodlands.

**Advantages:** Non-clumping and resilient material. Open, stable structure, good aeration. Clean, easy to handle. Composted hardwood bark suppresses some pathogens and some nematodes. Composted softwood bark will suppress pythium and phytophthora.



**Disadvantages:** Bark can lock up nitrogen. Low water-holding ability. Potential toxicity problems. Level of toxins and effect on plants depends on age, species of bark and size of plants. Organic toxins can be killed by thorough composting. Variable pH but acidity can be reduced by adding lime.

**USE:** Bark is not widely used to replace peat in UK container growing, although use is more widespread in US and Belgium. It needs addition of nitrogen and regular watering. Bark is added to peat to act as a peat amender. Also added to organic materials such as cow manure to improve aeration and reduce compaction.

#### ROCKWOOL:

Formed when basalt is melted at 1500°C. The resulting stream of molten rock is then fed into a rotating drum to produce fibres. Other materials are then added before spinning to produce water absorbent or repellent product.

**Advantages:** Inert, sterile and consistent in quality and performance. Good air porosity and water retaining capacity. Consistent supply and texture.

**Disadvantages:** Lack of nutrients and nutrient holding capacity. Energy intensive production process. Non-renewable.

**Uses:** Rockwool is an ideal medium for glasshouse environments where water and nutrients can be closely monitored. But unsuitable for containerised trees, shrubs and indoor plants which spend a long time in transport. And for bedding plants, trees and shrubs which have to be established outdoors because sudden change in environment can shock roots. Is used as a peat improver.

#### PERLITE:

A volcanic alumino-silicate, crushed and heated to 1000°C to produce this light, white material with a cellular structure.

**Advantages:** Durable, inert, light, sterile. Increases air filled porosity and improves drainage.

**Disadvantages:** Non-renewable mineral. Energy intensive method of production. Virtually no ion-exchange capacity. Closed cellular structure means water is only retained on surface of aggregates. Visually intrusive. Expensive.

**Uses:** Used for hydroponic growing systems. And for potting and propagation work as a partial peat replacement (20 - 25 per cent by volume) because it improves drainage and aeration.

#### VERMICULITE:

An aluminium-iron-magnesium silicate of volcanic origin. Mined in South Africa and North America. In original form resembles mica, heat treated to 1000°C. This forces out water between layers of rock and it expands to produce a lattice-like structure of which only 4 - 6 per cent is true solid.

**Advantages:** Light, sterile. Has good cation-exchange capacity. Retains more water than perlite and has good air filled porosity.

**Disadvantages:** Non-renewable. Energy intensive method of production. Hydrogen sulphide is released in manufacture. Product from South Africa often has high pH (7.8), but this is reduced when mixed with peat. Tendency to collapse after it has been used for some time. Water holding capacity too low for it to be used alone. Expensive.

**Uses:** Used to amend physical structure of peat. Can use 10 - 50 per cent vermiculite in peat compost.

SEED LIST:

ADDITIONS

Brachyscome angustifolia var. angustifolia, bellidioides, diversifolia var. diversifolia (Mt. Samaria), obovata (Mt. Baw Baw), radicans, stuartii.  
Cassinia aureonitens, Celmisia sp. (Mt. Hotham), Craspedia sp. (Falls Creek).  
Helichrysum alpinum, apiculatum (Phillip Is.), backhousii, papillosum, stirlingii, thyrsoideum.  
Helipterum anthemoides (Higgins Plains, Qld., Snowy Mountains), albicans ssp. albicans var. incanum, venustum (now Hyalosperma glutinosum ssp. venustum).  
Ixiolaena sp. (Qld.), Ixodia achillaeoides (Broad leaf).  
Olearia frostii (also large-flowered form), glutinosa, tenuifolia.  
Podotheca gnaphalioides, Rutidosis helichrysoides (Cent. Aust.).  
Spilanthes grandiflora, Vittadinia sp. (Snowy Mts.).

DELETIONS

Angianthus tomentosus, Brachyscome exilis, lineariloba, obovata (Lake Mtn.), readeri.  
Chrysocoryne drummondii, pusilla. Chthonocephalus pseudevax, Erigeron pappocroma.  
Helichrysum apiculatum (mixed), semipapposum (Maldon), viscosum (Maldon).  
Helipterum albicans ssp. alpinum, simplex (now Hyalosperma simplex).  
Leptorhynchos panaetioides, Olearia subspicata.

All correspondence and requests for seed (enclosing a LARGE, stamped, self-addressed envelope) should go to Esma Salkin, 38 Pinewood Drive, Mt. Waverley, 3149.

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SEED DONORS

Many thanks to Beth Armstrong, Judy Barker, Paul Barnett, Barbara Buchanan, Betty Campbell, John Colwill, Bev Courtney, Jeff Irons, Colin Jones, Bob Magnus, Ruth Marriott, Mary McEvoy, Esma and Alf Salkin, Maureen Schaumann, Pat Shaw, Julie Strudwick, and Paul Wilson.

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SUBSCRIPTIONS ARE DUE IN JUNE (\$5.00 per year or \$10.00 for overseas members). Cheques should be made payable to the Australian Daisy Study Group and forwarded to the Leader. If you intend to resign please let Esma know as soon as possible because there are several names on the waiting list.

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NEW MEMBERS

We wish to welcome the following new members:-

John Knight, 24 Kardinia Cres., Warranwood, 3134.

Bob Magnus, Woodbridge, Tasmania, 7162.

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NEWSLETTER DEADLINE

The next newsletter is due in November, 1990. The deadline for contributions is October 1st. Thank you for your articles. It is a pleasure to type them. Special thanks to Gloria Thomlinson and Betty Campbell for their handsome drawings.

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If reproducing any material from this newsletter please include the acknowledgement 'Reproduced from the Australian Daisy Study Group Newsletter No.27'.

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