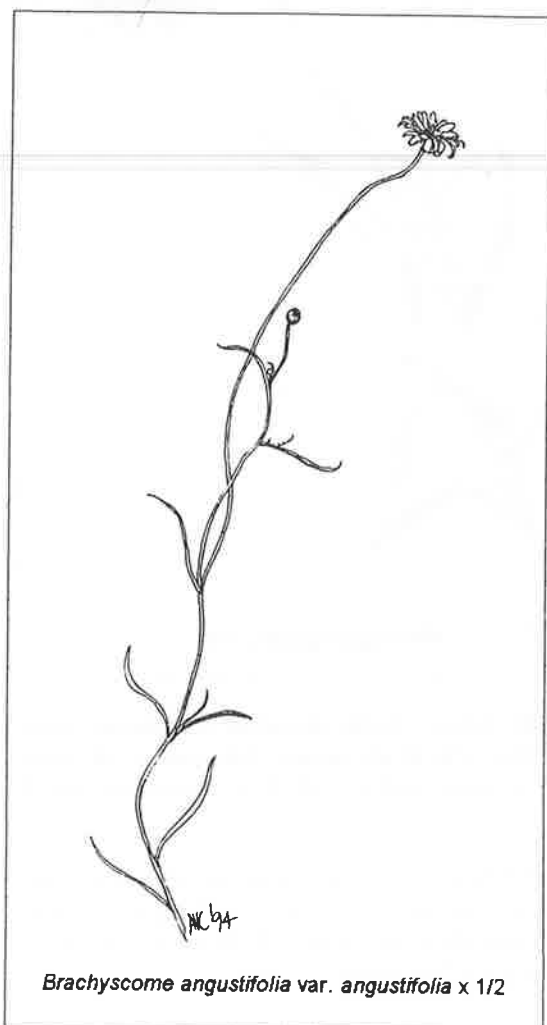


ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS**THE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO.39**

Dear Members,

Seed sowing should be in progress. Some Victorian members have had additional tasks; sowing seed produced in my hand pollination experiments and running trials on seed subjected to 60°C for 3 months and on the control seed which was held at room temperature. Special thanks to Barbara and Alan Buchanan for the use of their oven over the summer months. Beth Armstrong has volunteered to write up the results for the next newsletter.



We are indebted to interstate members for chasing up brachyscomes for us, to Bob Magnus for collecting *B.sieberi* var. *gunnii* and making a 'special delivery' at Tullamarine airport, and to Lotte von Richter for seed of *B.angustifolia* var. *angustifolia* from the Castlereagh forest. The seedlings are thriving. Thanks also to Bruce Wallace for the same species from Wernervale. This plant is a delight and is already yielding offspring from division and seedlings from hand pollination trials. We are grateful to Tim Morrow for details of sites of *B.angustifolia* var. *angustifolia* in the Nowra area. This one is a very interesting variant. Our thanks also to John Barrie for plants and provenance seed of *B.cuneifolia*. Seeds are germinating well, John. Pat Shaw, a very helpful Queensland member, sent thirteen beautiful rooted cuttings of *B.ascendens* which arrived "as fresh as a daisy" via express post. And let's not forget Victorian members (like the adventurous Pat Tratt) who keep sending specimens. Pat has supplied a range of interesting *B.multifida* cuttings, and has found another location for *B. aff. formosa*.

Of course, I'm never satisfied. We do have gaps in our knowledge of Tasmanian brachyscomes. Any keen members in Tassie noticing brachyscomes? We would appreciate information on *B.radicans*, *B. tenuiscapa* var. *tenuiscapa* and *B.sieberi* var. *gunnii* from the west coast. In fact we'd value any information on the subject of brachyscomes. It's a long time since the land bridge receded and your plants have responded to this isolation and are different. One of our current favourites is a form of *B.spathulata* ssp. *glabra* from your highlands — a large flower, easy to subdivide and a delight to behold. Maybe you have others equally handsome?

This NL also features a long report written by Maureen and Judy with their usual meticulous attention to detail and accurate observation. The report is on the use of polyethylene glycol or PEG as a preservative for daisies. Thanks again to Alan Buchanan for technical guidance, to Ray Purches and to ICI (Wangaratta) for generous assistance with this project.

Our book editor is doing a sterling job. It is an onerous task. Give her a little joy and report back on what your brachyscomes are doing under cultivation, how they perform, how long they bloom, aspect, soil,

germination results, etc. But let us confine ourselves to provenance species only. We will leave the delights of chance hybrids until later (unless we touch on them at our May meeting).

I am a reformed character too — handed in some results the other day.

Subs fall due on June 30th. The red cross is a reminder. We would appreciate payment of subs by October 10th.

Hoping to see you during the week in the Grampians, — Oct/Nov.

Regards,

Colleen

SPECIES OR FORMS NEW TO THE GROUP

Podolepis rugata (Vic, SA, WA)

PLEATED PODOLEPIS

rugata = wrinkled, referring to the involucre bracts

Seed of this handsome perennial was sent to ADSG by Colleen Hampel, collected from a bush block at Murray Bridge, South Australia.

In cultivation at its best it has grown as a clump of erect and ascending stems, 50cm high and 60cm across. The leaves are very handsome — deep green with a slightly bluish cast. They are sessile, lanceolate, mostly 4–8cm long and 3–4mm wide, but one leaf measured 13cm and was 7mm wide. The leaves and stems of all my plants are hairless, but sometimes a little wool is produced (according to J.M. Black's account in the *Flora of South Australia*, second edition). The leaf tips are acute and the bases of the upper leaves are slightly stem-clasping. The flower-heads are very eye-catching; bright lemon yellow, up to 4cm across, held singly at the tips of flowering stems about 7–10cm long. The flowering stems bear numerous small, scale-like leaves and are horizontally banded green and brown. Where the leaves appear the stem is green. The heads are described as solitary or few in a loose corymbose cyme. In my plants up to 8 axillary buds are being produced along the upper portion of each stem. Small, pale brown buds develop in shape from hemispherical to ovoid-truncate to cylindrical before opening. There are many outer straw-coloured, very wrinkled bracts overlapping each other. The ray florets are long, truncated at the ends and deeply cut into 3 teeth. A delicate scent emanates from these fascinating flowers.



The fourth edition of the *Flora of South Australia* describes two varieties, var. *rugata* and var. *littoralis*. This one from Murray Bridge is var. *rugata* because it has several heads together, the stems are longer, and the leaves are never crowded. It is said to occur in woodland, mallee and on sand dunes. This variety is found also in Victoria and Western Australia and it flowers from September to December.

Variety *littoralis* occurs only in South Australia, usually on sea cliffs and coastal sand dunes. It has solitary heads, the stems are short and the oblanceolate leaves are crowded and semi-succulent.

Seed was sown in July and germinated very well in 20 days. More than 100 seedlings were transplanted into tubes at the end of September.

In Hawthorn plants have grown best in an open position with root protection from low shrubs just north of them. In shaded spots the plants are all smaller and have produced few flowers. Obviously the flowering

In Hawthorn plants have grown best in an open position with root protection from low shrubs just north of them. In shaded spots the plants are all smaller and have produced few flowers. Obviously the flowering season has been extended by the wet summer we have had. When it finishes flowering I will cut it back and note whether it flowers this spring, and if it continues until autumn. In my opinion *Podolepis rugata* is a valuable addition to our list of Australian daisies in cultivation.



Helichrysum boormanii x 1/2

Helichrysum boormanii Maiden & Betche

(Qld, NSW)

Derivation: *boormanii*, after J.L. Boorman

Helichrysum boormanii is a woody perennial, 0.6–2m high. The species remains in the genus *Helichrysum* pending revision. It is closely related to such species as *Helichrysum adenophorum*, *H.calvertianum*, *H.elatum*, *H.lanuginosum* and *H.leucopsideum*. Stanley and Ross note that specimens between *H.boormanii* and *H.lanuginosum* have been observed (*Flora of South-eastern Queensland*, Vol. 2 [1986], p.538). It was given to me labelled *H.elatum*, but I planted it (without looking at the label) in a position of full sun because I thought it was *Bracteantha bracteata*. The leaves looked very similar to the naked eye. The description of *H.boormanii* in the *Flora of New South Wales*, Vol. 3, edited by Harden, includes the information that it occurs in woodland and

sclerophyll forest, usually on skeletal granite-derived soils; north from the Tenterfield district, so it would probably have preferred dappled sun and summer water.

My plant flowered most attractively from late November to February, and was patently not *B.bracteata*. It grew to 70cm x 30cm and then died in mid-February. In Melbourne we had a very wet, cool summer, so it was probably reasonably happy until we had a sustained period of hot weather.

The leaves are soft, pale green and furry, 4–10cm long and 1–2cm wide, lanceolate and sessile. Leaves and stems are densely covered with short, glandular hairs. Some long woolly hairs appear in the leaf axils and along the margins. *H.elatum* can be distinguished by the absence of glandular hairs and the short stems on the leaves.

The heads are very handsome, 3–5cm across, with many narrow, white, pointed papery bracts. They appear in loose terminal corymbs or they may be solitary.

The original plants were described as 1.5–2m tall with old, untidy growth at the base, but new growth and flowers at the top. This could indicate that plants should be pruned back to keep them tidy. The flowers keep in water for at least a week, so gathering fresh flowers might achieve the same purpose.

My one plant produced plenty of mature-looking seed in the garden and on the specimens that were cut for drawing. It germinated moderately well in 10–40 days, although some tiny seedlings perished in a spell of 26–30°C in March. It will be interesting to see if the seed comes true or, if not, to speculate about the identity of the male parent.

The heads wire quite easily, but the result is not very pleasing. Treatment with polyethylene glycol might improve the dried appearance.

Helichrysum boormanii has plenty of horticultural potential if it can be persuaded to live a little longer.

by Judy Barker.

COLLECTING BRACHYSCOME RIPARIA by Esma Salkin (with the willing participation of Alf)

Brachyscome riparia Gwenda L. Davis

This was another of those elusive brachyscomes we'd been seeking for years. Sites of early collections were either overgrown by blackberries or inaccessible in a 2WD. When re-examining the Herbarium specimens recently we noted that a couple of new collections had been added and this set us off again on the trail.

In early March this year we checked in at the East Gippsland Regional Office to show permits, etc., and notified the office we would be collecting in the area. We were advised to discuss access to our projected site with foresters at the branch office another 70Km east. After discussion on access to our site and reluctance on their part to recommend that we drive our V-W along some tracks, we studied maps and settled for a route down a spur to the river. I had already mentally rejected the suggestion that we wade either up or down the river.

A 'Cool Burn' in an adjacent forest block was planned for the following day so we set off with some urgency for our starting point. "Don't worry about lunch," the Leader said, "Just bring some scroggin (nuts and dried fruit)." I ignored this and whilst packing essentials — camera, press, notebook, seed packets and map — I added slices of bread, rice cakes, hunks of cheese and a litre of fruit juice.

The day was fine, airless and about 23°C as we set off from the car on a compass bearing down a spur towards the river. I was not following too enthusiastically as we seemed to be heading too far to the north, but I noticed the Leader consulting the compass occasionally so deemed all was well.

The understorey was open with lots of *B. aff. formosa* regenerating beneath the eucalypt mulch. We walked for about one and a half hours (my pace), when we reached our third creek and realised the final access would be a bit of a scramble beneath vegetation and over rocks. "We'll go back and try our other alternatives," the Leader said.

We quenched our thirst and plodded back up the spur. As most AD SG members know I'm slow on hills and I frequently lost sight of Alf on this ascent. At one stage I was about to give the emergency signal — three blasts on my whistle — when I heard, "This way." I staggered up, collapsed against a log, finished my drink ration and decided it was lunchtime. Actually we weren't very far from the top and, amazingly, the compass led us to within 3 metres of the car.

We had driven a further 3Km along the road when we noticed a well-formed track going off in the direction of the river. While I was left 'recovering' on the back seat, Alf went off to investigate. He returned three quarters of an hour later, clutching a specimen and a few mature fruit. *B. riparia* at last! The really good news was, "I think I can drive the car down most of the way!"

From the car it was a cautious descent down an eroded, sandy track and down a steep stairway to the river, or rather to a large rocky platform almost straddling the river. There, wedged in crevices of granite slabs, were spindly *B. riparia* plants, their small flowering heads beckoning me on.

These slender little plants, 5–15 cm high, had found a foothold in fine crevices in the rock on the down-side of the river flow. Seed production was prolific with seed easily dislodged by air currents or even just by touching the plants. Most of this seed fell into the water. How much is lost, I thought.

Associated vegetation on and around the rocks were reeds, *Gnaphalium* sp., an odd *Callistemon citrinus* and *C. subulatus*, and of course mosses. On the sandy bank were dense thickets of *C. subulatus* and *Tristaniopsis laurina* only reaching 2 metres. High up beyond the bank was the sparse eucalypt woodland. Giving scale to the whole scene almost at water level was an 'old stag' (dead eucalypt) used as a flood marker, the uppermost mark 29m! What a lot of water over the daisies!

Heat was concentrated on the rocky platform and, whilst Alf rested in scant shade near a rock shelf, I sluggishly photographed and examined this small population of about twenty plants. It was incredible that these plants could establish themselves right out in the river and well below flood level.

Back at base it took us a few hours to rehydrate. We were even too weary to finish our evening meal. It was bed at dusk and waking to an early morning call from rain pattering on the Kombi roof. There was not much point in further daisy hunting now.

We reported back to the forestry office, returned their map and presented the pleasant young forester with a small pressing and a description of the rare daisy in his forestblock. "I'll buy your book when it's published," was his parting message as we headed west into pouring rain.

Dr. Gwenda Davis in her description of this species notes that it is confined to two river systems in East Gippsland, where it grows in crevices of granite or porphyry rocks, below flood level. One of the collectors in the 1940's and 1950's, Mr. Leo Hodge, had grown plants of this species in his garden. He had collected plants from sandy ridges beyond the average rise of the river and they had "produced a dense mass of stems to form a tuft about 17" across".^① These plants were spindly among *Acacia* species, but were 'bushy' in more open situations higher up on the cliffs where there was better soil and less shade. They were not as large, however, as plants growing in Leo Hodge's garden at W Tree, Victoria.

Dr. Davis also comments on variation in the dissection of the wing of the fruits, even from seed in the same head. Fruit I collected showed considerably more variation in the size of fruit as well (see below).

Freshly collected seed has germinated in 18–25 days. Cotyledons are tiny, about 1mm long.

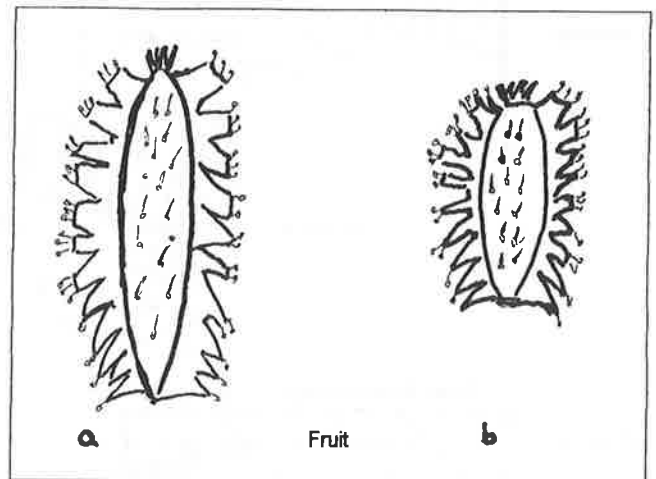
The *Brachyscome riparia* in the population I observed were slender upright branching glandular plants, 5–15cm high. The width in more robust plants was about 10cm. The fruit of this species is its most distinctive feature.

Stems branched alternatively in the upper half to two thirds of the plant, each branching stem bearing a tiny cluster of leaves in the axils. Leaves were stem claspings and both stems and leaves were glandular. The glandular hairs were more dense on the upper stem. An occasional plant was only sparsely glandular. Leaves 1–2.5cm long and 1–5mm wide had 5–7 lobes usually rounded, but a variant had acute lobes with mucronulate tips. Each flowering stem bore 3–4 stem leaves, entire, green sometimes tipped purple, glandular, and barely 1mm long towards the flowerhead. Involucral bracts were green with a prominent mid-vein, narrow-lanceolate, to 4mm long and 0.5mm wide, and very glandular. The tips were acute, tinged purple, and the margins scarious and torn.

The flowerheads, 1–1.5cm wide, had white rays, sometimes pink, which were glandular at the base.

The fruit was of two main types —
(a) long and slender, 3 x 1mm,
(b) squat, 2 x 1.5mm.

In both types the central body was elliptical, slightly tuberculate, each tubercle bearing a bristly hair. The margins were distinctively dissected, the tip of each dissection bearing 1–3 curled hairs. The pappus was conspicuous, the bristles of irregular length.



REFERENCE ^① : Davis, G.L. 1955 Supplementary notes on the genus *Brachyscome* Cass. *Proc. Linn. Soc. New South Wales* 79. 207.

HYBRIDS FROM THE PAST

[This is an extract from an article by Leo Hodge from W Tree, Victoria, which appeared in the *Victorian Naturalist*, Vol. 69, p.158 (1953)]

" * The writer of these notes is an East Gippsland farmer living about 16 miles north of Buchan, and he has recently been elected as a Country Member of this Club. His efforts in the cultivation of Australian plants

have met with remarkable success even though the locality has severe autumn and spring frosts as well as winter snows. In his quarter-acre house block there are trees, shrubs and herbs of about 100 local species as well as 60 other Australian natives, most spectacular of which are the dozen kinds of *Pomaderris* and almost a score of *Grevilleas*. While exploring the Snowy River gorges in quest of suitable subjects for the garden, Mr. Hodge found extensive areas of *Boronia ledifolia*, which was not previously recorded for Victoria, and a *Westringia* new to science.

— Editor.

Here are a few notes about two hybrid plants which I have growing in my garden.

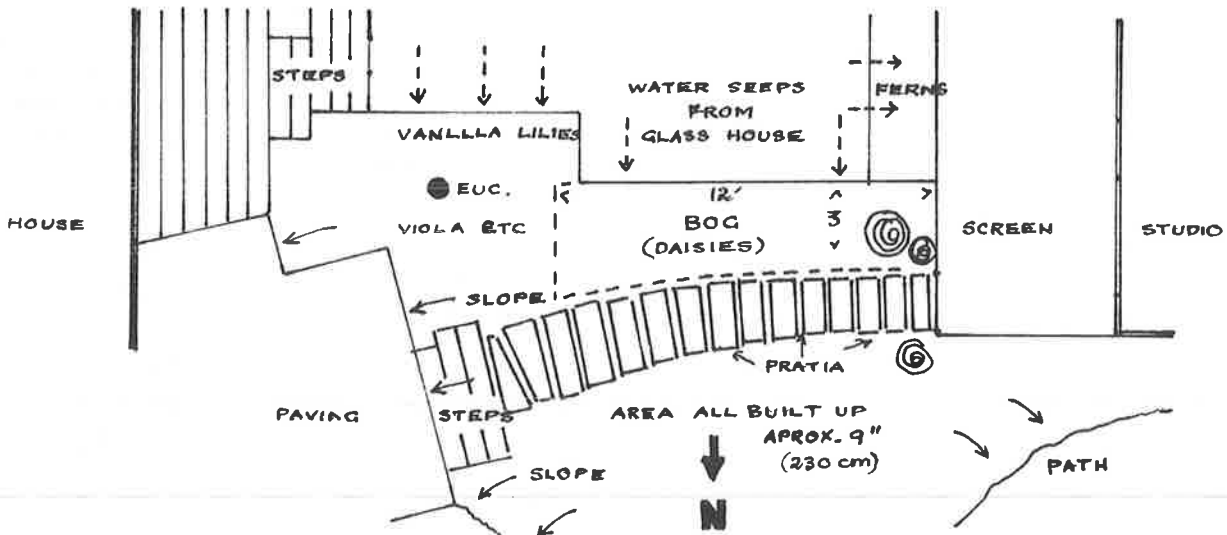
One is a *Prostanthera* whose parents are *P. lasianthos* and *P. filicifolia*.

The other hybrid is a *Brachycome* whose parent plants are *B. rigidula* and a form of *B. aculeata*. The former came from the Buchan River and the latter from the rocks along the Snowy. I grew both for some time in a flowerbed in the home garden. The plant of *B. rigidula* died eventually, but *B. aculeata* foremed quite an extensive mass. Many seedlings of the latter have appeared, and amongst them was one with foliage intermediate between that of the two species. The leaves are not divided as finely as in *B. rigidula*, the flowers are larger than those of either parent, and the seeds are apparently not fertile."

THE SO-CALLED BOG GARDEN

by Gloria Thomlinson.

"So-called" because I have not really set it up as first proposed. The area is 3.5m long and 1m deep (12' x 3'). Peat has been incorporated into the loam and I have found plastic is not required to keep the bed moist. The seepage from the watering of the glasshouse is sufficient. I have drawn a plan of the area, together with a plan of the time it is exposed to the sun (taken on 7th December). Exposure was much the same two months later (on 4th February).



SUN EXPOSURE - 7TH DEC.

7-10 am	LIGHT SHADE
8 am	FILTERED SHADE
8-30 am	FULL SUN
1-30 pm	FULL SUN
4 pm	FULL SUN
4-30 pm	HEAVY SHADE

SUN EXPOSURE - 25TH APRIL

7-30 am	FULL SUN
8-30 am	FILTERED SHADE CAST BY EUCS. ON NORTH FENCE MOVES ACROSS
10 am	FULL SUN
11 pm	FULL SUN
2 pm	FULL SUN
4 pm	FULL SUN

A number of brachyscomes were planted and not one had looked back by early February. The following is an account of how they were performing at that time:-

- B. sp. aff. cuneifolia* (Darlington Road) — flowering since spring.
- B. nova-anglica* — flowering.
- B. aff. stuartii* (south-east of Tingha) — two flowering.
- B. tadgellii* — six clumps, all expanding, flowered.
- B. parvula* (Huntly) — two flowering.
- B. tenuiscapa* var. *pubescens* — three clumps, one clump still flowering, new shoots.
- B. angustifolia* (Tea Gardens) — flowering well.
- B. spathulata* (Mt. Higginbotham) — two rosettes, no flowers.
- B. spathulata* ssp. *glabra* (Mt. Rufus) — still has one flower. Flowered well in late spring.
- B. graminea* (Esma's) — flowering very well. (This could take over.) The form in the pot from Shipwreck Creek has not flowered yet.
- B. angustifolia* complex (Show plant) — still flowering, but being restricted.

Two blandfordias have also been planted here. *Viola hederacea* and white and blue pratias have to be kept in check. *Arthropodium milleflorum* loves these conditions too.

ADDENDUM (25.4.94)

The bed looks far from established yet, despite the number of plants. Some of the *B. spathulata* and the *B. tenuiscapa* var. *pubescens* plants are not looking all that good, due mainly to the early morning feeding habits of the blackbirds. Their scratching disturbs some plants and covers others. It's a constant vigil and has convinced me to change to an inorganic mulch. Only one and a half clumps of *B. tadgellii* remain in this bed, while clumps in other beds have grown well. It does not appear to be due to aphid attack and may be a fungal problem.

Those species still in flower:- *B. graminea* — about half the number of heads.
B. sp. aff. cuneifolia — occasional heads.
B. angustifolia (Tea Gardens) — very well.
B. nova-anglica — occasional heads.
B. aff. stuartii (south-east Tingha) — two self-sown seedlings, buds coming.
B. angustifolia complex (Show plant) — this is flowering well still, as it is in other positions in the garden.
B. parvula (Huntly) — new shoots have emerged from the base. The old flowering stems have all been cut off one plant and some off the other.

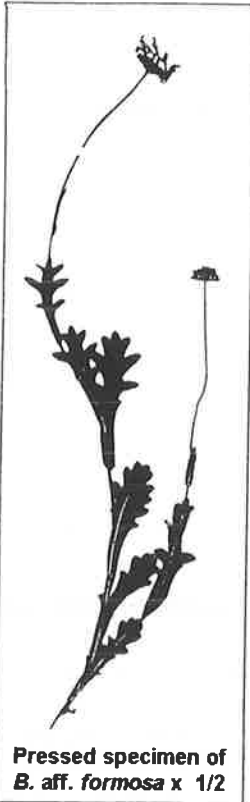
Plants added to the area since the last report:- *B. procumbens*
B. multicaulis
B. aff. formosa (Mt. Drummer) — flowering well.
B. multifida var. *dilatata* (Esma) — buds.
B. aculeata division.

Now we'll see how they go over winter.

BRACHYSCOME PETROPHILA

Pat Tratt has reported that she has found another location for *Brachyscome petrophila* at Pheasant Creek, which is between Orbost and Buchan. It is quite a large population and the leaves of this form are more hairy than those of the form Esma found.

The specimens we have grown in pots for twelve months or more are producing new leaves in basal rosettes. We have cut back the old, untidy flowering stems and are watching the plants with interest to see what will happen next.

BRACHYSCOME aff. FORMOSA (NEVILLE, NSW)by Colin Jones.

Pressed specimen of
B. aff. formosa x 1/2

This species was discovered in March 1990 during a visit to my daughter who lived on a property 3km east of the village of Neville (which is 21km south of Blayney). It was found in a grassy, treed area, about 30m by 100m in extent, on the roadside approximately 1.5km east of Neville. As there were no flowers and no seed I brought a specimen back to Melbourne for identification. It was decided that it was of the formosa type.

The flowering season of spring 1990 was poor as the area was in drought. I was able to collect seed, however, in October/November 1991. The main flowering flush lasts about a month, with seed setting and dispersing just as quickly. There were masses of flowers on 16/10/91, but by 23/11/91 all flowers and seed had gone. I sowed some seed but found it difficult to germinate.

On another sortie in the district on 23/11/91 I located a second group about 6km east of the first find. The plants were in full flower.

The latest find on 10/11/91, a third group, was located about 3km north-east of Neville on a section of road which has never been developed from the cart track width that it is. This group extends for 1.4km along the roadside, mainly on the east side where it only has to compete with grasses. As in the other localities trees provide adequate shade. In this area I could see flowers extending into the nearby paddocks. I must say it was exciting to discover this group as it was like a never ending floral carpet.

Propagation is by division or from seed — division being the easier method.

Ground moisture has a large bearing on its flower producing ability and on how much plant material stays above ground. Two plants that have been in the garden in full sun for three years almost disappear in winter. Flowering in previous years has been in spring only, however, this year there has been an autumn flowering. I collected several plants last November and held them in pots in the bush house where they are watered daily. A number of these plants are still producing the odd flower due, I believe, to the extra water they are receiving.

DRYING DAISIES WITH PEGby Maureen Schaumann and Judy Barker.

INTRODUCTION Shortly after the founding of AD SG we became aware of the need to preserve species for display. The Study Group was invited to give many talks on our special subject and, since our early financial gains were made mostly from seed sales, we had to present our wares in as attractive a form as possible. It is good luck that 'everlasting' daisies represent such a large proportion of our studies. They lend themselves to drying very well and so we have had something to display at all times of the year. We have discovered, however, that different methods of preservation produce very diverse results. We have tried straight air drying, wiring, painting with polyurethane, spraying with hair spray, glycerining, treating with semolina and borax and with silica gel, and treating with glycol (anti-freeze). Species reacted differently to each method and the best result for any individual species became a matter of trial and error.

At our Little Desert weekend in July 1992 the Victorians showed a number of dried daisies to the South Australian members. Professor Alan Buchanan, a former Professor of Physical Chemistry at Melbourne University and now Emeritus Professor, suggested that we might improve our drying techniques by treating species with polyethylene glycol or PEG. The following inclusion explains what PEG actually is and why Alan thought it would work.

IMPROVING THE FORM AND COLOUR OF DRIED FLOWERSby Alan Buchanan.

Uptake of glycerol during the drying process is traditionally used to improve the form, stability and colour of dried flowers and stems. Glycerol is a trihydric alcohol with a hydrocarbon chain of three carbon atoms each with an attached alcoholic hydroxyl group. These groups confer

high water solubility on the molecule and enable it to penetrate readily to all parts of the plant material.

Ethylene glycol is very similar to glycerol but has only two carbon atoms instead of three in the hydrocarbon chain. It is, however, able to undergo condensation polymerisation to generate very long chains consisting of the two-carbon atom hydrocarbon chains linked together by oxygen atoms. These latter atoms continue to confer very high water solubility on the polymers. The lower molecular weight polymers (a few thousand units) are liquids. Those of higher molecular weights (several million units) are waxy solids. All are known as polyethylene glycols (PEG).

Provided that the larger molecular units are able to penetrate the fine porous structure of the plant, it seems likely that the polyethylene glycols (being closely related chemically and physically to glycerol) could be successfully used in place of the glycerol in plant preservation. When the stem is cut the turgor pressure, which keeps the tissue extended, is eliminated and the softer parts of the plant will tend to collapse — a process accelerated by loss of water. The larger molecular units of PEG might be expected to offer better resistance to collapse of soft tissue as water is withdrawn, and hence to yield a more acceptable final product. The limitation will be the size of the hydrated PEG molecule in relation to the pore sizes in the tissue. Plants will vary in this respect and I would expect the age of the plant to have some bearing. Only experiment can determine the best combination. In general the highest practicable molecular weight PEG should be used.

In addition to providing physical support internally for the soft plant tissue the polyethylene glycols might be expected to exert a significant preservative action on the more sensitive components of the plant and to limit oxidative destruction of the plant pigments (other than chlorophyll). This would contribute significantly to the appearance of the dried product. The polyethylene glycols are relatively stable and not prone to air oxidation and hence the life of dried material should be considerable.

FACTS ABOUT PEG PEG is available from ICI in sample packs of 500ml for \$35.00, which is not cheap. The Study Group bought PEG 200, PEG 600, PEG 1000 and TEG (triethylene glycol) and away we went. The increasing numbers denote increasing molecular weight. As Alan has explained, PEG 200 is a liquid at room temperature, but PEG 600 and PEG 1000 are waxes, the former liquefies at about 30°C and the latter at about 70°C. Once the polyethylene glycols are liquid it is easy to dilute them with water and the diluted solutions then remain in liquid form and are stable. The same solution can be used again and again.

During our expedition to north-eastern Victoria last October we gave three of our members a miserly few millilitres of PEG to trial. (It was all we had with us.) A short time later we were told that Ray Purches had prevailed upon ICI Vachem at Wangaratta to donate 10kg (about 2½ gallons) of PEG 400 to ADSG for trialling. This is a most generous gesture and we thank the manager of Vachem, David Townsend, and Ray very much. At the May meeting a number of members will receive an allocation of PEG 400 and will report on their results at a later date.

Triethylene glycol (TEG) was bought on the advice of the ICI salespeople. It does not have the long-chain molecules of PEG.

METHOD Determine which dilutions to trial and make up the solutions. Pick the stems as long as possible, strip the foliage from the base of the stem to such a length as to prevent its immersion in the solution. Hammer the base or cut it vertically to assist the uptake of the solution. Leave in the solution for a period of hours. Six to twelve hours is probably a reasonable time, but may be too long for species like *Ixodia achillaeoides* which takes up the solution very quickly. Sometimes shorter stems take up the solution faster than longer stems. Make up loose bundles and hang upside down in a cool, dark place. Each bundle should have an identification tag attached to it noting the species, the particular form, the date and stage at which the specimen was picked, the type of solution and the dilution used.

Dilution: We did not know what dilutions should be used, so started with 1:2 and concentrated solutions. This was probably wildly extravagant. Alan Buchanan suggested last October that 1:50 or even 1:100 should do the job. We have cautiously started trials with PEG 600 1:25. Results look sufficiently promising to try the higher dilutions now.

RESULTS (The following results include methods of preservation other than treatment with PEG.)

Species	Date picked	Condition picked	Solution	Time in solution	Comments
<i>Ammobium alatum</i>	3/1/92	Buds and open heads.	PEG 600 1:25	12 hrs	Stems stiff. Leaves slightly curled (but sparse). Buds excellent. Discs of newly opened heads brown, becoming deep yellow on development. Old heads untidy — cut off.
" " "		Buds and open heads	—	—	Wired buds are perfect. Disc centre of opened head either stays gold or turns black.
<i>Argentipallium blandowskianum</i>	21/11/93	Buds and open heads.	PEG 200 1:2	15 hrs	Stems stiff. Form of heads good, pale pink of buds retained. Leaves good. After 10 days in an upright position the larger, heavier clusters have drooping necks. Stems of small clusters still stiff.
<i>Argentipallium dealbatum</i>	14/11/92	In bud and just opening.	PEG 200 1:2	26 hrs	Stems stiff. Pink outer bracts good. Leaves untidy. Try shorter time.
<i>Calocephalus citreus</i>	Spring	At its best	—	—	Air-dried. Excellent.
<i>Calocephalus lacteus</i>	Autumn	At its whitest	—	—	Air-dried. Excellent. (Small.)
<i>Calocephalus platycephalus</i>	1/1/93	At its best.	PEG 200 1:2	18 hrs	Stems upright. Flowers paler around outside of head.
" " "	1/1/93	" " "	PEG 1000 1:2	18 hrs	Dried well. Open heads fluffy and popping seed.
" " "	1/1/93	" " "	—	—	Air-dried. Moderately good.
" " "	25/1/93	" " "	—	—	Air-dried. Moderately good.
" " "	14/2/93	" " "	Water	2 hrs	Then air-dried. Dried well.
<i>Calocephalus sonderi</i>	13/1/92	At its best.	—	—	Air-dried. Stems curved. Leaves curled. Note: stems straighter on wild specimens
" " "		At its best.	—	—	Air-dried. Excellent. Choose straight stems.
<i>Cassinia aculeata</i> (green flower)	12/92	In bud.	PEG 200 1:2	2 days	Leaf drop. Foliage darker, heads good. Clusters now gold colour.
(pink flower)	12/92	" "	PEG 200 1:2	2 days	As above. Clusters retained their pink colour.
(white flower)	12/92	" "	PEG 200 1:2	2 days	As above. Clusters remained white.
(pink flower)	23/10/93	In tight bud.	PEG 600 1:2	20 hrs	Pink colour and form of clusters good. Leaves passable.
" " "	9/11/93	In bud.	PEG 200 1:2	14 hrs	Stems stiff. Form of buds and heads good. Leaves passable.
" " "	9/11/93	" "	PEG 600 1:25	14 hrs	As above.
" " "	7/12/93	Heads open and in bud.	PEG 600 1:25	11 hrs	Heads fluffy. Buds inclined to droop. Best result from large clusters with a third of heads open.
<i>Cassinia aureontens</i>	11/11/91	In bud.	Glycerin 1:2	24 hrs	Stems stiff. Bud colour good. Leaves retained form, but brownish.
" " "	11/11/91	" "	—	—	Air-dried. Stems stiff. Bud colour not as intense. Not as good as above.
<i>Cassinia quinquefaria</i>	3/3/93	In tight bud.	Glycerin 1:2	19 hrs	No leaf drop. Leaves brownish, flower-heads good.
" " "	3/3/93	" " "	PEG 200 1:2	19 hrs	Foliage darkened to olive-green, sticky and dropping. Buds perfect.
" " "	10/3/93	Tight and loose bud.	TEG conc.	15 hrs	Foliage green. Buds remained tight, looser buds became fuller. Clusters a biscuit colour.
" " "	10/3/93	" " "	PEG 200 1:2	15 hrs	Foliage darker green, dropping.
" " "	10/3/93	" " "	Glycerin 1:2	15 hrs	Foliage green, dropping. Tight buds became smaller. Open buds too fluffy.
" " "	16/3/93	In bud.	Water	3 hrs	Heads good colour and form. Leaves brown.
" " "	16/3/93	" "	TEG 1:2	15hrs	
" " "	16/3/93	" "	Water	3 hrs	Heads good colour and form. Leaves green, but curled.
" " "	16/3/93	" "	PEG 1000 conc.	1 hr	
" " "	16/3/93	" "	Water	3 hrs	Leaves and heads good colour and form. Best result.
" " "	16/3/93	" "	PEG 200 1:2	15hrs	
" " "	26/3/93	In tight and loose bud.	Water	2 weeks	Foliage dropped. Clusters dropped if rubbed.

Species	Date picked	Condition picked	Solution	Time in solution	Comments
<i>Cassinia quinquefaria</i>	5/4/93	In bud and open heads.	Water PEG 200 1:2	1 week 22 hrs	Foliage dropped. Buds good. Open flower-heads fluffy and dropping.
" " "	5/4/93	Open heads.	TEG conc.	22 hrs	Foliage dropped. Flower-heads loose and dropping
" " "	19/3/94	Firm buds.	TEG conc.	53 hrs	Some leaf drop. Foliage turned tan. Heads excellent. Overall appearance darker.
" " "	19/3/94	In bud .	PEG 200 1:2	53 hrs	Leaf drop. Foliage changed to olive-green. Flower-heads good.
" " "	19/3/94	In bud and open heads.	PEG 600 conc.	53 hrs	Foliage green but dropping. Heads excellent. Open clusters fluffy, not dropping. Buds remained firm. Overall appearance a nice soft pale green.
" " "	19/3/94	In bud and open heads.	PEG 1000 conc. Solidified, added hot water.	53 hrs	Foliage remained green, dropping. Clusters good.
<i>Cassinia</i> sp. (Longwood, Vic)	1/11/93	In bud.	PEG 200 1:2	24 hrs	Long stems stiff, white. Form and mustard-gold of clusters retained. Leaves green, acceptable.
<i>Cassinia</i> sp.	Spring	Firm bud.	—	—	Air-dried quite well.
<i>Chrysocephalum apiculatum</i> (Anglesea form)	Spring	Clusters firm, just opening.	—	—	Air-dried. Good.
<i>Chrysocephalum apiculatum</i> 'Merv's Tall'	29/11/93	One head per cluster fully open.	PEG 600 1:25	15 hrs	Long stems moderately stiff. Form and colour of heads and buds retained. Silver leaves slightly curled. but passable. Good result. After 10 days in an upright position stems were slightly less stiff, but still acceptable.
" " "	29/11/93	" " "	PEG 200 1:2	15 hrs	Long stems slightly less stiff. Form and colour of heads good. Leaves more curled. After 10 days in an upright position stems were not as stiff and some heads were drooping.
<i>Chrysocephalum baxteri</i>	14/12/92	Just opening.	TEG 1:2	15 hrs	Stems upright. Leaves darker. Flower centres dark.
" " "	14/12/92	" " "	PEG 1000 1:2	15 hrs	Heads acceptable. Centres not so discoloured.
" " "	Spring	When flowers first open.	—	—	Air-dried until stems were straight and stiff. Heads often drooped when turned upright. Better as a fresh flower.
<i>Chrysocephalum baxteri</i> 'Midget'	1/1/93	Opened, with bright yellow centre. Looks fresh.	—	—	Air-dried. Excellent appearance, but probably no potential. Too small?
<i>Chrysocephalum semipapposum</i>	8/1/93	Half opened	PEG 200 1:2	16 hrs	Heads a good colour. Leaves curled. Try picking in full bud.
" " "	8/1/93	" " "	PEG 1000 1:2	16 hrs	Heads good but opened. Clusters were stiffer and looked better. Leaves curled.
" " " (Anglesea Form)	Spring	In bud and just starting to open.	—	—	Air-dried. Excellent. Flower-heads retained their colour. Stems long and straight. Leaves are curled but not unsightly.
<i>Gnephosis arachnoidea</i>	Spring	When golden yellow.	—	—	Air-dried. Good result.
<i>Haeckeria ozothamnoides</i>	16/10/92	In tight bud.	PEG 1000 1:2	18 hrs	Remained in bud. Leaves changed to olive-green. Looks good.
" " "	22/11/92	In bud.	Glycol 1:2	2 days	Leaves darkened to olive-green. Colour of heads good.
" " "	1/12/92	In bud and partly open.	Water PEG 200 1:2	12 hrs 36 hrs	Heads a good mustard colour. Leaves darkened to olive-green. Note: larger clusters produced from natural habitat.
" " "	2/12/92	In bud.	PEG 200 1:2	3 days	Leaves darkened to olive. Flower-heads mustard colour — good. Stems long and straight.
" " "	10/12/92	In bud.	TEG 1:2	12 hrs	Heads lighter — creamy yellow. Leaves remained green.
" " "	10/12/92	" "	PEG 1000 1:2	12 hrs	Heads creamy yellow. Leaves a natural green.
" " "	10/12/92	" "	PEG 200 1:2	12 hrs	Heads creamy yellow. Leaves green.
" " "	14/12/92	In tight bud.	PEG 1000 1:2	15 hrs	Good flower colour. Leaves light green. Looks natural.

Species	Date picked	Condition picked	Solution	Time in solution	Comments
<i>Helichrysum adenophorum</i> var. <i>waddelliae</i>	14/12/92	In bud.	PEG 1000 1:2	15 hrs	Buds just open enough to show the disc centres are discoloured. Stems stiff and upright. Leaves curled.
" " "	1/1/93	" "	PEG 200 1:2	18 hrs	Heads upright, passable. Stems straight. Leaves curled, darker.
" " "	1/1/93	" "	PEG 1000 1:2	18 hrs	Buds good. Main flowers in full bloom. Not as good as above.
" " "	10/1/93	At its best.	Glycerin 1:2	48 hrs	Heads good. Leaves darkened, not curled. Best method so far.
<i>Helichrysum leucopsidium</i>	14/11/92	In bud.	PEG 200 1:2	26 hrs	Flowers fully opened and reflexed against the stem. Leaves curled.
" " "	4/12/92	" "	PEG 200 1:2	15 hrs	As above.
" " "	1/1/93	" "	PEG 1000 1:2	18 hrs	Heads not good. Leaves curled.
" " "	1/1/93	" "	PEG 200 1:2	14 hrs	Flowers acceptable. Buds remained pink. Best method so far.
" " "	8/10/93	Outer bracts only open.	PEG 600 1:2	36 hrs	Form of opening heads passable. Leaves curled.
" " "	13/10/93	Flowers open and in bud.	PEG 600 1:2	14 hrs.	Stems stiff. Form of heads good. Leaves curled.
" " "	23/10/93	Outer bracts open.	PEG 600 1:2	20 hrs	Form of opening heads good. Leaves curled but better than above. Best result. Try PEG 600 1:25.
<i>Ixodia achillaeoides</i> (large-flowered form)	Spring	Open heads.	—	—	Air-dried. Stems remained straight, flower-heads good. Leaves unsightly, dropping.
" " "	2/12/92	In bud and partly open.	PEG 200 1:2	3 days	Too long in solution. Leaves too dark and sticky. Clusters remained closed.
" " "	15/11/93	Open and in bud.	PEG 600 conc.	6 hrs	This form takes up solution very quickly. Leaves green, sticky. Heads good.
" " "	15/11/93	" " "	TEG conc.	6 hrs	Left in solution too long. Foliage dark and sticky.
" " "	28/11/93	Buds and open heads.	Water	11 hrs	Stems stiff. Form of buds and heads good. Leaves passable.
" " "	28/11/93	" " "	PEG 200 1:2	11 hrs	As above.
" " "	28/11/93	" " "	PEG 600 1:2	11 hrs	As above.
<i>Ixodia achillaeoides</i> (compact form)	3/2/93	Well opened heads.	PEG 200 1:2	30 hrs	No leaf drop. Flower-head good. This form has very short, woody stems.
" " "	24/1/94	Heads just opened.	PEG 200 conc.	1 hr	Good. Leaves green.
" " "	24/1/94	" " "	TEG conc.	1 hr	Good.
" " "	26/1/94	In bud and partly open.	Glycol 1:2	3 hrs	Flower-heads good.
" " "	11/2/93	In bud and partly open.	PEG 200 1:2	39 hrs	Too long in solution. Leaves and stems brown and sticky. Heads remained in bud.
" " "	21/3/93	" " "	Glycol 1:2	19 hrs	In solution too long. Disc centres too dark.
" " "	2/4/93	" " "	TEG 1:2	10 hrs	Too long in solution. Leaves dark and sticky.
" " "	2/4/93	" " "	PEG 200 1:2	10 hrs	As above. Leaves and stems sticky and brown.
" " "	6/4/93	" " "	TEG conc.	8 hrs	As above. Stems and leaves too dark and sticky.
" " "	1/4/94	" " "	PEG 200 conc.	2 hrs	Excellent. Foliage green. Heads a good white.
" " "	1/4/94	" " "	—	—	Air-dried. Excellent. Good form.
<i>Leucochrysum fitzgibbonii</i>	16/11/91 to 1/1/92	Well developed buds.	Wired	—	Heads well presented, colour and form maintained.
" " "	12/91	In bud.	Glycerin 1:2	4 days	Poor result. Weak necks.
" " "	3/1/94	Flowers almost fully open.	PEG 200 1:2	12 hrs	Stems stiff. Heads perfect. Leaves untidy.

Species	Date picked	Condition picked	Solution	Time in solution	Comments
<i>Leucophyta brownii</i>	8/1/93	When grey heads are at their best.	—	—	Air-dried. Grey heads and foliage dried to perfection.
" " "	8/1/93	" " "	PEG 1000 1:2	16 hrs	Grey foliage slightly discoloured.
" " "	8/1/93	" " "	PEG 200 1:2	16 hrs	Slightly discoloured, yellowish tinge.
" " "	Autumn	At its best.	—	—	Grey foliage air-dried. Excellent.
(Cape le Grande) <i>Odxia achlaena</i>	22/10/92	In bud and partly open.	Glycerin 1:2	Over-night	Foliage olive-green, no leaf drop. Flower-heads good.
" " "	22/10/92	" " "	—	—	Air-dried. Heads good. leaves dropped if rubbed.
" " "	16/11/92	In bud and just opening.	PEG 200 1:2	28 hrs	Heads white, excellent. Leaves changed to olive-green and bronze. Cut longer stems if possible.
" " "	22/11/92	" " "	PEG 200 1:2	27 hrs	Flowers white, excellent. Leaves remained green but curled.
" " "	9/11/93	Buds starting to open.	PEG 200 1:2	14 hrs	Heads and leaves good colour and form.
" " "	9/11/93	" " "	PEG 600 1:25	14 hrs	Heads and leaves good colour and form. Best result.
<i>Ozothamnus alpinus</i>	29/10/91	In bud.	Glycerin 1:2	24 hrs	Heads colourful, upright. Leaves light green, natural. This method best so far.
" " "	4/11/92	" "	Dried in water	—	Heads drooped. Leaves changed colour.
" " "	10/11/92	" "	PEG 200 1:2	33 hrs	Heads remained in bud. Bracts pinkish red when young. Green leaves changed to olive. Try less time.
" " "	4/12/92	Heads open.	PEG 200 1:2	15 hrs	Open flower-heads too fluffy. Leaves changed colour. Results better when picked in bud displaying pinkish red bracts.
" " "	1/94	In bud and partly open.	—	—	Air-dried. Some leaf drop. Foliage remained green. Red buds perfect
<i>Ozothamnus cordatus</i>	Autumn	In bud and open.	—	—	Air-dried. Picked buds too early, open heads best. Leaves curled and shrunken — best removed. Do not bunch too many stems together as branchlets become entangled.
<i>Ozothamnus costatifructus</i>	27/11/93	In bud, almost open.	PEG 200 1:2	18 hrs	Stems stiff. Form and colour of buds retained. Leaves slightly yellow, not curled. Good result.
" " "	27/11/93	" " "	PEG 600 1:25	18 hrs	As above. Leaves greener.
" " "	Spring	At its best	—	—	Air-dried. Some leaf drop. Heads good.
<i>Ozothamnus cunelifolius</i>	Spring	In bud and open.	Glycerin 1:2	Over-night	Leaves curled. Buds a good colour. Flower clusters drooping. Not compact. Pick only in bud.
" " "	11/92	In bud and partly open.	—	—	Air-dried. Leaves curled and dropped. Buds a good colour. Clusters drooping, not compact. Pick only in bud.
" " "	22/11/92	In bud, starting to open.	PEG 200 1:2	46 hrs	Bract colour good. Heads in bud drooped later when stood upright for 9 days. Leaves brown and curled.
" " "	22/11/92	" " "	PEG 200 1:2	27 hrs	Heads excellent. Leaves green on longer stems, curled on shorter stems. Best result so far. Try shorter stems and longer hours.
" " "	9/12/92	In bud and nearly open.	PEG 200 1:2	24 hrs	Heads good, white. Leaves curled and dropping.
" " "	10/12/92	" " "	PEG 1000 1:2	12 hrs	Heads fully opened, seeds appearing. Leaves lighter in colour and better, not so curled.
" " "	10/12/92	" " "	TEG 1:2	12 hrs	Heads white — perfect condition. Leaves darker, curled.
" " "	9/11/93	Buds and open heads.	PEG 600 1:25	14 hrs	Stems straight. Form of heads and buds good. Leaves curled.
" " "	21/11/93	Heads starting to open.	PEG 200 1:2	15 hrs	Stems stiff. Form of heads good. Older leaves olive-green to brown, shape passable.
<i>Ozothamnus diosmifolius</i> (pink form)	15/10/92	In bud (deep pink colour).	PEG 200 1:2	27 hrs	Heads an excellent deep pink colour. Leaves green, perfect.
" " "	15/10/92	" " "	PEG 200 1:2	27 hrs	Leaves brown. Why? Same time as above, but shorter stems.
" " "	16/10/92	" " "	PEG 200 1:2	18 hrs	Heads remained a good pink colour. Leaves turned olive-green.

Species	Date Picked	Condition	Solution	Time in solution	Comments
<i>Ozothamnus diosmifolius</i> (pink form)	20/10/92	" " "	PEG 200 1:2	16 hrs	Colour of heads excellent.
" " "	10/11/92	In bud. Picked later, heads paler.	PEG 200 1:2	33 hrs	Heads excellent on long, strong stems. Leaves green.
" " "	10/11/92	" " "	PEG 200 1:2	33 hrs	Heads erect, pretty pale pink. Leaves slightly darker in colour.
" " "	4/12/92	In bud.	PEG 200 1:2	15 hrs	Heads pale pink, good. Leaves green to olive.
" " "	14/12/92	" "	TEG 1:2	15 hrs	Heads perfect. Pink colour faded to white. Stems straight and stiff. Leaves darkened.
" " "	1/4/93	" "	Water till evapor ^d .	2-3 mths	Stems stiff. Buds had all opened, bracts radiating. Bracts of pink form always white at this time of year. Form retained. Some seed shed. Leaves dried.
" " "	29/9/93	" "	PEG 1000 1:2	24 hrs	Deep pink of buds retained. Form of clusters good.
" " "	29/9/93	" "	PEG 200 1:2	24 hrs	Leaves dull green, will drop if rubbed. As above. Leaves slightly less prone to rub off.
" " "	6/10/93	" "	PEG 600 1:2	10 hrs	Deep pink and paler pink of clusters retained. Leaves greener, slightly less prone to drop.
" " "	6/10/93	" "	PEG 200 1:2	10 hrs	Clusters as above. Leaves dull green, will drop if rubbed.
" " "	13/10/93	" "	PEG 200 1:2	14 hrs	As above, but leaves greener.
" " "	15/11/93	" "	PEG 600 conc.	6 hrs	Clusters drooped in solution. Removed and stood in water 3 days until upright, then air-dried. Leaves good, flower-heads fair, some clusters drooped. Heads a good white. Leaves green.
(white form)	20/10/92	" "	PEG 200 1:2	16 hrs	
<i>Ozothamnus diotophyllus</i>	31/10/90	In bud and partly open.	Glycerin 1:2	15 hrs	Heads golden brown but dull. Leaves remained green. Pick only in bud.
<i>Ozothamnus ledifolius</i>	14/10/92	When buds are terracotta.	—	—	Air-dried. Buds excellent. Some leaf drop if rubbed.
" " "	22/10/92	In bud and partly open.	—	—	Air-dried. Buds good, open heads too fluffy. Stems too woody and short.
" " "	25/10/92	In bud and partly open.	PEG 200 1:2	24 hrs	Some opened flower-heads were too fluffy.
" " "	1/10/93	In bud.	PEG 600 1:2	15 hrs	Terracotta buds retained colour. Leaves good. Stems stiff. Form and colour very good. Leaves natural.
" " "	1/10/93	" "	PEG 200 1:2	15 hrs	As above, but intensity of colour is less. Leaves natural.
" " "	15/10/93	Heads open.	PEG 200 1:2	17 hrs	Form of heads retained but dull, ivory colour. Leaves good. Best picked in bud.
<i>Ozothamnus lepidophyllus</i>	7/12/93	In bud.	PEG 600 1:25	11 hrs	Form and colour of clusters good. Leaves natural. Curved stems a disadvantage.
" " "	21/11/93	" "	PEG 600 1:25	15 hrs	As above.
" " "		When clusters mature and become white	—	—	Air-dried. Stems remained stiff. Scale-like leaves retained their dark green colour.
<i>Ozothamnus lycopodioides</i>	12/9/92	In flower.	—	—	Air-dried. Stems straight, but not long. Foliage green. Flower-heads dull.
" " "	12/9/92	When buds are at their whitest.	—	—	Air-dried. Foliage remained a nice green. Flower-head brighter.
" " "	21/9/92	Heads fully opened.	Glycol 1:2	9 hrs	Foliage too dark. Heads dull, discoloured.
" " "	6/10/92	Tight bud and open.	—	—	Air-dried. Foliage a good green. Buds interesting. Heads dull and discoloured when fully open.
<i>Ozothamnus obcordatus</i>	22/11/92	Heads open.	Glycol 1:2	2 days	Leaves curled and dropped. Pick only when clusters are in a tight, compact head.
<i>Ozothamnus purpurascens</i>	16/11/92	In bud and partly open.	PEG 200 1:2	23 hrs	Stems remained upright. Buds deep pink. Flowers good. Foliage stayed green.
" " "	16/11/92	Heads just opening.	PEG 200 1:2	26 hrs	Colour still good. Specimens not as satisfactory as above.

Species	Date picked	Condition picked	Solution	Time in solution	Comments
<i>Ozothamnus purpurascens</i>	16/11/92	In bud.	PEG 200 1:2	26 hrs	Buds remained a nice pink colour.
" " "	1/10/93	In bud.	PEG 600 1:2	15 hrs	Excellent colour and form of buds. Leaves good. Best result of '93 batch.
" " "	1/10/93	" "	PEG 200 1:2	15 hrs	Colour and form retained in buds and leaves. Good result.
" " "	15/10/93	Heads open and in bud.	PEG 600 1:2	17 hrs	Buds and newly opened heads good colour and form. Leaves slightly untidy.
" " "	15/10/93	" " "	PEG 200 1:2	17 hrs	As above.
<i>Ozothamnus rogersianus</i>		When clusters first open.	—	—	Air-dried quite well.
<i>Ozothamnus rosmarinifolius</i>	15/11/91	In full bud.	Glycerin 1:2	15 hrs	Heads changed to a bright ginger colour — possibly livelier. Leaves turned brown.
" " "	8/1/93	In tight bud.	PEG 200 1:2	16 hrs	Heads a good white. Form of clusters retained. Leaves darkened.
" " "	8/1/93	" " "	PEG 1000 1:2	16 hrs	Heads remained in bud with straw-coloured outer bracts more conspicuous. Leaves grey-brown.
<i>Ozothamnus scutellifolius</i>	10/10/92	In bud.	PEG 200 conc.	48 hrs	Heads droopy. Could be habit. Leaves darkened to olive-green. Curved stems a disadvantage.
" " "	10/10/92	" "	PEG 200 1:2	48 hrs	Leaves olive. Not as good as above.
" " "	10/10/92	" "	PEG 200 conc.	20 hrs	Few leaves olive-green. Some heads drooping, others upright. Some leaf and flower drop.
" " "	15/10/92	" "	PEG 200 1:2	27 hrs	Leaves olive-green, dull but upright.
" " "	15/10/92	" "	PEG 200 conc.	27 hrs	Flowers yellow, excellent. Leaves a good green. Results good.
<i>Pithocarpa</i> sp.		Heads open.	—	—	Air-dried well.
<i>Pycnosorus chrysanthes</i>	23/11/93	Mature and immature heads.	PEG 600 1:25	17 hrs	Stems stiff. Heads natural yellow. Leaves dead-looking. Definition of partial heads retained perfectly if picked early. Fluffy appearance of opening heads still attractive.
" " "		When bright yellow.	—	—	Air-dried until stems became stiff. Excellent.
<i>Pycnosorus globosus</i>		At its best.	—	—	Air-dried until stems became stiff. Remove dead leaves. Excellent for floral art.
<i>Pycnosorus pleiocephalus</i>	Spring	At its best.	—	—	Air-dried. Stems remained straight. Good.
<i>Rhodanthe floribunda</i>	Spring	When just opened.	—	—	Air-dried. Excellent results from wild specimens.
" " "	8/12/92	Flowers open.	PEG 200 1:2	12 hrs	Results disappointing.
" " "	11/12/92	" "	PEG 1000 1:2	24 hrs	As above.
" " "	25/1/93	" "	Air-dried		Results better, but not as good with cultivated material as with wild specimens.
<i>Schoenia cassiniana</i>	12/10/92	In bud and just opening.	PEG 200 1:2	15 hrs	After a year heads had faded from deep pink to nearly white. Stems upright, but not tested by inverting.
" " "	12/10/92	" " "	PEG 200 1:2	13½ hrs	As above.
" " "	4/11/92	" " "	Water	4 days	Colour of heads good.
" " "	5/10/93	Buds and open heads.	Water	12 hrs	Stems stiff. Colour and form of heads and buds retained. Leaves slightly curled.
" " "	10/10/93	" " "	PEG 600 1:2	24 hrs	After 10 days in an upright position stems still stiff and erect. Colour retained after 6 mths, but had been stored in the dark.
" " "		" " "			As above. Leaves more curled.
" " "		" " "			After 10 days in an upright position the necks of some stems drooped somewhat.

In addition, *Rhodanthe anthemoides* (branching and unbranched forms), *R. diffusa* and *R. polygalifolia* were treated with PEG 200 and PEG 1000. Results were disappointing; heads drooped and did not retain their shape.

DISCUSSION It is difficult to evaluate our results. There are too many variables involved for small growers to trial species with all the appropriate controls. We are unsure of the following: the best stage at which to

pick, the most suitable time of day to harvest, the best dilution to use, the PEG with the highest molecular weight which will pass through the pores of plant tissue, and the optimum time to leave the stems in the solution. We think the best stage at which to pick has to be when flower-heads are in bud or partly opened. At this stage they are considered to be 'at their best'. There are a few species, however, that are exceptions to this rule, e.g. *Calocephalus platycephalus* and *Pycnosorus* species need to be mature and a good colour before they are picked, and it is hard to be sure when *Ozothamnus diosmifolius* is at its best. The most suitable time of day to harvest should be early in the morning when the sap flow is at its peak, but **not** if the specimens are in any way damp.

We do not have enough material at any one time to perform all the experiments we would wish to do for a proper comparison of results, and we certainly do not have adequate storage space for hanging innumerable bundles to dry.

In general, treatment with polyethylene glycols improves the standard of the dried specimens. The following tentative observations should be noted:

- Some species dry better with no pretreatment, e.g. *Chrysocephalum baxteri*, *C.baxteri* 'Midget' and *Leucophyta brownii*. Some species seem to dry better when the stems are held in water for a period, e.g. *Schoenia cassiniana* 'Gabriele'. Other species present a different appearance rather than an improved one when held in water, e.g. *Ozothamnus diosmifolius*.
- Some species look less natural when treated with glycerin, but are possibly more attractive, e.g. *Cassinia quinquefaria*, *Helichrysum adenophorum* var. *waddelliae*, *Ozothamnus alpinus* and *O.rosmarinifolius*.
- Treatment with Peg retained good flower colour as prophesied by Alan Buchanan, especially that of the various pinks. This is particularly the case with *Ozothamnus diosmifolius* and *O.purpurascens*. If *O.diosmifolius* is picked early enough to display its rich pink colour and it is sprayed or painted with polyurethanes it invariably droops and fades.
- Some species need to be picked in bud because the buds are the best features, e.g. *Ozothamnus alpinus*, *O.diosmifolius*, *O.diotophyllus*, *O.ledifolius* and *O.purpurascens*.
- The more dilute solutions seem to produce results which are as good or better than the more concentrated solutions, e.g. PEG 600 1:25 appears quite as efficacious as PEG 200 1:2. This makes treatments much less expensive.
- There are indications that polyethylene glycols with higher molecular weights may improve the results — again as Alan foretold.
- If deterioration of specimens begins as soon as the stem is cut it may be better to take the PEG solution to the shrub. Cut, strip and immerse without delay.
- Shorter times of immersion should be tried, say 3–5 hours. *O.diosmifolius* (picked 6/10/93) treated in PEG 200 1:2 for 10 hours had an improved leaf appearance compared with the specimens (picked 29/9/93) treated in the same solution for 24 hours. Polyethylene glycols may have a bad effect on chlorophyll over a longer period.
- Our opinions are very subjective. They depend heavily on the standard of the specimen we have grown in the first place. They also depend on the eye and mood of the beholder.

CONCLUSIONS

1. Treatment with PEG retains flower colour very well.
2. Treatment with PEG strengthens the small stems and improves the appearance of certain dried species.
3. More trialling is necessary.

GRAMPIANS WEEKEND IN OCTOBER / NOVEMBER

Beth and John Armstrong have booked the MEG property at Wartook from Thursday October 27th to Wednesday November 2nd.

They have provided the following information :-

Accommodation:- 3 bedrooms

1 x 2 singles and 2 bunks
1 x 1 double and 1 single
1 x 1 double
(Beds have mattresses only)

2 bathrooms with hot water

2 septic toilets

1 kitchen wood fired stove and outside barbecue
ice chest
sink with hot and cold water

cutlery and crockery for 20 +

cooking utensils

good storage cupboards

Large living room open fire, lounge chairs and dining for 10

THERE IS AMPLE CAMPING SPACE AROUND THE HOUSE — 12 ACRES

NOTE — there is no power at the house. Gas lamps are needed.

The nearest motel is approx. 1km away — "The Happy Wanderer"
..... WARTOOK (053) 836 210

If you wish to stay at the motel BOOK EARLY because it is Melbourne Cup Weekend!

If you wish to stay at the MEG property please contact Esma.

MEMBERS' REPORTS

June Rogers (of Horsham, Vic) writes on 18/4/94:- "It's been a wonderful 'daisy' year with quite a few of my new ones performing very well — *Pycnosorus chrysanthes* (local), *Ixiolaena tomentosa* (Jan Hall, Yarrowonga), *I.leptolepis* (above Patchewollock) and also a local one which I have difficulty naming. From Jan Hall I bought a *B.multifida* which looks different — now I'm not sure it is *multifida*. The habit is longish straggling branches, pale pink/mauve flowers and it sheds its seed before it is properly ripe, making identification difficult. ... The *Ixiolaena* sp. from Southern Queensland, which we've grown for about ten years, has really proved its worth this year in a new garden, created when we removed our very large *Acacia redolens*. It has flowered for over six months and looks set for quite a few more, with very large orange/yellow flowers. I have been removing spent flowers which has helped to promote new growth, but it is a delight. It gets hose watering about once a month, and we've not had the amount of rain Melbourne has had, so it is very hardy.

By the way, I still have three plants of my trial *B.melanocarpa* surviving and flowering — two in the garden and one in a pot. I have saved seed, but there's no sign of self seeding. The *Rhodanthe chlorocephala* subsp. *rosea* have already grown from self sown seed last spring and look set to flower for Easter, so hope we don't get a frost, tho' last night was getting close."

Colin Jones (of Orange, NSW) writes on 18/4/94:- "Others have possibly done the same but it is worth repeating. *Brachyscome formosa* plants that had been held in 6" pots went around in circles to form a

clump which, when placed in the garden, provided something to see. Previously, when I had been given plants in forestry tubes, they had gone straight into the garden. Result — a flowering head here and another over there — not what I would call a display!

Leptorhynchos tenuifolius has provided an excellent show where it was planted in a clump. Flowering has not stopped for over 12 months. *Podolepis* sp. (Hat Head) is another plant that I am finding provides a bright spot in the garden. It is in a clump of about 0.6m diameter. The plants grow in Orange to a maximum height of about 0.3m. Buds appeared last October and it is still flowering in April.

SEED LIST:

Seed is for sale to non-members at 50c per packet plus postage. Larger amounts of seed can be bought by arrangement. Requests for seed (ENCLOSING A LARGE, STAMPED, SELF-ADDRESSED ENVELOPE) should go to Esmá Salkin, 38 Pinewood Drive, Mount Waverley, Victoria, 3149.

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

ADDITIONS

Brachyscome latisquamea.

DELETIONS

Anemocarpa podolepidium.
Rhodanthe charsleyae, diffusa ssp. *leucactina*

PROVENANCE SEED SPECIES

ADDITIONS *Brachyscome angustifolia* complex (Warrabah), *nivalis* (Falls Creek), *procumbens* (Dawson Springs)
Olearia phlogopappa var. *subrepanda*.

PLEA for SEED

ADSG has accepted an invitation to put on a display at the Melbourne Wildflower Show in August 1994. There is usually a great demand for seed on these occasions. Certain species are in short supply in our seed bank. We would be grateful for donations of the following species:- *Brachyscome nova-anglica* (Mt. Kaputar), *Bracteantha viscosa*, *Helichrysum scorpioides* (provenance seed), *Rhodanthe anthemoides* (Whitlands, Qld. and Liverpool Range forms) and *R. diffusa*.

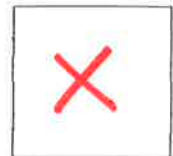
SEED DONORS

Many thanks to Judy Barker, June Rogers, Esmá Salkin and Maureen Schaumann.

SUBSCRIPTIONS

Subscriptions are now \$7.00 per year for Australian members and \$14.00 per year for overseas members. Cheques should be made payable to the Australian Daisy Study Group and forwarded to the Leader, Esmá Salkin (address above), or to the Treasurer, Bev Courtney, 3 Burswood Close, Frankston, Victoria, 3199.

FEES ARE DUE ON 30th JUNE 1994. THIS IS YOUR SECOND AND LAST WARNING. A LARGE RED CROSS MEANS YOU WILL BE OVERDUE IF YOU HAVE NOT PAID BEFORE THAT DATE.



NEWSLETTER DEADLINE

The deadline for the November Newsletter is **SEPTEMBER 25th**. Please send articles to Judy Barker, 9 Widford St., East Hawthorn, 3123. Thank you for your contributions, even if they have to be extracted by force at times. We apologise to those members who are not interested in drying daisies. The article on that subject is long, but may save others time and money. Many thanks to Ailsa Hamilton for the excellent line drawings.

J.S.
