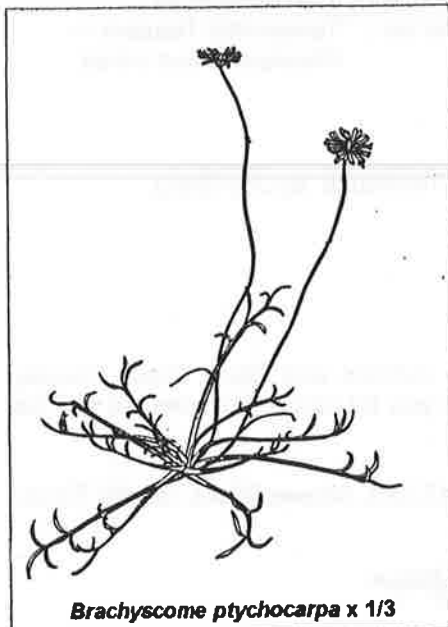


ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

THE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO. 41

Dear Members,

Whilst browsing through early copies of our Newsletter to check when I joined AD SG a few lines caught my eye 'A seed bank is an insurance against future loss. In general seeds of Asteraceae seem to remain viable for many years, so if *B. muelleroides* colonies were to be wiped out by a succession of bad years, we would have the ability to refurbish the habitat!' The final point states, 'Once we have acquired seed of a species, as a Study Group, we should be self-sufficient thereafter.' These quotes are taken from an article written by Judy Barker in March 1984. It was very instructive to re-read these notes and to recall some of the optimism expressed at the time.



Brachyscome ptychocarpa x 1/3

Eleven years on we are a lot wiser and more experienced, and now we know that seed of numerous species does not remain viable for many years. We've learnt that seed requires storage at constant humidity and low temperature. We've also discovered that many Asteraceae species hybridise readily (especially brachyscomes). We know it is difficult to maintain gene diversity in a population under cultivation in our back gardens as seed seems to lose its viability over a number of generations.

Needless to say, the goals for our seed bank are essentially as outlined in Judy's article, i.e. the aim is to build up a seed source. Some of us are continuing with isolation and pollination techniques. We are collecting a little 'true seed' and this is valuable to the Study Group because this is the only way we are able to get seed of some species. I view the results with caution, however, and would want to do further pollination, germination and cultivation trials before I make any further comments.

Danthonia Vol. 3 Number 2 September 1994, the newsletter of the Australian Network for Plant Conservation (ANPC), reports on germplasm storage of rare and threatened Western Australian species at the Seed Centre set up by the Department for Conservation and Land Management. They are using medium term storage (4°C) to hold material for 5-50 years and long term storage (-18°C to -22°C) to hold material for over 50 years. They are also continuing research into the use of cryopreservation of seed and plant tissue, i.e. storage at -196°C.

The Study Group now stores seed collected either in glass jars with a suction lid or in sealed plastic-lined foil packets (6.5 x 10cm) at 4°C. As more space is required most storage will be transferred to foil packets and only seed which is regularly dispensed will be stored in jars.

The Study Group has observed that cool storage does maintain viability and in some species germination rates are increased. I have recently obtained excellent germination of *Helichrysum scorpioides* seed stored in a paper seed packet in a sealed plastic container for six years. Also the viability of *Olearia astroloba* (an endangered Victorian species) seems to have been retained over two years. All this suggests that we should pursue viability trials under more rigorous scientific criteria, provided we have seed, of course.

The ANPC has developed a database to record details of collections of endangered species under the National Endangered Flora Collection. If you are growing any of the species listed below please let me know. Identity of species should be verified at the Herbarium. You may already be a member of ANPC, in which case you will have sent in your list for collating. Species marked with an asterisk (*) are being grown by members. The endangered flora list includes a number of annuals. Strategies for conserving annuals

have yet to be established. All we can do is keep taking cuttings, and isolating and pollinating, and hoping seed develops.

Endangered species: *Brachyscome muelleri*, *Olearia flocktoniae*, *O. hygrophila*, *O. microdisca* *, *Rutidosia leptorhynchoides* *, *Senecio behrianus*.

Vulnerable species: *Ammobium craspedioides*, *Basedowia tenerrima*, *Brachyscome ascendens**, *B. muelleroides**, *B. papillosa**, *Calotis glandulosa**, *Cassinia rugata*, *Gnaphalium nitidulum*, *Ixodia achillaeoides* subsp. *arenicola*, *Olearia astroloba**, *O. cordata*, *O. macdonnellensis*, *O. pannosa* subsp. *pannosa*, *Ozothamnus eriocephalus*, *O. tessellatus*, *Picris evae*, *Pleuropappus phyllocalymmeus*, *Rutidosia heterogama*, *R. leirolepis*, *Senecio garlandii*, *S. lacticosatus*, *S. macrocarpus*, *S. megaglossus*, *Trichanthodium baracchianum*.

Presumed extinct: *Argentipallium spiceri*, *Olearia oliganthera*, *Ozothamnus selaginoides*.

MAY MEETING: SATURDAY, 6th MAY at 2.00 pm. at 38 Pinewood Drive , Mount Waverley, 3149.

PROGRAM (tentative)

2.00 pm : Coffee and swaps.

2.30 pm : Coping with a new climate — strategies, successes and failures.*

Opening speaker : Colin Jones (Orange, NSW), then open to all.

: You all enjoyed last year's 'taxonomic exercise' so ... 'Taxonomic Teasers —
Rhodanthe and Allies'

: Members' Requests ?

: Show and Brag

6.00 pm : Communal Meal

7.30 pm : Nostalgic review of ADSG and Recent Trip to Tasmania by Joy Greig.

Accommodation: Beds, Lilos or Floor Space available.

ASGAP CONFERENCE — BALLARAT, SEPTEMBER 23–29, 1995.

We'll be participating in the Study Group Leaders' Workshop, Meet the Authors and Study Group Display and Traders' Night. Please introduce yourselves; we only know most of you by name, but note we will be labelled!

Incidentally, there is only one ADSG windcheater left — a large, chest 132cm, sleeve 82cm, length 73cm. Cost \$23.00 plus postage.

Regards,



SPECIES OR FORMS NEW TO THE GROUP

***LEUCOCHRYSUM GRAMINIFOLIUM* (NSW)**

(syn. *Helipterum albicans* var. *graminifolium*)

L. graminifolium is a compact perennial herb that has only been recorded in the Newnes region north of Lithgow in New South Wales. With the recent reclassification this species was grouped under a new genus, *Leucochrysum*, by Paul Wilson in Western Australia.

Of all the *Leucochrysum* species I have worked with, this species comes from the most interesting habitat. The area around Newnes State Forest and the Wollemi National Park has a long history with respect to oil shale mining. There is a dirt road leading from the outskirts of Lithgow through the state forest and into the Wollemi National Park that ends at an abandoned railway tunnel now known as the glow-worm tunnel. This whole area is a mass of sandstone outcrops called pagodas, and it is only on these rocks that *L. graminifolium* grows. The plants occur in very small, shallow depressions on and in between the rocks that are usually filled with leaf debris and lichens. The population is fairly small and there were no plants growing in the soil at the base of the pagodas (where everything else grows!).

Plants are about 20cm tall with a woody rootstock and many bright green, grass-like leaves. Unlike other *Leucochrysum*s the leaves are glabrous and very narrow. The inflorescences are solitary with bright yellow papery bracts. The bud often appears brownish.

This species has a fairly long flowering period during spring and summer, although not a mass of flowers at any one time. I have been growing this species in pots for the past three years and some of the original plants are still surviving. It is the only species I have worked with that appears the same in the wild as in cultivation. All the other native daisies tend to be fairly small in the wild and much more vigorous with sufficient water and nutrition. *L.graminifolium* will respond to slow release fertilisers but it needs good drainage. All of my initial work involved seed germination and fresh seed germinates easily. Seed should be stored dry, in sealed containers, as old seed was not successful. Seed will germinate in 7–14 days in the light. Lately I have maintained individual plants by vegetative propagation. I believe they will germinate readily in the garden as long as they are not surrounded by weeds and other species. I feel they do not compete readily with other plants, which explains the unusual growing habitat in the wild.

On the drive back towards Lithgow at lower altitude there was another *Leucochrysum* sp. along the side of the road. This was *L.albicans* subsp. *albicans* var. *albicans*. *L.graminifolium* was believed to be a variety of *Helipterum albicans* under the previous classification and I have not found any intermediates between the two on the drive from one to the other. The *L.albicans* subsp. *albicans* var. *albicans* I have grown have all been annuals whereas *L.graminifolium* is perennial.

There is a species description in the *Flora of New South Wales*. Volume 3.

by Lotte von Richter.

CASSINIA LEPTOCEPHALA subsp. A

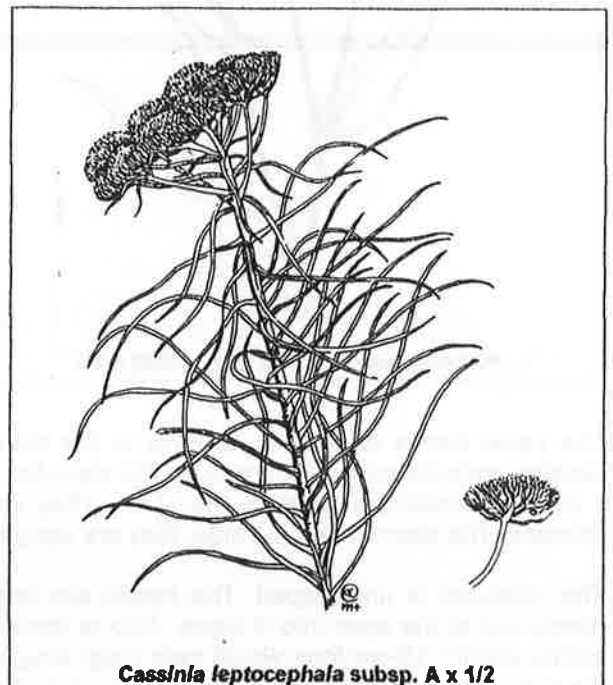
This is a large, stiff-leaved shrub that grows to 3m. Leaves are thickly arranged in pseudo-whorls up the stem. These leaves are up to 8cm (usually 5cm) long, scabrid to the touch, reflexed and densely glandular-hairy. The hairs arise from a tubercle base. The leaf is deeply indented on the upper surface along the central plane. This makes the mid-vein prominent on the undersurface.

The flowerhead is a dense umbel consisting of numerous individual heads about 2–5mm long and about 1mm wide. Each individual head usually has 2 yellow florets. The involucre bracts have yellow tips and the outer bracts are covered in woolly hairs to the tip. The fruits are light brown, c. 0.6mm long, covered with very short hairs (pubescent). The pappus is white, consisting of about 16–20 barbed bristles which are more than twice as long as the fruit.

An interesting feature of this shrub is the slow development of the umbel. Early in its development the umbel is white and woolly (like a miniature cauliflower in shape) but, like many white woolly plants, heavy rain can make the white woolly head look dirty. The bright mustard-yellow of the mature umbel is slow to develop but worth the wait as it's an eye-catching sight.

I've been growing this species in the garden for about eighteen months in a south to south-westerly aspect near a *Eucalyptus wimmerensis*. It has been thriving in this situation and can tolerate dry conditions. Buds began to develop early in June and reached maturity about September. My plant is still producing umbels of yellow (January). New growth sprouts from the stem below the seeding head. The specimen was grown from seed sown in March. Germination occurred from 14–24 days.

This species is confined to the Warrumbungles in New South Wales. I've been delighted with the garden potential of this plant. As a cut flower it lasts 1–2 weeks. If specimens are picked when the head has not fully developed, treatment with PEG 400 for 68 hours is not successful. If picked when the bright yellow



Cassinia leptocéphala subsp. A x 1/2

colour is fully developed and simply air-dried, the result is much more successful. Further preserving and drying trials with this species are required before its potential as a dried flower can be assessed.

by Esma Salkin.

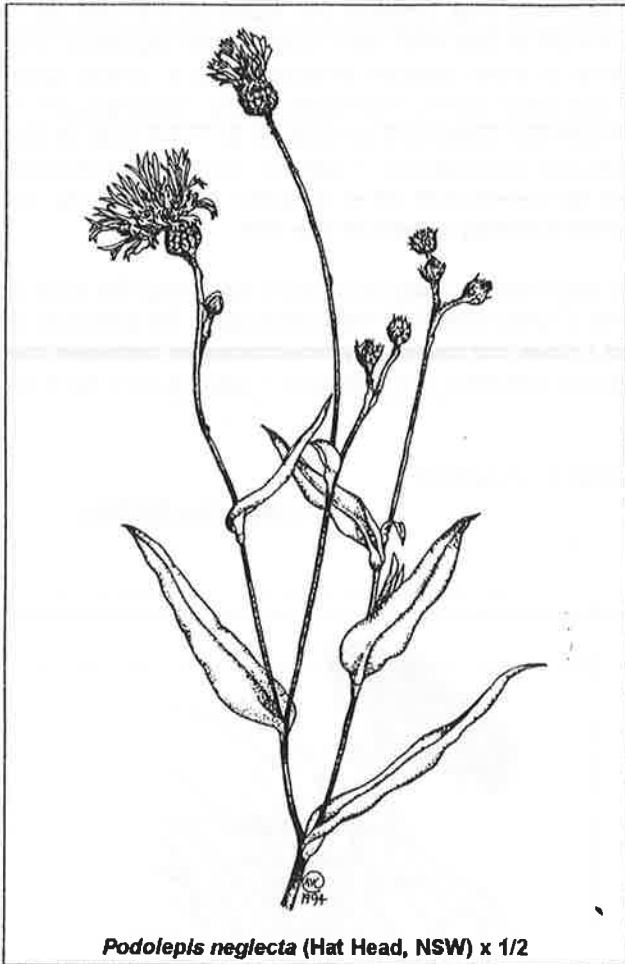
PODOLEPIS NEGLECTA G.Davis

(Qld, NSW)

Esma collected seed of this attractive species near Third Beach at Hat Head on the coast of northern New South Wales in the spring of 1993. Esma had not identified it, but in that location the *Flora of New South Wales* (1992) edited by Harden listed only three species of *Podolepis* — *P.jaceoides*, *P.longipedata* and *P.neglecta*.

I sowed approximately twenty seeds (stored at room temperature) in late February and twenty seedlings germinated in 7–20 days. A month later I potted them on and at a later stage I potted on another four seedlings. This was proving to be a most gratifying experience!

The seedlings grew well and, in due course, I was able to plant four groups of three forest tubes around the garden in different situations, a group of three at Fairhaven, and still had a few to give away. They sat for a while — reflecting on their new circumstances — then began to grow. In late December the groups are 35–40cm high and 50–60cm across. New growth is shooting from the base and presents a nice fresh contrast to the older, dark green foliage. My plants have been flowering since October or November, I think. (This year has been so busy that only brachyscemes are recorded properly and sometimes even they have come and gone without due regard.)



Podolepis neglecta (Hat Head, NSW) x 1/2

The basal leaves died off quite early in the plants' development. The lower stem leaves are lanceolate, sessile, stem-clasping, decurrent on the stem for short distances. The leaves are relatively large, 10–12cm x 2cm, decreasing in size up the stem. They are almost glabrous, just a few hairs are present on the margins. The stems branch a little; they are upright at first but may bend down with the weight of the heads.

The involucre is urn-shaped. The heads are bright yellow, 2.5–4cm across, with ray florets, 2cm long, deeply cut at the apex into 3 lobes. Two or three heads develop quite slowly in a rough cluster on flower stems about 15 cm long which bear long, tangled hairs and have a number of small, scale-like leaves at the apex. The first head has almost withered by the time the third bud has developed.

In the *Flora of New South Wales* many species of *Podolepis* are distinguished by the shape of the involucral bracts, so I spent a merry hour trying to match the shape I could see to the drawing of the plant. The tips of the Hat Head species I was investigating were almost blunt when they should have tapered to a point. My notes say, "Involucral bracts 10mm long. Long brown scarious membrane at apex, but the tip not really acuminate. Best bet *P.neglecta*". Now I have looked at a drawing in the *Flora of South-eastern Queensland* (1986) by Stanley and Ross and have no trouble in recognizing the species as *P.neglecta* from the bract depicted. Obviously there is some variation in bract shape.

I have been looking at ancient notes and find that AD SG members grew *P.neglecta* collected from the Warrumbungles in December '83 and January '84. I have drawn an acuminate tip to the apex of the involucral bract from that collection.

Some time later Gloria Thomlinson grew it and reported in December '89 that it had self-sown in her garden. In 12/91 she was observing, "*Podolepis neglecta* is just the thing for a neglected garden. Self-sown plants are thick in some areas, sparse in others, and give a cheerful but delicate display. Three transplanted seedlings right against our full length bedroom window make a good start to the day, especially when back lit with early light."

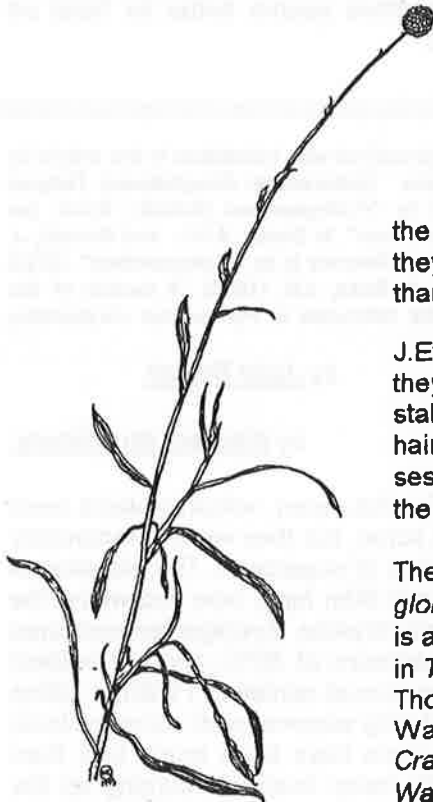
I have another report written in a bold hand, but otherwise unidentified. I like it so much I am including it here:

"*Podolepis neglecta*

Seed from the seed bank was sown 10.3.85 — germination 6 days 100% (about 40 plants resulted). Planted 6 in the garden in various aspects, full sun, semi-shade, shade. Plants in the semi-shaded, dry position were quite spectacular with about 50 flowers at the same time on one plant. Collected lots of seed and pruned back flower stems to main plant in late autumn as they were taking up too much space, but would have continued flowering for several more months. Hundreds of seedlings appeared near and around the parent plants in early spring but, for some unknown reason, all died. The largest plant would have been 75cm wide and prostrate."

There does not seem to be any argument about the character of this species. It behaves in such an exemplary fashion that no garden should be without it. It should be no longer 'neglected'.

***PYCNOSORUS THOMPSONIANUS* Everett and Doust**



P. thompsonianus x 1/3

Seed was collected by Colin Jones in October '92 from the Narrabri to Yarrarie Lake road in New South Wales. It was stored at room temperature and sowed this year in early February. It germinated in dribs and drabs over the next five months. In May 9 seedlings were potted on and finally 4 in August. In June 4 tubes were transplanted into a 30cm pot and one or two were later planted in the garden. The ones in the pot were more successful, probably because they received a steady water supply, whereas the garden has been drier than usual this year.

J. Everett and J. Thompson, working on the revision of *Craspedia*, concluded they were dealing with two separate generic groups. One group had stalked partial heads, white (or brown-tinged) bracts and white pappus hairs; these retained the generic name *Craspedia*. The other group had sessile partial heads and yellow bracts and pappus hairs; *Pycnosorus* was the reinstated generic name for this group.

There are four species of *Pycnosorus* in New South Wales — *chrysanthes*, *globosus*, *pleiocephalus* and *thompsonianus*. *Pycnosorus thompsonianus* is a new species, one of a number described by J. Everett and A. N. L. Doust in *Telopea* 5 (1): 39–43. The specific name was bestowed in honour of Joy Thompson, a colleague who collected in the western plains of New South Wales, and who collaborated with J. Everett to describe eight new *Craspedia* species in alpine and subalpine areas. In *Plants of New South Wales. A census of the cycads, conifers and angiosperms.* (1981) Jacobs and Pickard designated this entity as Sp. P.

In the *Flora of New South Wales* Vol.3 (1992) edited by G. Harden the key is based partly on the shape of the main bract of the partial head and whether or not the compound head is branched. I have found the shape of the main bract difficult to determine, so have been more inclined to depend on vegetative characters that can be seen with the naked eye or a hand lens. Examples are the colour of the leaves compared with stem colour and the number of veins on the leaf.

The plants in the pot grew well to 45–65cm high, but only to 35cm high in the garden. The stems are upright at first and later sprawling. They branch once or twice near the base and higher as plants develop. The leaves and stems are the same colour.

The leaves are sessile, linear to narrowly oblanceolate, grey-green, 2–12cm long and 0.5–1cm wide, soft and silky. Under the microscope there is a covering of long woolly hairs. The bases are slightly stem-clasping and there is a brown acute tip at the apex of the upper leaves. There are 3 veins on the leaf blades which are more easily seen on the undersurfaces.

The heads are many shapes from hemispherical to globular or ovoid, sometimes lopsided, usually 1.5–2cm in diameter.

A *Pycnosorus* sp. was also collected by Colin from the West Wyalong area of New South Wales. This was sown in January '94 after storage at 4°C. Only two seedlings resulted and they developed slowly. Both plants were put into a 25cm pot. They began to flower in November and are still looking very attractive in January.

Each plant is 45 x 20cm, branching well up the stems. The stems are white, not the same colour as the leaves. The leaves are green both sides, linear to lanceolate, stem-clasping, 0.3–3.5cm long and 0.1–0.6cm across, and are held erect on the stem almost as far as the head. There is a short, transparent, mucronate tip on the leaves, but it is not as pronounced as it is in *P.thompsonianus*. The foliage is sticky, due to the small glandular hairs on the margins and mid-rib. There is only one vein per leaf.

The heads are neat and globular, 12–15mm in diameter. I think this species is *P.chrysanthes*. It fits with the description and differs from *P.thompsonianus* in having 1 vein (cf. 3) on the leaves, white stems and green leaves rather than concolorous stems and leaves, and in its smaller size.

The heads of both species dry well without any pretreatment. *P.chrysanthes* seems better for floral art because it is smaller and neater, but *P.thompsonianus* has longer stems.

CONFUSING NOMENCLATURE

Golden Billy-buttons used to be known as *Craspedia chrysantha*. The generic name *Pycnosorus* was reinstated in the article by Everett, J. and Doust, A.N.L. (1992). New species and a new combination in *Pycnosorus* (Asteraceae: Gnaphalieae). *Telopea* 5(1): 39–43. They state that there are six species within *Pycnosorus* and refer to "*P.chrysanthes* (Schidl.) Sond. [as *chrysanthus*]". Under the description of *P.thompsonianus* they again refer to "*P.chrysanthes*". In Doust, A.N.L. and Everett, J. (1992). *Pycnosorus*. In *Flora of New South Wales*. (Ed. G.J. Harden.) Vol.3 pp.260–1 the reference is to "*P.chrysanthus*". AD SG has always followed the nomenclature used by the National Herbarium of Victoria. In Ross, J.H. (1993). 'A census of the vascular plants of Victoria'. (4th ed.) (National Herbarium of Victoria, Melbourne) the reference is *Pycnosorus chrysanthes* (Schidl.).

by Judy Barker.

GROWING DAISIES IN BUNDABERG

by Margery Stutchbury.

Bundaberg is situated on the Burnett River, 365 km north of Brisbane. The flat, open, volcanic plains were once covered with dense forest and vine scrub, known as the Woongarra scrub, but they were unfortunately completely cleared in the early pioneering days and put under the cultivation of sugarcane. The elevation is 30 metres, the only hill being the remains of a volcano, a sloping hummock 90m high, now known as The Hummock, and it is the only place from which to obtain a view of the countryside. Average temperatures during our hottest month, January, are a minimum of 21.6°C and a maximum of 30°C, and our coldest month, July, are a minimum of 10.5°C and a maximum of 21.8°C. Average annual rainfall is 1138mm falling over ninety-six wet days per year. Much of it is from short, sharp storms during summer with some cyclonic rain, and most rain falls between November and March. The last few years have seen much less than average rainfall. The area is very dry at the time of writing (30/9/94) with many bushfires burning up the coastal areas of Queensland.

My daisy garden was established in 1993 at our home of thirty years. Logs were put in place and a sandy loam was purchased and spread over the existing lawn. A compost of mostly lawn clippings and garden cuttings was mixed through. The garden faces east and is approximately 14m x 1m. At one end a large liquidambar tree grows, and at the other end a *Eucalyptus ptychocarpa* and *Brachychiton acerifolius* give some shade to that part of the garden. Scattered through the garden are a low-growing *Callistemon pachyphyllus* with green flowers, *Callistemon* 'Mr. Foster', *Banksia ericifolia*, *B.oblongifolia* and *B.spinulosa*.

The following daisies grow in my garden: *Bracteantha bracteata* 'Hastings Gold', *B.* 'Dargan Hill Monarch', plus crosses including a lemon 'Dargan Hill Monarch'.

The brachyscomes include *B.iberidifolia*, *B.multifida*, *B.multifida* 'Alba' and *B.parvula* var. *parvula*. I have purchased a plant of *B.angustifolia* which is growing in a sheltered courtyard and is just coming into bud. I suspect it would like a bit more sun than it receives. Recently I bought *B.segmentosa* and planted it in full sun in the 'Daisy' garden.

I have one large plant of *Chrysocephalum semipapposum* grown from '93 AD SG seed. It did not flower last year and the first clusters are appearing now (September, '94). It is a large spreading border plant with attractive grey-green foliage. So far the flowers are not particularly attractive, but I guess a mass of flowering plants would be good.

One plant of *Podotheca gnaphaloides* is flowering well from last year's seed.

Rhodanthe anthemoides is in a large pot in a semi-shaded barbecue area. It has lots of flowers at the ends of long stems and has self-sown in nearby pots and also in crevices between the paving. Four were sown in one large pot in '93 and are flowering better this year than last. *Rhodanthe chlorocephala* and *R.chlorocephala* ssp. *rosea* are providing a lovely display of white, pink, darker pink and one apricot - coloured. *Rhodanthe manglesii* is represented by one self-sown plant from last year with white flowers — last year's were pink.

I grow *Schoenia filifolia* ssp. *subulifolia* and also have a small creeping daisy which grows on the roadsides up here and is sold in nurseries. It has little yellow pompom flowers.

Most of the daisies are self-sown, particularly the bracteanthas. There are crossed varieties, some yellow, some lemon, some white — some single, some large double, and of what I call semi-double with finer bracts than the large doubles. Then there are smaller ones which I think are a cross between the single yellow and the smaller *Bracteantha bracteata* 'Hastings Gold'. Some of these hold their flowers on quite long stems.

The brachyscomes are all smallish plants growing near the edge of the garden, which is largely made up of bracteanthas.

Brachyscome parvula var. *parvula* (Huntly, Vic). I have four little round plants growing together. The plants last year did not thrive nearly as well as these — I think the soil may have been responsible or else something attacked the roots. The '94 plants are lovely, 10–12cm in diameter and 13cm high (including flowers). Heads are white and 2cm wide, height from base of stem is 8–10cm. Flowers once spent seem to set seed quite quickly. Each plant is at present supporting more than ten flowers with many buds as well. They grow in full sun for most of the day with dappled shade from a tree in the late afternoon.

Brachyscome iberidifolia. This is the first time I've grown these too. I just happened to find two half-dead punnets at Woollies for half price. I felt sorry for them and all they needed was a good drink. They are now flowering beautifully, blue, purple and white. Plants that are in part shade are not nearly as vigorous as those in full sun. It remains to be seen whether they will self-sow.

Brachyscome multifida is often seen in the shops here. I have grown these with success and cuttings are easy to strike most of the year. They seem to favour a semi-shaded position and flower well in flushes, mostly winter and spring. The plant I have in full sun is not nearly as good as that in part shade. Of course, this could be due to soil conditions, but I have noticed previously that they seem to flourish in a sheltered spot. My *B.multifida* 'Alba' growing in full sun next to the purple-flowered *B.multifida* is not vigorous either.

My daisy garden has given me much joy!

OLEARIA FROSTII — BOGONG DAISY-BUSH

by Ray Purches.

During an SGAP field trip to Falls Creek in 1990 I was dazzled by the arresting mauve flowers of the Bogong Daisy-bush, *Olearia frostii*.

O.frostii is endemic to the high plains (above 1300 metres) between Mts. Hotham and Bogong in Victoria. Its habitat includes drier sites in snow gum woodland and also alpine grassland, as well as along drainage lines. It is a robust upright shrub to 60cm. Leaves and stems are woolly and the charming flower-heads are 2–3cm wide.

My cuttings from this trip were failures; the sole puny survivor being planted in an exposed gravelly spot with sand mulch in late 1992 at Wangaratta, which has an elevation of 160 metres. By December 1993 we were rewarded with a magnificent display of pink buds and mauve flowers on a strapping shrub 1 x 1.5 metres. Flowering continued until March.

Cuttings (now) strike readily and this handsome small shrub is well adapted to severe frosts such as were suffered right across Victoria this year.

Olearia frostii appears well suited to our higher townships like Beechworth and Bright in North East Victoria. An assessment of its hardiness and longevity over a range of soil types, climates and aspects should provide interesting results.

ASTERACEAE and PROTEACEAE ARE INCOMPATIBLE SPECIES

— a composite article by a number of people.

In listing which brachyscomes were growing in my garden and under what conditions, I was unwise enough to make the bald statement that daisies don't grow with Proteaceae. Of course this subjective fact of mine was challenged immediately and deleted from my article by mutual agreement. Now I'm being asked to speak further on this claim!!

Some years ago I came to the conclusion that daisies don't like Proteaceae and vice versa. While touring in Western Australia and elsewhere, where banksias and other Proteaceae are the dominant species, I used to cherish the occasions when great thickets of isopogons, petrophiles, dryandras and banksias hove into view. I just sat in the car, not venturing into all that 'prickly stuff', and pondered on brachyscomes, rhodanthes, etc. If Alf wasn't having any success in finding a particular species I would help.

On rare occasions I did find *Argentipallium tephrodes* sending up a tenuous flowering stem through this inhospitable foliage. On another occasion, whilst *Dryandra* enthusiasts were examining — what was it? *Dryandra* sp. No. 48 will do — I saw a magnificent plant of *Argentipallium niveum*, 1 metre in diameter, covered in pink buds, in the Gnowangerup rubbish dump.

Where banksias have been cleared on roadsides or in firebreaks you do find, for instance, *Waitzia* species and *Brachyscome bellidioides* growing, but not in close association with banksias. I have also noticed a similar pattern in eastern Victoria on coastal heaths where *Banksia marginata* grows almost as a monoculture. The odd *Helichrysum scorpioides* was seen on the edges of maintained paths. It is obvious that the overhead canopy and proteoid roots inhibit germination and growth of sun-loving daisies. Is the seed in the soil or does it blow in when areas are cleared?

In the garden at 38 constant territorial claims are lodged on behalf of Asteraceae and Proteaceae. A recently negotiated patch between *Banksia conferta* var. *penicillata*, *Hakea neurophylla* and *Banksia repens* was granted. "I've pruned it all back for you", he said. Most brachyscomes planted out last autumn are now dead. *B. gracilis* (Nandewar Range) at a point furthest from the Proteaceae, bloomed well and died. *B. microcarpa* from The northern coast of New South Wales, magnificent in its pot, is still alive but is reduced to a third of its former size and is not bothering to bloom. *Craspedia variabilis* plants cling miserably to life. The *B. conferta* var. *penicillata* enjoyed the drastic pruning and is staking out its former territory with increased vigour.

In a raised sand bed facing north (one of my experimental areas) where there are failures as expected, two interlopers (a petrophile and an isopogon) appeared almost on top of two drips serving the bed. "Daisies aren't growing there anyway", was the rejoinder. I will observe the compatibility between the interlopers and the 'long term residents' with the utmost rigour, I promise.

Whilst I have been taking a light-hearted approach to my hypothesis 'That daisies don't grow with Proteaceae', I now don't bother to look for daisies where Proteaceae are the dominant species.

Oh, I forgot, there is one member of the Asteraceae that is compatible with Proteaceae — Bitou Bush or Bone Seed.

by Esma Salkin.

The following is an extract from a contribution to the *Brachyscome Book* on the subject of species doing well in a Coonalpyn (SA) garden. It could be appropriate to Esma's hypothesis.

..... Area 2. Sand mound 150mm over loam with pig and cow manure hoed in before the sand was placed. A good bed for Sturt peas. Brachyscomes planted as a border.

B. multifida 'Breakoday' — Very good. (This area was watered only three times during summer/autumn.)

B. parvula (from Neil Marriott) — seemed to disappear during the dry, but is recovering well.

B. melanocarpa — a real survivor in this dry zone, it did not defoliate noticeably and it produces flowers continuously. The sand around the plants was black with seed. White snails have been abundant in this area and probably take seedlings, but mature plants survive.

By contrast, Area 3 is a similar mound with *Eucalyptus perriniana*, correas, grevilleas, etc., planted in it. Brachyscomes (many tried) have not thrived here, whether from shading or root competition or some other cause. Correas and small grevilleas do well!

by John Barrie.

In November '94 Julie Strudwick wrote to ask about the connection between Asteraceae and Proteaceae. She had read Esma's and John's contributions to the chapter entitled 'Brachyscomes for Gardens' and wanted enlightenment. In my answer to Julie I mentioned that Esma had observed *Argentipallium obtusifolium* growing with Proteaceae in the Grampians and had called it to our attention. *Olearia ciliata* was present in small numbers in the same area. I thought I could remember daisies growing with Proteaceae in the coastal heathland of the Anglesea area. This is an extract from Julie's reply dated 9.12.94:

Re daisies and Proteaceae, Esma's observations would have been based on a lot of experience in many places I'm sure, so perhaps the Grampians and Anglesea are exceptions to the rule. You don't mention brachyscomes growing in association with Proteaceae at the Grampians — how about at Anglesea? It could well be that the shrubby daisies cope but brachyscomes suffer from too much shade (most Proteaceae are fairly dense) and root competition — as with John Barrie's experiences. It could, therefore, be a very valid point and I feel it's well worth a mention as a possible trap. I have brachyscomes growing near and under a *Banksia robur* (*B. angustifolia* var. *heterophylla* (Tea Gardens) and *B. angustifolia* D) which flower well but have not made as much growth as I would have expected, and *B. procumbens* is struggling there because it's so dry this year. The *B. robur* has a trunk and the foliage is at least 1m from the ground so is not cutting off light from the daisies, but could be 'pinching' most of the available moisture (specially as it is a swampy area plant). Also its leaves are very large and can be fairly smothering when they drop, as they are wont to do in any dry periods. All things considered, I feel the point may be well-founded regarding this association — at least as far as brachyscomes are concerned. When things get back to some sort of normality with rainfall I think I'll move a bit of each of the B's near *B. robur* and see what happens.

... My *B. multifida* hybrid is looking rather dead at present due to the dry. (It is also surrounded by three banksias now I think about it, which may explain why it hasn't survived the dry as well as other forms of *B. multifida* have done.)

by Julie Strudwick.

I wrote to that font of knowledge at Anglesea, Mary White, to ask for her observations on the subject. This is her answer, dated 21.12.94:

Re Proteaceae and daisies. When I opened your letter I had just returned from listing the flora on a small site off Harvey Street, Anglesea. The site, 8 metres by 12 metres, contained *Banksia marginata*, *Hakea* sp., *Persoonia juniperina* and *Argentipallium obtusifolium*. The site further along the road which has a great deal of *Hakea* sp. is also a site where *Brachyscome uliginosa* came up in profusion a few years ago.

If I remember rightly the *Helichrysum scorpioides* is growing where *Lomatia ilicifolia* is flowering up at Mt. Ingoldsby.

Daisies need sun and could be crowded out by the taller Proteaceae species but they seem to appear together after fire. Following the 1983 fires daisies came up in hundreds where they apparently hadn't been seen for years, e.g. *Leptorhynchos gatesii* and *Helichrysum leucosideum*.

(Later.) I've just been along the Power Line Track and noticed *Helichrysum scorpioides* and *Argentipallium obtusifolium* growing with *Banksia marginata*. I also saw a lovely patch of *Lomatia ilicifolia* growing with

Helichrysum scorpioides. At another site *A.obtusifolium* was growing through a *B.marginata*. Hakeas and *A.obtusifolium* were growing together too. I don't think the theory holds in Anglesea.

by Mary White.

There are no Proteaceae species growing in our Hawthorn garden at present because they have never flourished in the past and have mostly died before the axe or power saw were taken to them. One exception was a *Lomatia myricoides* which grew about 8m high and 10m wide. As soon as it bit the dust a multitude of daisies were planted in the space over which it had reigned (and where nothing else seemed to even hold its own — not correas, not peas, not grevilleas, nothing but native violets). The daisies never looked back from the first moment of planting, so I don't think the proteoid roots (which were never removed) have had much effect on the growth of the *Podolepis*, *Brachyscome*, *Chrysocephalum* and *Rhodanthe* species replacing the lomatia. In the Fairhaven garden there are a couple of grevilleas, *G.alpina* and *G.lavandulacea*, and one small *Persoonia* sp. but they are having no effect on the adjacent daisies — *Brachyscome angustifolia*, *B.multifida*, *Chrysocephalum apiculatum*, *C.semipapposum*, *Leucophyta brownii*, *Olearia myrsinoides* and *Rhodanthe anthemoides*.

In one area of the Anglesea heathland I am sure I can remember masses of *B.uliginosa* flowering where *Persoonia juniperina* grows. Perhaps the Grampians and the Anglesea heathlands are different in some way, or perhaps the answer lies in all the reasons proffered — cutting down of light, having to share the available water and nutrients, root competition, and smothering by large leaves, Dr. Short reminded me that Proteaceae usually grow in heathlands where the soil is lacking in nutrients. They have developed proteoid roots in order to gain the missing nutrients. Daisies generally grow better in well fertilized soils, but some of the heathland species have developed mycorrhizal associations to do the same job, e.g. *Argentipallium blandowskianum* and *A.obtusifolium*. It may simply be that heathland soils only suit daisies that have developed mycorrhizal associations or else they can only grow after fires when there is more light, less competition and the burnt vegetation offers some extra nutrients.

We would welcome other views on this fascinating hypothesis.

by Judy Barker.

DAISIES IN ORANGE

by Colin Jones

Brachyscome basaltica var. *gracilis* (Narrabri). Where there is moist to wet ground with good drainage these plants truly excel themselves with strong growth and a mass of flowers.

Brachyscome dentata (Sofala). A group of eight plants has started to self-propagate in a river sand mulch within twelve months of planting.

Brachyscome parvula (Huntly) continues to self-propagate an area about 900 x 600mm and it is a mass of white at the moment. River sand mulch has been used on this area.

Brachyscome ptychocarpa (Mt. Canobolus). I have a group of about thirty plants which is maintaining itself by self-propagating in an area 600 x 600mm with river sand as a mulch.

Brachyscome stuartii (1) and (2). Both have super-viable seed, as evidenced by the self-propagation and expansion of the area covered — 1200 x 600mm and 900 x 600mm respectively. River sand mulch has been used in the area. Esma said she was having problems with *B.stuartii*. I wonder if she meant *B.stuartii* complex. My complex plants do have a tendency to wilt and then die.

Calocephalus sonderi. At the end of autumn, being lazy, I threw seed on to the vegetable garden and over the back fence on to my laneway garden. Now I have about ten plants around the garden from the veg. patch and about twice as many over the back fence. The large plants are all now bursting into flower.

Chrysocephalum baxteri 'Midget' mentioned in NL40 has survived 4¼ years in Orange. Alf gave it to me just before we left Melbourne. It has flowered each year and has grown to cover a 100mm circle.

Ozothamnus diosmifolius (Hat Head and Woolgoolga) has recovered from the severe beating by this last winter's frosts. It is putting on a very nice showing of new growth and flowers.

Ozothamnus purpurascens (Canberra) given to me in 1990, is in full flower and stands at 1.2m. Early this year I took cutting material and was pleasantly surprised to find very strong roots appearing in next to no time. With its grey leaf colour *O.purpurascens* provides a good contrast with other plants in the garden.

Potting mix. I know it is a subject that has been round and round. When in Melbourne last August I purchased a bale of Cocopeat from Propine (not Coprapeat, a bagged prepared product by DEbco). I'm using this instead of aged sawdust in the potting mix. I have come up with the following mix: 9 litres loam, 9 litres Cocopeat, 9 litres river sand and 9 litres rice hulls + 850g Dynamic Lifter c/w Blood and Bone + 65g Osmocote + 30g GroGreen. It has proved to be the best mix for this area so far.

BRACHYSCOME BREVISCAPIS

by **Beth Armstrong.**

In September 1994 we were driving to Western Australia, towing a caravan. I had been asked to look for *B.breviscapis*, a tiny plant which only grows on the west coast of the Eyre Peninsula.

The drought was severe and most ephemeral plants had already set seed and dried off. Hoping we were not too late, we turned off the highway at Poochera and headed for Streaky Bay.

The most recent collection of *B.breviscapis* was 17km from Streaky Bay on the Ceduna road, opposite Eba Island and growing in salt marsh vegetation — *Halosarcia*. This shouldn't be too hard, we naively thought, provided that the 17km was measured from the Post Office.

We drove to Streaky Bay, did a U-turn in front of the Post Office and started measuring. At the 17km point we were not in sight of the sea and, as we were going to Western Australia, we did not have a map of South Australia to help locate this elusive island. We started exploring the numerous tracks down to the coast. It is a favourite fishing spot so there was a network of tracks. We found cliff top lookouts, lots of scrub, but nothing vaguely resembling a salt marsh. Out on the Ceduna road again we decided to try a track which had a stone culvert and which looked a little like a private road. We drove in about 1km and came to a group of fishing shacks with an island offshore. This we decided had to be Eba, but there was no salt marsh or anywhere that could possibly ever hold water.

As we drove out I saw some *Halosarcia* in a depression so we stopped for another search. *B.breviscapis* is so minute that down on all-fours is the most practical way to search. All thoughts of snakes have to be suppressed. The salt marsh was bone dry and I was about to give up when John, who was slightly up the slope, remarked "Here's a funny little thing." Joy, oh bliss — the elusive *B.breviscapis*, or perhaps the closely related *B.lineariloba*.

There was a sizeable colony growing under the bushes, all rather dry and all with mature seed, but no evident flowers. Flowers, when present, are about 5mm across.

Our spirits and domestic harmony restored, we ate lunch and set off for WA once more.

And was it *B.breviscapis* or *B.lineariloba*? Who knows?

POTTED PROFILE — ESMA SALKIN

Present address: 38 Pinewood Drive, Mount Waverley, Victoria, 3149.

SGAP. Vic membership: Member for 31–32 years and founding member of SGAP. Waverley (1964).

Offices held: In Waverley. SGAP Esma held the positions of Secretary and Seed Bank Co-ordinator, and helped to organise the first Waverley Wildflower Show at Pinewood State School and subsequent ones at the Methodist Church Hall, Mt. Waverley. At that time she wrote articles on native plants for the local Press. Her most recent position was 'Plant of the Month' scribe. From the inception of Waverley, SGAP local plants have been promoted and this interest found practical application in conservation of remnant vegetation in the Valley Reserve.

In March 1984 Alf and Esma were honoured with Life Membership of SGAP.

ADSG membership: Joined ADSG in November 1982.

Reason for joining ADSG: She joined after repeated requests to collect daisy seed when away on trips — she thought she might as well be in it.

Other activities: Esma took to study from the 1970's. She had to keep quiet anyway as Alf always had study or corrections to do every night. There was no TV. She eventually ended up with a BA Degree, majoring in Geography and Australian Urban History, and always managed to do subjects related to the Australian environment, conservation or native plants.

Hobbies: Hobbies have changed over the years but gardening and propagating natives have been constant. Dressmaking is undertaken as a necessity as she can never buy clothes to fit — she is tiny. She has tried her hand at metalwork, jewellery, floral art — a surprise, that one — and spinning.

Family: They were late starters in parenting and have two sons and no grandchildren. Learning to adjust to one husband over thirty-five years will satisfy her.

Favourite Music: She can never remember titles of music she enjoys, but she doesn't take to contemporary rhythms (or lack of them).

Favourite TV: Esma can't stand TV ads, so that limits her choice of programs, but she has a preference for current affairs and drama with limited violence.

Life after daisies: Is there one? She hopes to find time for spinning before she becomes too arthritic.

MEMBERS' REPORTS

Jan Hall (from Yarrawonga, Vic) writes on 25/8/94 :- "I had intended to write of my experiences here but at the moment, after severe frosts and with the weather still very dry, the immediate impression is not exciting. It is a time, however, to sort out the frost and drought resistant species.

Rhodanthe chlorocephala ssp. *rosea* — I have relied on this self-sowing and producing a great show on the gravel-mulched beds. In other years the small seedlings have coped with the extremes of weather, but this year frosts have made quite a mess. They will come again, but later.

I have planted out seedlings of *Rhodanthe humboldtiana*, *Schoenia cassiniana* and *S. filifolia*, but I have trouble getting a vigorous show here.

Thank goodness for perennials which shoot up again in winter. It's difficult to decide when to prune off half-dead tips in autumn. We seem to have to wait for rain or winter.

Bracteantha bracteata is still the easiest to grow and sell. I have to take care to keep propagating different colour forms. It's easy in the garden to let them self-sow and then lose the named varieties.

Brachyscome 'Strawberry Mousse' has been great all summer and autumn and seems to be a good survivor in the garden with minimum care. This durability reflects the *B. angustifolia* which is reliable here, more so than *B. multifida* which I must remember to water and give a position of part shade. *B. formosa* is colourful and spasmodic in gravel-mulched gardens but hopeless in the bark mulch. Other brachyscomes remain in pots for safety. I'm afraid I'll be looking more at the hybrids and hope for good selections in future. *B. segmentosa* grows well but it behaves rather like an annual in its habit of dying and self-sowing."

In an update on 30/11/94 Jan writes:- "Eventually our main daisy garden gave a great display in October. The schoenias were the best yet; the dry winter probably suited them. *Rhodanthe* spp. and some *Bracteantha* spp. and forms all flowered well.

Now, in November, *B. 'Strawberry Mousse'*, *B. angustifolia* and *B. formosa* are away, with highlights of *Ixodia*, *Ixiolaena*, *Chrysocephalum* species and others are coming on. This is the gravel-mulched garden open to all weathers and watered occasionally with bore water during long, dry spells.

Horrid dry winds in late November, however, have caused havoc and shortened the season for some species."

Corinne Hampel (from Murray Bridge, SA) writes on 19/9/94: "I'm having a battle with a brush-tailed possum in my nursery at the moment. He/she likes brachyscome flowers! I've been waiting on *Brachyscome spathulata* (Arthur's Seat) to flower. Just before I was able to get a photo of the gorgeous purple flowers they were gone, leaving only the stems!! I was not impressed. I have my eye on the next couple of buds. These plants all seem to have multiple heads from the one crown, and are earlier flowering

than the form from Mt. Kosciusko. The latter are only just beginning to show signs of buds. *B.rigidula* seems a hardy little plant here, as is *B.parvula* var. *parvula*. I love the white blooms on *B.stuartii*. *B.graminea* appears not to be affected by root aphids as the others are.

My *Olearia magniflora* is in full bloom — about twenty large, mauve daisies. I keep pruning to make it bushier. It is not a very attractive bush, but at least tip pruning gives a few more heads as it flowers on the end of each shoot. *O.ciliata* flowers all year round with a few heads on it, but at the moment two small bushes are smothered. My *O.pannosa*, all six plants, are slow without supplementary water. This winter has been very dry, but each plant has masses of flowers — certainly worth growing for the display.

Some new plants of *B.nivalis* are in bud also. When my original plant was three years old it refused to flower. I'll try a peatier mix this time and I have better shelter for them now the new pergola has been built.

I'm in the process of carting 13 tonne of sandy loam to make raised garden beds for the daisies and a few other desirable plants. I want to get *B.diversifolia* out of a pot and into the ground, with some others. I have two forms of *B.formosa* — a mauve and one I acquired with the label 'Pilliga' (a gorgeous cerise). The cerise one appears to be hardier than the other.

I put two plants of *Ammobium alatum* in one of my completed sand mounds and they have burst into growth almost overnight. Most plants seem to appreciate being 'let loose' don't they? They look like two clumps of English spinach! I'm looking forward to the flowers later.

Julie Strudwick (from Upper Lurg near Benalla, Vic) writes on 27/9/94 that, following an earlier report by Beth Armstrong in NL36, p.34, she sprinkles naphthalene round the edges of her pots — on the surface — every three months or so, and waters it in. She recalls the warning that it may be carcinogenic, keeps it away from right under her nose, and it works! The pots do get re-infested if she doesn't use it every few months.

On 25/11/94 Julie writes:- "*B. sp.* (Dr. Roberts' Waterhole) is a delightful little daisy. It is in the open garden and it **does** require moist conditions. It is frost tender, but recovers from the fleshy root system.

In the letter I sent to the Grampians expedition with Ray Purches in late November I said *B.petrophila* was flowering beautifully — famous last words! When I went out to do the watering, on the same afternoon after delivering the letter to Ray, both plants were dead. I've no idea of the cause, but hope to get this species again some time as it looks as if it would be a lovely addition to my 'collection'.

B.spathulata is producing plenty of seed this year and the seedlings appear to be coming true, which is nice.

I see in NL40 that two people said their *Ozothamnus purpurascens* didn't flower this year (Esther Cook and Linda Handscombe). Mine flowered for the first time — not prolifically but it has some heads. It is a plant from Canberra Botanic Gardens that Esma handed out at the Little Desert Lodge. It has grown beautifully to about 1.5m tall, but has never condescended to flower before. I wondered if the extra frosts had triggered it, although it may be like the rest of the garden, everything has flowered magnificently this year. I'm just hoping it's not a last-ditch stand to produce seed before dying! I'm dashed if I can understand, though, why the *Ozothamnus* is *purpurascens*! Admittedly there is a faint purplish tinge to the buds but it doesn't last long and lots of other plants have that without being called '*purpurascens*'.

My report (NL40, p.51) regarding *Olearia astroloba* appearing to recover was in vain, I'm afraid. A couple of weeks after I wrote the report it was very dead and is no more.

I'm currently collecting lots of seed from my pots of *R.chlorocephala* ssp. *chlorocephala* (from the heat treatment trials). The plants I raised (5 from heat-treated seed and 3 from the control) grew well and flowered prolifically. What a delightful little daisy it is! Esma says it may not be true *R.chlorocephala* var. *chlorocephala* which, according to Paul Wilson, hasn't been collected since last century and that location was different from this collection. Anyway, whatever it is, it's lovely and I hope I can get some up again next year. Some seed has fallen on the surface of the current pots which I'll leave aside after the plants are finished, to see if there is any germination in those pots next year. I'm also planning to sow a counted number (probably Esma's usual 25) to see if there is any improvement on the germination rate from garden grown plants. I wonder if it would be worth trying Lotte von Richter's bleach treatment on some too. Also, if conditions are suitable for a bonfire prior to sowing time next year, I'll try smoking some. It should be fun to

see what happens. At the current rate of collection there'll be plenty to send to the seed bank as well as do several trials myself.

I have been collecting seed of unbranched *Rhodanthe anthemoides* and was struck by the difference between the Whitlands and Liverpool Range forms, the latter being much smaller and with hardly any pappus. Also the hairs on the seed itself are darker so the seed looks darker. These are the only two unbranched forms I have and I wonder if other forms display similar differences.

On 9/12/94 Julie writes "I've been thrilled this year with my *Olearia tomentosa* (from Bev Courtney) which was a picture. I hope I'm not jonahing it by saying it seems to thrive in dry conditions. I also was lucky enough to obtain a plant of *O. pannosa* from Rushworth from Ted Beasley. It is rather a scrappy plant — has obviously been overgrown with other things and gone lanky and twisted — but I'm hoping for the best. I struck two from a piece at the Shepparton Show in 1992, but that was a very wet year. I couldn't keep them dry enough in the pots while I waited for them to get big enough to plant out, and they both died. I feel it should do well here if I can get it going in the garden.

Podolepis rugata has been magnificent too. I only had one plant last year which was still in the pot as I wasn't sure where to put it. It only produced a few flowers. I got a second plant and put them both in a bed at the south of the house — shade almost all day in winter and sun almost all day in summer. They have 'taken off'. They get a bit floppy, unfortunately, but flowered very prolifically. They are obviously of different provenance; the original plant is finer-looking with smaller leaves and fewer ray florets, and is just coming out as the other plant is finishing. However, that just prolongs the flowering season so all is to the good. I'd certainly recommend *P. rugata*.

In the same area I have one of those cream *Bracteantha bracteata* x *B. viscosa* plants (the only plant I got up in a container of seed labelled '*H. papillosa* pink!') and also the large-headed *Ixiolaena* sp. from Jan Hall. It's been a lovely show."

Pat Shaw (from Macgregor in Queensland) writes in November '94: "I am enclosing a packet of seed of *Bracteantha bracteata* from the town of Seventeen seventy. Plants were collected from there in 1992. It is quite different from any other form we have seen and for two years the seedlings have come true to form. Brent Vieritz collected the plant and hundreds of seedlings have appeared in his garden and in the lawn and even in his neighbour's garden.

Dalby received about 11mm of rain last week. Mrs. Bennie from Lake Broadwater told me that, if they were lucky enough to get more, some daisies could come up in the sandy soils. On their property, 'Lake View' they have had four brachyscomes identified — *B. ciliaris*, *B. dentata* (syn. *B. heterodonta*), *B. sp.* and *B. sp. nova*.

The weather has not been very kind to the garden, or the plants, dry dry dry! And the westerly winds! Last night we had a bit of a storm and about 15mm of rain. Some of the daisies have been blown out of the ground. A most unusual month of OCTOBER!

B. diversifolia var. *diversifolia* and *B. dissectifolia* have been dismal failures, and *B. graminea* has just disappeared. Putting on a good show in the garden at present is *Ixiolaena brevicompta* with its lovely golden buttons."

On 2/12/94 Pat writes: "A phone call from my son-in-law informed me of a large white daisy growing on 'Gozo' Station, south of Boggabilla on the Yetman road. It appears the owner, James White, had planted a paddock with trees and had fenced off the area from his stock, so the daisies have germinated and have not been eaten off. Alan will go back there next week; he was unprepared for collecting yesterday. I tried to extract from him what the foliage was like — he thought it was grass-like. Good rain has fallen out there and more around Charleville (and it's still raining). We have had 25–50mm yesterday and today.

I have had poor results with *Brachyscome* 'Strawberry Mousse'. I purchased a plant in June last year and the plant looked very good while in its pot. After planting out it quickly became a rather miserable-looking plant. Cuttings taken later and planted out are the same. I will forget about this one. I have seen the same results in other gardens.

My many forms of *B. procumbens* have given me great joy — in tubs and in the ground — in colours from pale pink/mauve to large dark flowers. A seedling looking like a cross between *B. segmentosa* and *B. procumbens* is very pale lavender, the bud before opening was bright pink. The hover flies have been very busy, and the awful wind has blown seed everywhere in my back yard. Seedlings have germinated in

hundreds in pots of other plants, a few *B. multifida*, *segmentosa*, aff. *curvicarpa* and now *ascendens* in all colours and sizes from miniature to large lavender, white and pink. I have planted several in the front garden, but most of the others have ended up in the Wheelie Bin.

I have discovered *B. graminea* is still alive and meandering around near where it was planted.

The dry sandy loam here needs compost for good results. I am digging in seaweed (when I can get it), old rotted fowl manure and sawdust mix (found a heap on a roadside drive), sugarcane mulch, dolomite and a fistful of blood and bone at planting time. I put a top mulch on of washed seaweed."

Ricky Reeves of Hawley, Tasmania writes on 6/11/94: "Katrina has been getting right into growing daisy seedlings and doing very well, while I've been getting my brachyscome eye in. Yes, you're right; you can spot them at 90km. The east coast has been particularly fruitful. I've found three species, possibly four. I only know two of them for sure — *B. spathulata* (syn. *B. scapiformis*) and *B. rigidula* — the other two I am not certain about. One was growing in the sand dunes at St Helens Point and the other, well maybe just might be *B. radicans*. I do a lot of surfing and a fortnight ago I was on a new track into the coast. It had been bulldozed through a swamp and I noticed some small white and mauve brachyscome flower-heads in amongst the reeds. I carried out some ex situ conservation and brought home a plant. The colony is on private land and you never quite know when this swamp may be turned into a dam.

Just ducked outside to grab my plant to see if I could identify it from your newsletter (NL31, 39–41). The stem is about 20cm high, with eight alternate leaves along its length spaced at about 4cm apart. The main leaves are basal, entire and round in section, with a 2–3 mm radius. Except for a depressed midrib on the upper surface along the entire length they are much the same as the East Gippsland species. The flower-head was 2.5–3cm in diameter, mauve to white in some plants. I'm just looking at the involucre bracts; they are not entirely purple but are purple-tipped and purple-edged, obovate in shape. The seed is not mature but looks as if it is the same shape as the middle drawing in the newsletter.

So there you have it, what do you think? I feel it may be *B. radicans*."

(Congratulations to Ricky, Esma says it is *B. radicans*. Not content to rest on his laurels, Ricky also sent a specimen of a brachyscome he had found and it turned out to be *B. sieberi* var. *gunnii*. We will be most interested to see if it differs from the form Bob Magnus and family found at Midway Point. Judy)

Anne Dealtry (from One Tree Hill in South Australia) writes on 6/1/95: " Sorry, I have been slow to write to the Daisy Study Group, but our plant nursery is a seven day (and night) occupation.

We live on approximately 15 acres of land in the northern foothills of Adelaide; our back boundary is Para Wirra Recreation Park (the non-tourist section, just solid untouched bush). There is a large permanent mob of kangaroos that live on our land and to and fro to the park. We have fenced about half an acre for a 'front' garden, and an acre for a 'back' garden. Fences have to be 6–7' tall and the wire in a square pattern to keep kangaroos out, and the bottom 18" is fine bird wire to keep rabbits out.

Our garden and paddock plantings are all Australian plants. Our nursery is also Australian plants only. The soil here is slightly on the acid side of neutral, very compacted (it has never been farmed) and quite rocky and stony on the higher ground. Our house, nursery and household gardens are also on the highest part of the property. The land gently slopes down to our dam on one side and Para Wirra Park the other. The soil looks very poor in structure, but plants from all over Australia seem to survive (most do anyway). Because we have scope with positioning plants we are learning what suits each best.

Usual rainfall is about 26" per year; this year is a drought. Adelaide is down about 8 or 9 inches less than average. We have no mains water, we rely on rainwater in our tanks, our dam and to a lesser degree a low pressure, salty local bore which is connected to about forty homes. It is mainly used in the toilets to save rainwater.

For the last two years we have been part of the Open Gardens Scheme. In 1995 we are not going to be in it because it is time to rip out old plants and start with a number of new ones.

We have planted some *Brachyscome* 'Sunburst' in different positions to 'test drive' it. During spring it was lovely. Summer is painfully dry and windy here so they don't look very impressive at the moment, but they are still alive. Most are in dappled shade. We can't do any new planting until March or April (when rain should fall). In the gardens we mulch with 6–10 pages of newspaper and shredded pinebark. It does a good

job of keeping the weeds away and the water in the soil. I will do a stock-take of Daisy family plants we have planted one day and then let you know how we are going."

AUSTRALIAN DAISY STUDY GROUP

Financial Report July 1993 - June 1994

Cash Receipts

Cash at bank 1.7.93

Term Deposit	\$1,678.81
Term Deposit	\$734.06
Cheque Account	\$1,280.07
Cash in hand	\$34.50

Subscriptions	\$443.00
Seed Sales	\$46.50
Donations	\$58.00
Interest	\$123.74
Sundries	\$99.70
Labels	\$39.60
Wires	\$5.00

\$4,542.98

Cash Payments

Cash at bank 30.6.94

Term Deposit	\$1,738.75
Term Deposit	\$768.89
Cheque Account	\$1,102.26
Cash in hand	\$75.80
Cheques in hand	\$68.00

Postage/Phone	\$51.56
Newsletter	\$163.30
Seeds	\$48.40
Seed packets	\$150.00
Labels	\$73.90
Stationery	\$13.15
Photocopying	\$31.20
Artist Materials	\$107.85
Sundries	\$145.37
FID	\$4.55

\$4,542.98

EDITOR'S NOTE

In a description of the white-flowered *Helichrysum boormanii* (NL39, p.21) I noted that plenty of mature-looking seed was produced on my single garden plant. That seed was sown and the seedlings were planted or given away. Some were not very robust and died while still young, but a few lived to tell a promiscuous tale. One seedling of the eight I kept had white flower-heads; the remainder had yellow heads with bracts that reflexed quickly. Two of them grace a large pot. Together they make an upright clump, 1m x 1m, and have produced masses of heads from early spring. In February there is no sign of them slowing the production of heads. Like the parent plant, these seedlings have soft, furry leaves, some of them with slightly wavy margins. Leaves and stems have numerous short glandular hairs as well as long woolly hairs. The leaves of the seedlings are sessile. There were about six plants of *Bracteantha bracteata* in the vicinity of the original *H. boormanii*. There was one pink hybrid, but the others were all low growing forms with yellow bracts from Hat Head. It is obvious they have crossed, but we will have to wait until the species remaining in *Helichrysum* are revised to find out whether *H. boormanii* will be included in *Bracteantha* or whether there is just a close relationship between the two.



Helichrysum boormanii x *Bracteantha bracteata* x 1/3

I would like to thank all those members who responded so nobly to the Book Committee's requests for information on their gardens and the brachyscomes they would recommend for their particular conditions. We tried to select members from a variety of areas who coped (or battled in some cases) with very different climatic conditions. The replies have been fascinating. There is a pattern of species emerging in the chapter

on brachyscomes for gardens that has proved most informative and has been invaluable for the species' descriptions.

Please note. We have changed the way we refer to three *Brachyscome* species —

B. gracilis (Warrabah) is now referred to as *B. gracilis* (Namoi)

B. microcarpa (Girraween) " " " " *B. microcarpa* (northern tablelands)

B. aff. microcarpa (Barakula Forest) and (Moonie Highway), *B. aff. stuartii* (Moonie Highway), and Parsley Leaf are all now referred to as *B. sp.* (Darling Downs).

Our Oct/Nov daisy expedition to the Grampians last year was a most pleasant gathering of friends. We have to thank Beth and John Armstrong for racing back from Western Australia to open the MEG property for AD SG before they returned to their own home in Melbourne. Better still, they stayed to lead us on various forays and presented a joint account of their WA trip as one night's entertainment.

Daisies in the Grampians were in short supply — probably due to the drought. We sought *Calomeria amaranthoides* in several situations in vain. We did find a few beautiful plants of *Olearia ciliata* and much *Argentipallium obtusifolium* growing with *Calectasia intermedia* in a heathy area. Two colour forms of *B. multifida* var. *dilatata* grew at Teddy Bear Gap, and a deep mauve form on rock faces in wet spots was found another day. *B. uliginosa* was seen growing in association with *E. camaldulensis* and *Leptospermum myrsinoides*. *B. diversifolia* var. *diversifolia* was found at Reids Lookout and north of Halls Gap. A few *Helichrysum scorpioides* and one *B. cardiocarpa* in a swampy area were also seen. North of Halls Gap a large colony of *Podolepis* sp. were observed, and *Chrysocephalum apiculatum* was noted here and there. When you see it all totted up it is a good yield! A highlight of our trip was a visit to Linda and David Handscombe's lovely house and three acre garden in Pomonal. The garden features correas, banksias and heaps of daisies. (The Handscombes are moving to broader acres nearby, so anyone interested in buying should contact them on (053) 56 6352.) Linda provided us with one of the largest and most delicious afternoon teas I have ever seen or tasted. Our thanks for a very enjoyable afternoon.

AD SG has always published three newsletters a year, in March, June and November. In future the June NL will appear in July. It seems more logical to produce it at four-monthly intervals. This means that the DEADLINE FOR THE NEXT NEWSLETTER WILL BE 1st JUNE. Please keep your contributions flowing in to me (address on p.18). They always educate, entertain and amuse me, and I thoroughly enjoy tapping them into the computer. Thank you for past articles and special thanks to our artists Gloria Thomlinson and Ailsa Hamilton. Their illustrations are of inestimable value.

NEW MEMBERS

A warm welcome to AD SG to the following new members:

Mr. and Mrs. G.C. Barnett, Mt. Barker Woodlots Nursery, 2 Fletcher Road, Mt. Barker, 5251.

Anne and Colin Dealtry, PO Box 84, One Tree Hill, SA, 5114.

Grovely TAFE Library Centre, 72 Fitzsimmons Street, Grovely, Qld, 4054.

Hazel Gulbransen, 144 Kirby Road, Aspley, Qld, 4034.

Mr. and Mrs. A. Latham, Lot 4 Ramsay Road, Clear Mountain, Qld, 4500.

Carol Milne, Carol's Propagation, 457 Redland Bay Road, Capalaba, Qld, 4157.

Mr. and Mrs. Sylvia Oats, PO Box 70, Beaufort, Vic, 3373.

Mrs. Betty Taylor, 16 Thynne Court, Maleny, Qld, 4552.

SEED LIST

A full seed list is published in each March newsletter. Please keep this list for reference ; additions and deletions only will be recorded in other 1995 newsletters. A STAMPED, SELF-ADDRESSED ENVELOPE MUST BE ENCLOSED WITH EACH REQUEST FOR SEED. Please write to Esmá Salkin, 38 Pinewood Drive, Mount Waverley, 3149.

Most seed for sale comes from cultivated plants or from commercial sources. Please note that much of the seed listed below has been collected in members' gardens and some species may have crossed with others. One parent only is guaranteed.

Ammobium alatum. *Anemocarpa podolepidium*. *Angianthus tomentosus*. *Asteridea athrixoides*.
Brachyscome angustifolia complex (Barrington Tops, Namoi, Nandewar), *basaltica* var. *gracilis*, *bellidoides* (Kings Park), *ciliaris* (Enngonia, SA), *ciliocarpa*, aff. *cuneifolia*, aff. *curvicarpa*, *dissectifolia*, *diversifolia* var. *diversifolia* (Beechworth, King Island, Mt. Samaria), *diversifolia* x *gracilis*, *exilis* (Iron Knob, Yorke Peninsula), aff. *formosa* (Neville, Sydenham Inlet), *goniocarpa*, *gracilis* (Namoi), aff. *gracilis* (Kings Billabong), *graminea*, *halophila*, *iberidifolia*, *latuquamea*, *lineariloba*, *melanocarpa*, *multifida* (Hat Head), *nodosa*, *nova-anglica* (Mt. Kaputar, suckering form), *parvula* (Huntly, 1 pkt, Boorookpi), *ptychocarpa* (Mt. Canobolus, Mt. Mitta Mitta), *radicans*, *readeri*, *rigidula*, *scapigera*, *spathulata* (Mornington Peninsula, New

England, pale mauve double form), *spathulata* var. *glabra*, *smithwhitel*, *stuartii* complex (Inverell, Tingha), aff. *stuartii*, *tenulscapa* var. *pubescens* (New England), aff. *trachycarpa* (Southwood).
Bracteantha bracteata dwarf form, orange, yellow, white, mixed colours), *papillosa* and hybrid forms, *subundulata*, *viscosa* and *viscosa* crosses.
Calotls scabiosifolia. *Cephalopterum drummondii* (garden, WA). *Chrysocephalum baxteri*, *pterochaetum*, *semicalvum* (Tibooburra), *sempapposum* (Mount Slide). *Craspedia variabilis*.
Erigeron pappocromus. *Erodolophyllum elderi*. *Erymophyllum tenellum*.
Helichrysum adenophorum var. *waddelliae*, *elatum*, *rupicola*, *scorpioides* (Anglesea).
Hyalosperma cotula, *glutinosum* ssp. *venustum*, *praecox*, *simplex*.
Ixiolaena leptolepis (Horsham), sp. (*Leptorhynchos panaetioides*), sp. (Qld.).
Lagenifera huegellii. *Lawrencella davenportii*, *rosea*. *Leptorhynchos squamatus*.
Leucochrysum albicans ssp. *albicans* var. *albicans* (Bylong NSW, Longwood Vic), var. *tricolor*, *albicans* ssp. *alpinum*, *fitzgiibbonii*, *molle*, *stipitatum*.
Leucophyta brownii. *Minuria integerrima*. *Myriocephalus gueriniae*.
Olearia frostii, *grandiflora*, *lirata*, *magniflora*.
Ozothamnus hookeri, *obcordatus*, *secundiflorus*, *thyrsoides*.
Podolepis canescens, *gracilis*, *jacoides*, *lessonii*, *neglecta*, *rugata*, sp. (Werribee).
Podotheca gnaphaloides. *Polycalymma stuartii*. *Pterocaulon glandulosum*. *Pycnosorus globosus*, *pleiocephalus*.
Rhodanthe chlorocephala ssp. *rosea* (black-centred form), *charsleyae*, *citrina*, *corymbiflora diffusa* ssp. *diffusa* (yellow), ssp. *leucactina* (white), *floribunda*, *humboldtiana*, *manglesii* (commercial, small form), *margarethae*, *polygallifolia* (NSW, Vic, commercial), *pygmaea*, *sterilescons*, *stuartiana*.
Schoenia cassiniana, *cassiniana* 'Gabriele', *filifolia*, *filifolia* ssp. *subulifolia*, *ramosissima*. *Waltzia acuminata* var. *acuminata*, *aurea* (revised name not used).

PROVENANCE SEED SPECIES

Brachyscome basaltica var. *gracilis* (Narrabri NSW), *dentata* (Rankins Springs, Moree NSW), aff. *formosa* (Neville NSW), *nivalls* (Falls Creek), *obovata* (Mt Baw Baw), *melanocarpa x dentata* (Moree).
Bracteantha bracteata dwarf form (Crescent Head 10/92, Barrington Tops), *bracteata*, *viscosa* (Mandurang Vic 1/92).
Calocephalus sonderi (Kerang Vic). *Helichrysum elatum* (Gwydir Hwy 10/92).
Hyalosperma glutinosum ssp. *venustum* (Paynes Find, Perenjori WA 10/91). *Lawrencella davenportii* (Cleary WA 9/91).
Myriocephalus gueriniae (Paynes Find WA 9/91). *Olearia calcarea* (Yardea SA 10/91), *ciliata* white form (Scaddan WA 9/91), *ledifolia* (Mt. Wellington Tas), *pimelloides* (Kimba SA 10/91). *Othonna gregorii*. *Ozothamnus ledifolius* (Mt. Wellington).
Podotheca gnaphaloides (Yarra Yarra Lakes WA 9/91). *Podolepis lessonii* (WA pooled 10/91), *globosus* (Jerilderie NSW 2/91).
Polycalymma stuartii (Lake Eyre 10/90). *Pycnosorus thompsonianus* (Narrabri).
Rhodanthe moschata (Wirrulla SA 10/91), *pygmaea* (Kimba SA 10/91), *stuartiana* (Gawler Ranges SA 10/91).
Vittadinia sp. (Adaminaby), *cuneata* complex (s-w Qld). *Waltzia acuminata* var. *acuminata* (Gawler Ranges SA 10/91).

PROVENANCE SEED OF BRACHYSCOME SPECIES (transferred to storage at 4°C 6/94)

Brachyscome aculeata (Cascade Tk KNP Ca 28 3/91), Jacobs R KNP C8 3/91, Buchan 3/91, Hamilton Gap 3/91, Three Mile Dam Ca32 3/91), *basaltica* var. *gracilis* (Murray Valley Hwy BA 10/90, 9/91), *blackii* (6/91), *chelicarpa* (Lake Moore BA 7/92, Exmouth area 8/92), *ciliaris* (Charleville, Simpson Desert, Cowell 9/90, Marree 9/90, Pt. Augusta 6/90), *ciliocarpa* (east of Yaloo BA 9/92, Coral Bay 8/92), sp. aff. *cuneifolia* (2/91, Mt. Arapiles 2/89), aff. *curvicarpa* (Quilpie '89), *dentata* (Cunnamulla towards St. George 8/89, 7/90, Rankins Springs BA 80, Enngonia 8/89, West Wail 11/89, West Wyalong CJ 91/92), *exilis* PS3908, *graminea* (Adaminaby 3/91), *latissquamea* (Coral Bay BA 8/92, Quobba 8/92), *lineariloba* (Silverton NSW 8/89, Renmark 10/90), *melanocarpa* (Cunnamulla 9/89), *multifida* var. *multifida* (10/90), *nivalls* (Falls Ck 1/94), *parvula* (Huntly 90/91), *obovata* (Hedley Tarn 3/91), *rigidula* (Little River Gorge 3/91, Three Mile Dam Ca42 3/91), *scapigera* (Snowy Mountains 2/93, Three Mile Dam, Hedley Tarn), *spathulata* (Mt. Howitt BA 1/90, Cope Ck, Hedley Tarn Ca14 3/91, Neville NSW 11/90, Little River Bridge P. Horsfall, small ecotype Snowy River BA 2/92, Mt. Canobolus 12/91), *tadgellii* (Hedley Tarn Ca17 3/91), *tatei* (BA 10/92).

SEED DONORS

Many thanks to Jeff Irons, Colin Jones, Bob Magnus Esma Salkin, Maureen Schau mann, Pat Shaw, Gloria Thomlinson and Bruce Wallace.

SUBSCRIPTIONS

Subscriptions are now \$7.00 per year (\$14.00 for overseas members). Cheques should be made payable to the Australian Daisy Study Group and forwarded to the Leader, Esma Salkin or to the Treasurer, Bev Courtney. FEES ARE DUE ON 30th JUNE 1994. THIS IS THE FIRST OF TWO WARNINGS.

PLEASE NOTE: The membership list is now full. Interested daisy enthusiasts may ask to be placed on the waiting list. If members intend to resign, please notify Esma as soon as possible.

OFFICE BEARERS:

Leader: Esma Salkin, 38 Pinewood Drive, Mount Waverley, Victoria, 3149.
 Treasurer: Bev Courtney, 3 Burswood Close, Frankston, Victoria, 3199.
 Newsletter Editor: Judy Barker, 9 Widford Street, East Hawthorn, Victoria, 3123.