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ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS

THE AUSTRALIAN DAISY STUDY GROUP NEWSLETTER NO. 22

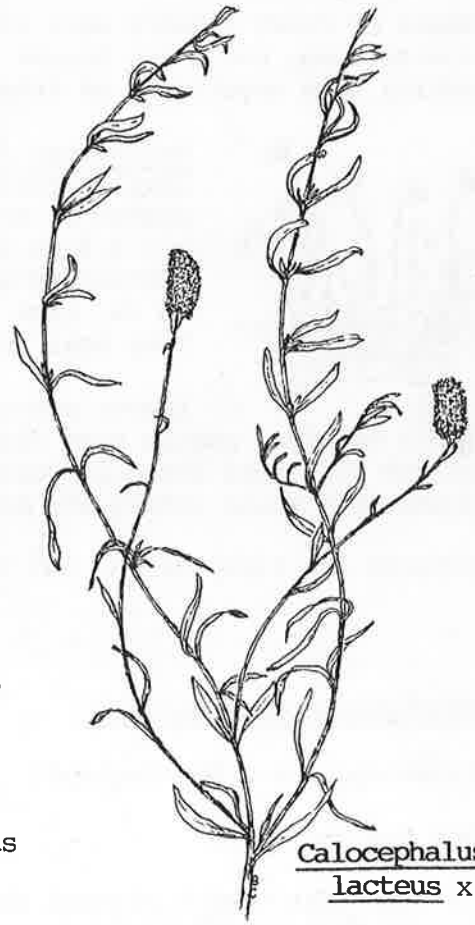
Dear Members,

After three months absence I was anxious to see how the garden had fared. When I arrived home at dusk I was greeted at the gate with a brilliant display of Helipterum roseum, H.humboldtianum, H.chlorocephalum and the more restrained flowering of Brachyscome formosa.

In planting this bed I had disobeyed all the rules. We had chopped out a huge aged Melaleuca diosmifolia, dug the bed over, tossed in some sheep manure and blood and bone, raked it over and broadcast seed thickly. Weeds appeared where no weeds had appeared for twenty years. The bulk of the primary weed growth was removed in haste, snail bait tossed around and the bed left to nature. The daisies took on the vigour of the most invasive of weeds and only a few lush Thistles and Flat Weeds dared to compete.

The display has raised much comment in the neighbourhood and even a forester son,who is determined to resist sharing a parental interest, spent half an hour arranging daisies in a couple of jam jars to take to friends.

I am grateful to Judy for looking after ADSG affairs, but I take full responsibility and apologise for delays in mail. All mail marked ADSG was forwarded to Judy and the rest awaited my return. Judy has cheerfully and efficiently handled "Daisy" affairs as well as pleasurable commitments to grandchildren, family celebrations and finishing the booklet "Daisies of the Anglesea Area" in collaboration with Mary White. Congratulations on an excellent, informative and concise publication. Congratulations too to artist members, Betty and Gloria.



Calocephalus lacteus x 2/3

The momentum and enthusiasm of group meetings continued with more Mini Talks and "Homework". Participants are asked to contribute reports on cultivation, propagation and experience with four to six brachyscomes each month for collation at a later date.

Thanks also to Jenny Rejske for manning the display at Warrnambool Flower Show, Maureen for floral art displays for Canberra, and co-operation from members.

In June Dr. Philip Short spoke to a small group of members on basic anatomy of the Asteraceae "flower", the identification of bisexual, female and neuter florets and other floral structures. This was followed by very helpful discussion on pollination, fertilization and hybridization, with emphasis on issues relating to hybridization of species in our gardens. If there is enough interest from members we plan to build on this practical evening with occasional evenings designed to increase our taxonomic skills. We thank Philip for starting us off in the right direction.

Esma.

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SPECIES OR FORMS NEW TO THE GROUP

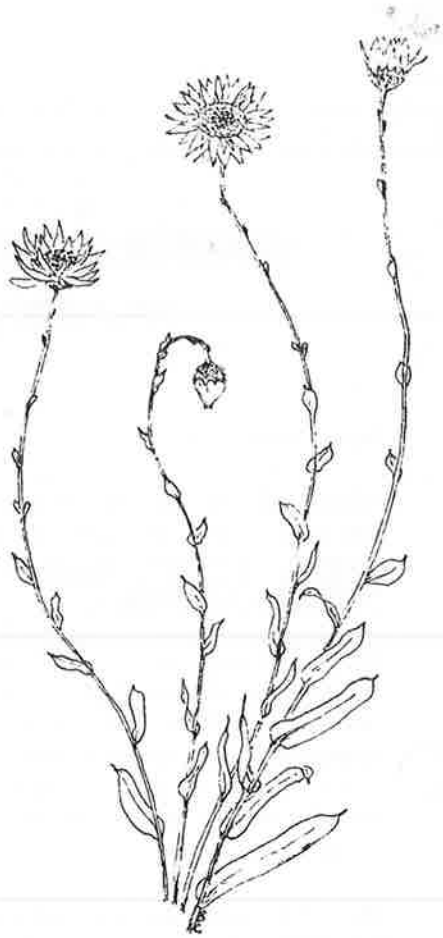
Helipterum diffusum DC.

(from Latin diffusus, diffuse or spreading)

Ascending Sunray

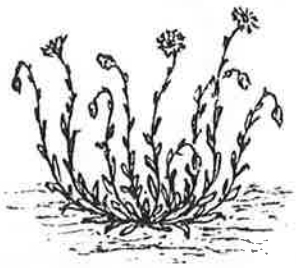
At one of our monthly meetings Judy and I were bemoaning the fact that we had been unable to obtain any seed of this species when, out of the blue, Esma came to light with some she had collected on one of her trips. We both pounced on it.

My seed was sown on the 31st. March and I was thrilled when germination took place six days later. Seedlings never looked back, thriving out in the open all through Melbourne's winter. By the 20th. August all plants were in full bud with their everlasting bracts just beginning to open; an ideal time, I thought, to pick for wiring and drying. Unfortunately, wiring was not so easy at this stage because the disc florets (which had been greenish when picked) darkened and became unattractive when the flowers dried. The next specimens were collected when the flower-heads were fully opened and the disc florets yellow. These dried much better and, with the stems being a little thicker, wired more easily.



Helipterum diffusum x 2/3

Stems of fresh flowers were also tried by hanging them upside down, but these became weak and fragile when dried, making them unsuitable as dried flowers using this method.



Helipterum diffusum is a pretty little annual, very floriferous and ideally suited to a container or anywhere a blaze of colour is needed in the garden or rockery. The brilliant yellow flower-heads, 1 - 2.5 cm in diameter, are held singly at the tips of the many unbranched stems. These stems, which can reach a height of up to 35 cm, like to spread along the ground before becoming upright. They bear sparse bristles and are quite hairy at the top.

Leaves are numerous, light green, 1 - 2.5 cm long and 1 - 5 mm wide, partly stem clasping and showing a transparent appendage at the tip. Leaf shape is variable,with many displaying a distinct wavy appearance while others are narrow-linear with an entire margin.

Achenes are silky hairy, 4mm long x 1.5 mm wide.

by Maureen Schaumann.

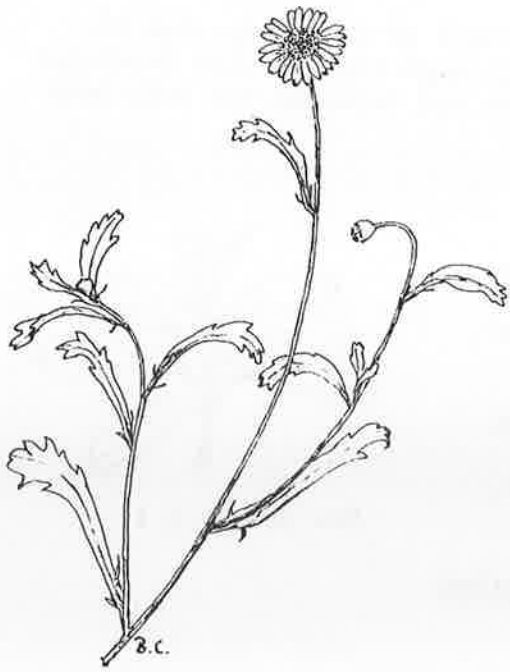
Brachyscome nova-anglica (N.S.W.)

(nova-anglica = New England)

New England Daisy

In June this year I planted three seedlings in a concrete pot, 24 cm across. In late August they produced buds and started to flower soon afterwards. In early October there are eighteen white heads and more than twice that number of cream, flushed pink buds. The three seedlings have formed a small, rounded green cushion, 21 x 40 cm.

The flower-heads, 18 - 25 mm across, are terminal on stalks, 3 - 6 cm long. There are



B.nova-anglica x 2/3

about 26 quite blunt, white rays, sometimes with very pale mauve reverses. Dr. Gwenda Davis says the rays may also be violet. The bracts are broad, green and glandular. The soft, branching stems are covered with short hairs. The largest leaves at the base of the stems are about 6.5 cm x 1.5 cm. They have 2 to 9 teeth usually near the apex, but sometimes there are a few narrow teeth at the base of the leaf. The hairs on the surface are mostly glandular, but there are a few long, white, wispy hairs among them.

achene x 14

The achenes are black, about 2 mm x 0.8 mm, with smooth margins and warted faces. The pappus is tiny. The fruit is similar to that of B.melanocarpa and B.microcarpa, but is intermediate in size and has a much smaller pappus than either of the above species.

In its natural habitat it was growing on steep, north-facing slopes among boulders and trees.

The pollinators are narrow insects like flies, about 8 - 10 cm long, with black and pale orange horizontal banding. They alight on the heads rather ponderously, but can zip away with incredible speed. I wish I knew more about insects. In a bid to get seed for other members to try I am not relying solely on the activities of these insects, but am rubbing the heads together vigorously whenever I pass the pot.

I like this species. If it keeps performing as well as it has so far it will be a valuable addition to our repertoire.

by **Judy Barker**.

Helichrysum cuneifolium (Vic.,NSW.)

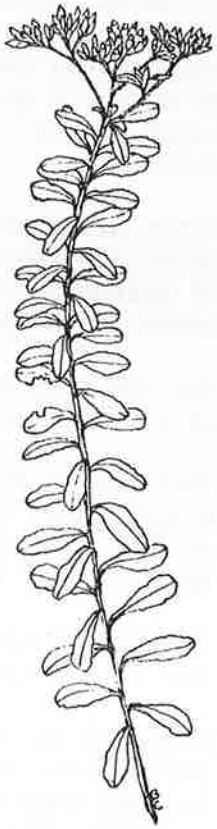
(cuneifolium = cuneate leaf)

Wedge-leaf Everlasting, Wedge Everlasting

I first saw this species at Thomson's Dam near Erica in Victoria. It was growing by the side of the road in red soil among boulders and it was covered with a profusion of large, flat-topped clusters. From the car it looked like Helichrysum obcordatum, but the clusters were white and the habit much more robust. Though it was late and I was almost lost I spent a good half hour admiring and photographing it. It wasn't until I consulted Native Trees and Shrubs of South-eastern Australia by Leon Costermans that I identified it as H.cuneifolium.

Seed germinated well and I was potting into tubes in June, July and again in December after sowings in February and March. Many tubes were planted in the garden as soon as roots appeared, others were potted into 12 cm pots.

Plants grew best in fairly protected positions. They are dense, neat shrubs about 1 m high, but have not yet flowered although they are producing small, tight clusters of greenish buds now (in October). They would be eighteen months old now. The only plant that has flowered this year is in a very open, unprotected spot and has responded with open growth and dried-up foliage. It produced buds



Helichrysum cuneifolium x 2/3

in late August and flowered in September, October. It could be a good species for dried "filler" because the very narrow buds were dark pinkish-red. As they developed they looked like a clutch of pointed, white eggs in pink egg cups. As the buds open the white or cream inner bracts radiate.

headlets x 3

The leaves, 1 - 2.5 cm x 4 - 8 mm, are bright, shining green above, white or cream and densely tomentose beneath. They are oblong- cuneate in shape with blunt tips. The margins are often slightly turned under and usually wavy.

New growth x 1

The achenes are squat, cylindrical, dark brown to black and hairy with narrow transparent hairs, 1 x 0.6 mm. The pappus is 2 mm long with spreading, white bristles, about 26 in number.

by Judy Barker.

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STUDY GROUP MINI TALKS

As Esma mentioned in her letter to members our monthly meetings have recently been made even more enjoyable since the introduction of short talks given by volunteers. These talks will be reproduced in our newsletters for the benefit of the majority who are unable to join us.

by **Maureen Schaumann.**

POT CULTURE

A good potting mix is essential. Since last year I have been using Propine Potting Mix BC/321. This contains sandy loam and 12 mm pine bark to which has been added dolomite, Micro-max and Bay Ferroux 318 Gu.49. To this mix I add Osmocote, 1 teaspoon for 12 or 15 cm pots or 1 dessertspoon for larger pots. To retain moisture in pots and hanging baskets either perlite or moisture retentive crystals (Agrosoke) can also be added. A good teaspoon of IBDU is sprinkled on the surface of each container, together with coarse pebbles or sand. The latter acts as a mulch, reducing evaporation.

After all this care and attention I do not expect to have to repot for two to three years, but each spring I add 2 level teaspoons of Osmocote, together with a teaspoon of Nitrogen (IBDU) and Sulphate of Potash (3 parts to 1). The latter two can also be added at the end of summer. Sulphate of Potash promotes bud set and flowering.

The odd dose of cow manure has given my Brachyscome multifida varieties a new lease of life with no harmful effects so far. I am hoping the smell may deter the ants.

When plants become straggly they will benefit from pruning quite hard, especially B.multifida, Helichrysum apiculatum and H.semipapposum varieties or forms. Another method of keeping potted plants looking good is to continually tip prune and remove spent flower-heads.

Finally, I always prefer to choose the most robust looking plants or seedlings for use in containers.

Choosing the right container is also important if you want to show your plant off to perfection. Terracotta pots and glazed pipes are more economical than plastic pots in that they last forever (if not dropped) and look far more attractive for display purposes. Daisies can also look great in hollowed wood.

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OLEARIAS by Jenny Rejske.

Olearias grow in the mountains as well as along the coast, in hot dry areas and in cool damp forests, and show off their charms and their flower-heads on low spreading shrubs or quite tall trees. So with their wide range of habit and habitat they fall into three large groups:-

dry inland

temperate and coastal

mountain.

Near the coast and in the forests of Victoria olearias do well, enjoying the cool, temperate climate and good rainfall. O.ramulosa, O.asterotricha, O.glandulosa and O.erubescens can be found growing in these areas, whilst O.glutinosa and O.axillaris prefer the coastal sands and sandstone.

Olearias of the arid region flower in profusion from late winter through spring. These include white flowering O.pimelioides, O.muelleri, O.microphylla and blue-mauves of O.rudis and O.ciliata. O.pannosa has large, showy, white heads and O.magniflora is an insignificant, spindly shrub until it comes into flower with lilac coloured daisies, 5 cm across, covering the bush.

Olearias of the mountain areas are usually quite large bushes, tall and sturdy, with big leaves. This group includes O.lirata, O.phlogopappa, O.argophylla,and O.megalophylla.

So when you stand with Olearia sp. in hand ready to plant in the garden give some thought to which area it would have originated from and plant accordingly:-

dry inland - full sun
coast and temperate - sun/dappled shade
mountain-shade

Propagation

From seed:

1. Seed does not germinate well.
2. When pricked out a large percentage of seedlings die off.
3. Do not sow too thickly and prick out when small.
4. When established grow on well.

BUT 5. When planted in the garden they often die and even established plants die in pots.

From cuttings:

1. Cuttings root easily.
2. There is a large percentage strike.
3. There are no problems in potting on.
4. There has been some trouble with furry species (e.g. O.asterotricha) due to stem rot and fungal attack.
5. Plants grown from cuttings also die in the garden and established plants die in pots.

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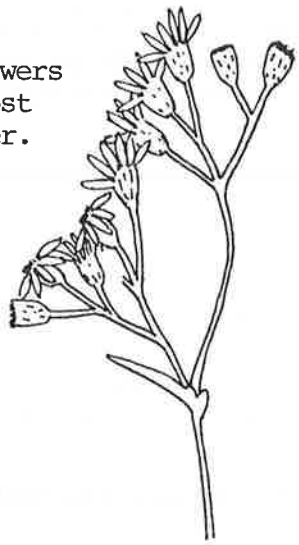
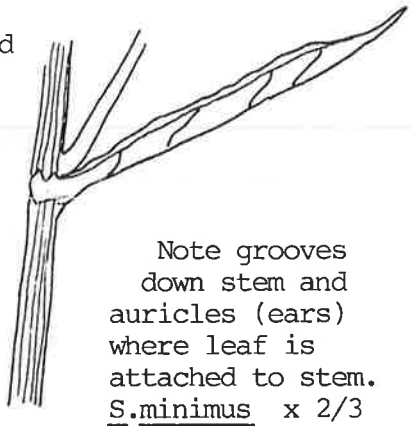
SENECIOS TO CONSIDER (continued) by **Peter Vaughan**



Up to 45 flowers per stem. Most open together.

Leaf and stem. T.S.



Note grooves down stem and auricles (ears) where leaf is attached to stem. S.minimus x 2/3

... S.minimus may be recognised as distinct from other senecios by the auricles at the base of the leaves (see diagram). The stems are also winged, this serving an important function.

S.minimus is a powerful butterfly attractor. The Common Crow butterfly, Euploea core, found from the Northern Territory to Eastern Victoria, is irresistably attracted to this species. Euploea core feeds (as a caterpillar) on poisonous plants and the resultant butterfly is poisonous to eat. Many (or all?) senecios are also poisonous. I suspect the butterflies are topping up their levels of toxins by feeding from this daisy. (Whilst I was living in Malaysia I noted similar habits there.) The amazing thing is that the plant caters for this process. If the plant is not flowering the butterfly feeds from secretions on the plant's stems. The stem is winged so the secretions become channelled and easier to gather.

I cannot see any benefit to the plant for this process. Toxins inside the stem would be as effective a guard (or more so as they would not be "stolen") as toxins on the outside. I am curious to discover if the closely related Brown Wanderer or Monarch butterfly also has this same feeding habit.

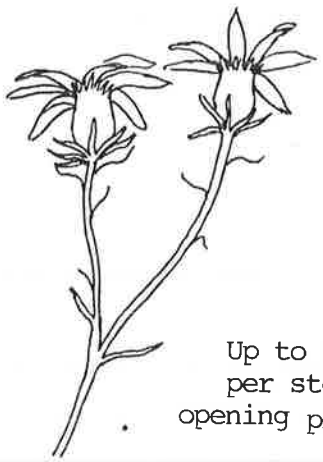
The butterflies prefer to feed from flowers if present. When feeding they become so "drugged" that they are readily captured by hand.

I have counted over twenty butterflies on each of my plants, whether flowering or not, on many occasions.

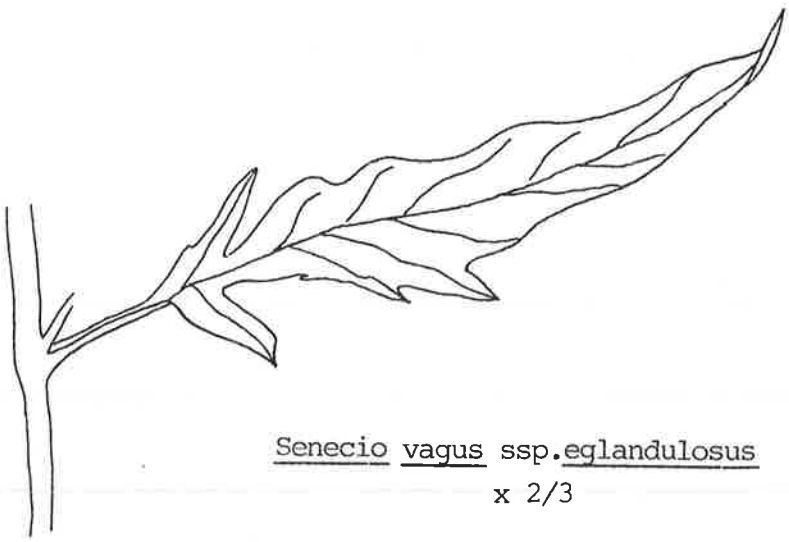
There is a serious pest of this daisy. It is a moth. The caterpillars of this moth cause considerable leaf damage. I don't spray my plants as I might kill the butterflies, so I use the pinch test. The caterpillars fail every time.

Senecio vagus ssp. eglandulosus

S.vagus is another plant from the Wattagan State Forest, west of Newcastle.



Up to 20 flowers per stem, opening progressively



Senecio vagus ssp.eglandulosus x 2/3

Senecio vagus is also a bush to one metre high. It differs from S.minimus in leaf shape and leaf stem (see diagram). S.vagus also favours wetter areas, often being found near rainforest margins. This species is usually more straggly than S.minimus, however this may be due to the greater amount of shade it receives.

S.vagus has a larger flower (3 cm across). It is bright yellow. Unfortunately there are not as many flower-heads in each corymb. It seems to compensate with a longer flowering period, early spring to late autumn.

I grow S.vagus along my paths in my rainforest. I like the way the yellow flowers brighten up shady areas. It is one of a few daisies to flower when well shaded.

Senecio linearifolius

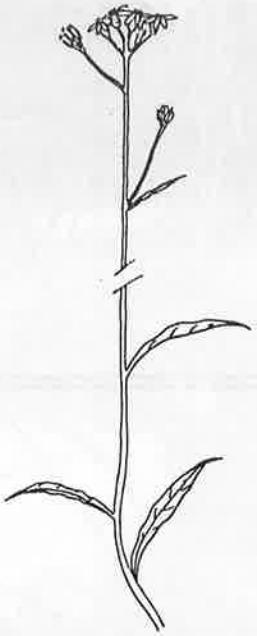
S.linearifolius is a daisy common around Jenolan Caves and Mount Tomah, west of Sydney. It often favours heavier soils and needs adequate water.

S.linearifolius is an upright daisy to one metre, usually with few branching stems. The leaves have a distinct glaucous blue colour.

The flower-heads are 2 cm across and are present from spring until autumn.

S.linearifolius prefers strong light. I allow for its sparse nature by growing it amongst other bushes which will support it in strong winds.

Although this species is not sufficiently attractive to be used as a feature plant, it is a good plant if you are looking for something a bit different to grow amongst grevilleas, thomasias, etc..



Up to 30 heads per inflorescence but opening in bursts of 10 heads at a time.

Senecio linearifolius x ½

Senecio lautus ssp. dissectifolius

PLEASE read on. Don't condemn me for growing the dreaded S.lautus. There is more to this. Firstly, the noxious Fireweed is S.mauritianum, not S.lautus. Secondly, I still wouldn't grow S.lautus except that this is a very good form. I can hardly believe this is a subspecies of S.lautus.

Senecio lautus ssp. dissectifolius occurs near the mountaintops in the Warrumbungles National Park. The name "dissectifolius" refers to the leaves which are pinnatifid, similar in appearance to Brachyscome multifida. The plant also has a very similar habit to B.multifida, except the flowers are bright yellow. I strongly commend this species as a partner to B.multifida in any garden.

Flowering is in the spring. My cuttings struck readily, but then rotted. As their natural habitat is very dry and exposed caution should be taken to avoid fungal infections.

CONCLUSION

Well, that should be enough to stimulate some interest in senecios. I favour senecios because they:

1. Tolerate and even enjoy wet conditions,
2. Tolerate shade and competition,
3. Flower for long periods,
4. The plants are perennials,
5. They strike very easily from cuttings,
6. Have few pests (and even attract butterflies),
7. Have bright yellow flowers in profusion.

AN ADDENDUM TO THE SENECIO/BUTTERFLY STORY by **Barbara Buchanan**

Peter Vaughan's observations of the Crow butterflies haunting Senecio minimus are probably related to those in a paper in Nature (1974) by a group of CSIRO scientists. The research refers to the Danaid butterflies and I am not sure whether Euploea core is included, but it is at least related.

Crow butterflies feeding on the stems of Senecio minimus

Photography by Peter Vaughan

Another reference tells me that E.core feeds on fig, mandevilla and oleander as a caterpillar and these probably provide cardiac glycosides, as do the food plants of the Danaid caterpillars, to protect both caterpillar and butterfly from bird predation. Cardiac glycoside is a general term for a group of alkaloids which affect the function of heart muscle. Other plant alkaloids have hallucinogenic effects, e.g. cocaine and morphine. Others are used by insects for various regulatory roles in their metabolism (hormones) although often the insects are unable to synthesize the basic molecule and rely on plant food to supply the nucleus, which they can then alter as appropriate.

Plants possibly also use the alkaloids in regulating metabolism, but unlike animals they have no way of excreting end and waste products and have to store them in special areas separated from the functional cytoplasm. If these products give protection from herbivores then evolutionary processes will increase such products. Eventually some herbivores will evolve a means of coping with the toxins. Most herbivores are insects, especially insect larvae. Because they have a short life cycle and prodigious numbers of offspring insects can evolve rapidly — as the development of resistance to man-made pesticides has shown. The Danaid (and other) butterflies have evolved mechanisms for holding the cardiac toxins sequestered from their active tissue, right through the caterpillar, pupa and adult stages. Such insects are usually highly coloured and conspicuous, so that birds can recognize them easily. Once a bird has tried one such caterpillar or butterfly, been very sick, probably vomited, it will never try another — even when hungry.

The Danaid story goes further. The male butterflies feed on the secretions of a different group of host plants from those on which the larvae feed. These host plants are often Boraginaceae (in Australia Heliotropium, Myosotis and a few other genera) and they provide a different alkaloid which is converted to a pheromone. Pheromones are chemical messages between individuals of the same species and are similar to hormones, which are chemical messages between cells or organs of the same individual. The pheromone is released from special hair pencils of the male to arrest the flight of the females and then attract them. I would suspect that the Crow butterflies are involved in a similar operation, using Senecio minimus as the source of their pheromone.

One of the authors of the CSIRO paper was an old friend of ours from whom we have drifted away, but in the late fifties he was very interested in the chemistry of the senecios, so that I know they do produce alkaloids. If Peter can sex the butter-

flies on his plants we would get a reasonable proof (or disproof).

The dependence on other organisms (plants) for such a vital element in the reproductive cycle — the contact of male and female — is rather unusual in the animal world, although of course it is commonplace with pollen and plants. The double dependence of the Danaids on two different groups of plants during different stages of the life cycle was regarded by the CSIRO authors as unusual. I do wonder, however, if further research since then has turned up more examples,as the whole field of chemical ecology is so recent and as it depends on development of sensitive methods of chemical analysis.

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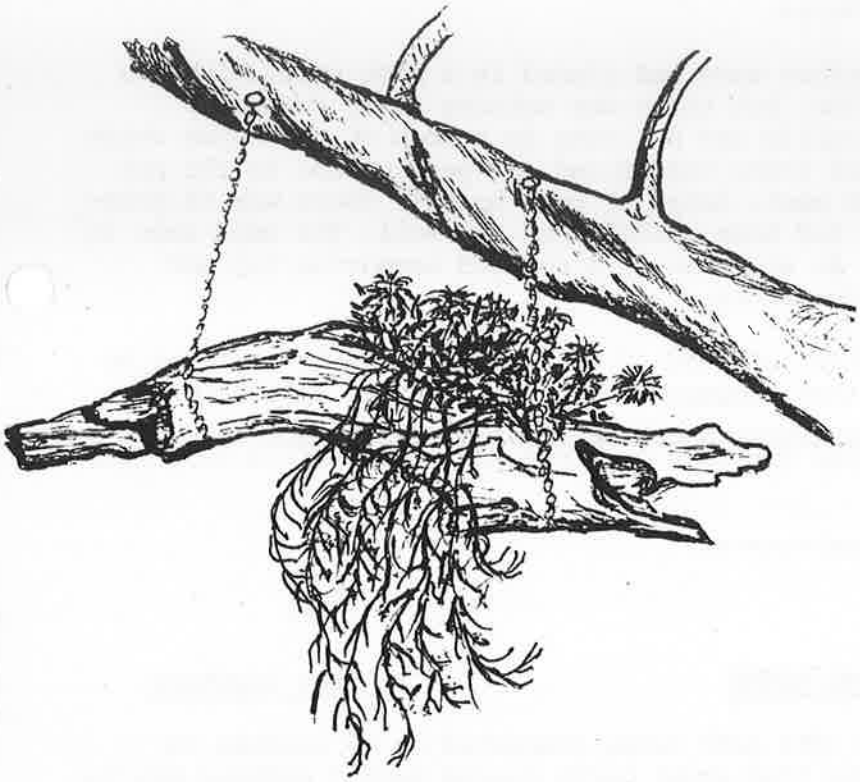

AN UNUSUAL CONTAINER

by Maureen Schaumann

After seeing an unusual container made out of a rotted tree trunk holding a variety of ferns and orchids in Joy Cook's fernery, I became very enthusiastic about trying something similar for the daisies.

My opportunity came on our weekend trip to Shepparton last year, where I came across just the thing — a hollowed-out branch, just right for holding two of my popular daisies.

Owing to its size (1.1 m long) it was impossible to try to hide it from Vic. in the boot of our car; he personally supervises everything that goes in and comes out. On other occasions I have been known to carry pieces of wood up my jumper and safely home without his eagle eye ever spotting a thing. This passion for collecting unusual pieces of wood goes back a long way, but just lately it is becoming a bit of an obsession.

My last favourite piece was carried all over the notorious East Tate Ridge. Found at the beginning of our walk, I held it clutched to my bosom like a long lost cuddly for about 16 km without a soul being any the wiser. It now sits resplendent on a coffee table filled with large, yellow bracteatums. Some of my friends wonder why they never come across 'pieces like that', but then how could they when they never leave the comfort of their homes?

Returning to my hollowed branch, it is now affixed on chains with each end blocked off to prevent soil washing away. Not being able to plant anything too robust in it, I chose a dainty, fine-leaf form of Helichrysum apiculatum and Brachyscome angustifolia var. angustifolia. Hanging from a high branch in a tree both have taken to their environment very well — with one trying to take over from the other. The grey foliage of the helichrysum is tumbling delightfully into space, while the brachyscome, as well as being an excellent groundcover, is providing a contrast in both foliage and flower.

With both plants now coming into flower, I am very pleased with my natural, inexpensive container.

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GERMINATION OF CELMISIA ASTELIIFOLIA

by Jeff Irons

In past years I have sent seed of Celmisia asteliifolia to the Study Group. Members have germinated it, yet my own sowings have been unsuccessful. This year receipt of a sizeable consignment of two month old wild seed made it possible for me to experiment.

One part of the seed was sown in the method favoured by the Study Group, the achenes being pushed individually into the compost. The compost used was 50 : 50 fine milled peat and seed grade perlite. Another was surface sown on the compost, then sprinkled with peat. The pots were placed outside in early May, when night minima were around 10°C and day maxima around 15°C. A third portion went to Liverpool University, and a fourth to a member of SGAP in South Wales.

The Liverpool University seed was surface sown and placed in a mist unit. Within a fortnight it had given good germination, but there was nothing in my own pots. Consequently I covered them with clingfilm and put them in a room of the house which was at around 15° - 18°C. Within a week there was around 40% germination in the pot where the seeds had been covered with peat. Later it rose to 50%. There was 6% germination in the pot where the achenes had been pushed into the soil. The seed sown in South Wales gave 'good' germination. It was sown in a covered margarine tub and placed in a shady (north facing) conservatory.

My two conclusions are: that germination of seed of Celmisia species is assisted by maintenance of a high humidity, and that temperatures above 15°C are desirable.

Perhaps some of my other failures would not have occurred if the clingfilm technique had been used.

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SOME MORE COMMENTS ON SEED AND POTTING MIXES

by Bev. Courtney

In the last Newsletter (No. 13, June '88) Jeff Irons commented on my success in transplanting seedlings after changing from equal parts coarse sand / potting mix to two parts perlite / one part peatmoss.

Jeff attributes this success to the larger and more constant particle size of the perlite. I had put it down to the lighter, more aerated mix, allowing more oxygen to reach the fine, developing roots, although on reflection this probably amounts to the same thing.

The very first roots of a small seedling are so fine that they can be easily damaged or smothered by a heavy mix. I think too that we tend to prick out too early. I noticed at our last few meetings at Judy's that some of her punnets contain large, extremely robust seedlings still to be pricked out. (Maybe this is because she hasn't had the time to get around to them!) Presumably, (judging by the quality of the little plants we receive from her) they give no trouble on pricking out.

I have been attempting to sow seed more thinly and to allow seedlings to grow on before pricking out. I find this presents no problem if I stand the punnet in a container of water up to the rim. The water helps loosen the mix and seedlings are easily lifted out with a substantial portion of mix clinging to them. Root systems are more robust and may even have to be pruned back.

Jeff wonders how I keep the pots from drying out in summer. I seem to manage alright with a daily (morning) watering. Seedlings are protected from very hot sun by shadecloth, mainly to stop root systems from cooking inside the black plastic pots.

I find Jeff's comments on water absorption and retentivity interesting and hope he

will expand on this in a later Newsletter. Does low retentivity mean it dries out quickly? I haven't had this experience so far with my mix.

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WESTERN AUSTRALIAN REFLECTIONS AND HIGHLIGHTS (NOT NECESSARILY BOTANICAL)

by **Esma Salkin**

Our route through July, August and September took us northwards from Kalgoorlie on an inland path to Mount Magnet, on to the Pilbara, out to the coast and thence a slow meander to Lucky Bay and home.

Vivid memories remain of the galvanised iron Agnew pub, with one remaining glazed window, alone at a dusty junction, and of a couple of dust-stained drillers at Sandstone setting off with laden truck and caravan, the rear window of the caravan flapping and sucking in the swirling dust.

Camp this night was beyond Mount Magnet — sharing a barren limestone - strewn site with three miserable sheep nibbling at meagre herbage. Further up the highway the April rains had fallen and seedlings were spreading out over the bare earth except where it was badly scalded. Eremophilas, Ptilotus species and allied genera were spectacular; the Asteraceae, however, were only just germinating. To my delight I had my first sighting of Helipterum sterilescens in its natural setting.

A detour to the Hamersley National Park was memorable — rugged escarpments, gorges, hills covered with Triodia and beautifully sculptured and landscaped pools. We had an idyllic sojourn at Millstream on the banks of the Fortescue River where palms, melaleucas and gums were roosting perches for hundreds of parrots at dusk.

A blow-out in a new rear tyre and a car enveloped in blue smoke added a bit of drama to celebrate our return to the bitumen, but the main memories of the long haul south in these unpopulated northern areas were the flat, expansive vistas, broken up by mesas (one proudly identified as a mountain at 410 m!), and the colour — reds, greys, green-blues and beige. As I sipped a "cuppa" atop one of these mesas I pondered on this awesome space, the isolation, and in my imagination the reaction of William Dampier as he landed on these shores.

Cephalipterum drummondii heads × 1 (drawn by Gloria Thomlinson)

Other highlights were at Monkey Mia where dolphin communicated with humans, ice-calm seas at twilight merged with sky and brilliant sunset sent campers rushing to the beach. Another highlight occurred at Cervantes where a violent electrical storm hit us as we came over a rise, sweeping plastic storage bin, containing a month's reference material, aloft. Botanically, the most memorable highlight was the floral display in the pastoral country between Yalgoo and Payne's Find — acres of Cephalipterum drummondii, Myriocephalus guerinae, Helipterum splendidum, H.venustum and smaller helipterums, Helichrysum davenportii and H.lindleyii, Schoenia cassiniana, swathes of mauve Brachyscome ciliocarpa, and the whole floral display given lift with the blue of Crane's-bill.

It wasn't flowers all the way, however. There were salt pans where flowers were less evident; brachyscomes were tiny here and the senecios yet to bloom, and there was the Break-away country — those eroded residual rocky outcrops where plants cling to a precarious existence. As I clambered up one of these rocky slopes an eagle, as big as me it seemed, sat motionless on a nearby crag, watching. I had hoped to find an

olearia, but instead settled for about four corymbose daisies for Maureen and Judy to identify.

Sightings of brachyscomes were frequent. Many are labelled "ciliocarpa group", but the B's (an epithet adopted with feeling at times) were a frustrating genus, difficult for me to identify, frequently at the seedling stage, frequently depauperate and rarely with a mature achene. But we did find an interesting one on the Yalgoo - Payne's Find road, completely prostrate, forming a circle of flowers on the ground, and referred to by us as the "Wreath Brachyscome". It wasn't an isolated one, but occurred in a large colony. A white form occurs about 100 km north. Judy and Maureen believe it to be a form of B.iberidifolia. B.latisquamea is no doubt the most spectacular of the brachyscomes. A shrub to 1 m in white and mauve forms, it inhabits the coastal areas in the lee of the foredunes to a few kilometers inland.

Yarra Yarra Lakes area, site of the newly described species, B.halophila, was aglow with flowering brachyscomes, but here again there were no mature achenes so be forewarned, Maureen and Judy.

I find identifying plants in the field difficult, and worse at night when sharing space in a VW campervan with a Proteaceae addict. Ahead lies a lot of work.

by **Esma** (with grateful thanks to the driver, who would always stop on hearing the cry "daisy")

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HELIPTERUM ANTHEMOIDES by **Bev. Courtney.**

I was overjoyed with Helipterum anthemoides (wine bud form) this year. Not because it looked so nice — it always does that — but because of the mature seed set.

This species is notorious for low seed set and usually I find only one or two mature achenes per head at most, with many heads having none at all.

This year I took Maureen's advice and planted three seedlings together. What a difference! A ring of mature achenes around the outside of nearly every head! A single plant in another part of the garden has not produced a single fertile seed.

Another point which I think helps — the single plant was put out very early (in February) and was in flower in early winter. The three seedlings were put out much later (in April) and did not begin to flower until the middle of August, when the garden was full of tiny pollinators (wasps, beetles, butterflies). In winter they are just not around.

One tip for collecting seed from this species — don't wait until the centre is really puffed out before looking. By that time the mature seed around the edge will have fallen. Try pulling the centre out of a few heads when the yellow colour of the disc has just faded and is turning brown. If seed is present it will be swollen and black by then and quite mature enough to pick.

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ASTERIDEA NIVEA by **Maureen Schaumann.**

An excellent article on this species was written by Judy in our March '88 Newsletter. At that time I wholeheartedly agreed with everything she said, especially the comment in the last paragraph - "I must admit I can't see a role for this species unless it pulls up its socks".

Asteridea nivea has now had a chance to grow on me since that article was written so I feel I must say a word or two in its favour.

Standing at my back door in a very uninteresting pot, it is now coming into full bloom. The flowers I must admit are not spectacular, but are certainly different from the typical daisy flower. Under a hand lens they are quite beautiful, appearing in the form of small creamy-pink discs, woolly in the centre and encircled by a deep pink ring found to disappear with age. At present the plant is a mass of cream and pink buttons and admired by all who see it.

Another enticing feature is that stark white stems bear the shiny, dark green leaves. These leaves provide a contrast and are sparse enough not to detract from the showy white stems.

Finally, it is one of the easiest to grow from cuttings. Pieces popped beside the parent plant will root within the month, often with roots appearing along the stem.

I believe Asteridea nivea certainly has a place among our other daisies. Being so unusual, therein lies its appeal.

Asteridea nivea doesn't have to "pull up its socks" for me. I like it just as it is.

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TIDYING UP by **Judy Barker**.

Asteridea nivea (NL 20, p.3). Suffice it to say that I dashed home from Maureen's and sowed seed of this species. Her plant is much more attractive than my original two were, but they prospered after I cut them back and fed them. They are now sitting in our Fairhaven garden, surveying Bass Strait and looking none too happy with the change. Perhaps the conditions are too cold or the soil too alkaline. Seed collected from garden grown plants germinates well.

Rutidosis helichrysoides (NL 20, p.4). This plant also benefited from being cut back and fed after flowering, but died after being planted out in the following autumn. Seed collected from this plant did not germinate this year so probably needs cross-pollination.

Olearia tenuifolia (NL 21, p.17). This species also occurs in Victoria.

Germination methods. I no longer stick the achenes upright in my seed medium, but always scatter them over the surface before cautiously (but enthusiastically) spraying them with a fine hand spray. The best advice I ever received on this subject came from a lecture by Dr. Peter Lewis who told us to put ourselves in the place of the seeds. I think I'd be lying flat on the surface, especially if I needed light to get me going. The next move for the margarine containers is that they go outside against a north-facing fence without any sort of covering and are sprayed with a fine spray once a day or twice if the weather is hot. If I am still sowing seed as winter is approaching I sometimes put a piece of clear plastic or glass about 15 cm above the containers. These methods seem to suit the Melbourne climate, but no doubt they need modification for tropical or frost-prone areas.

Further germination results with hemicellulose solution.

SPECIES	DATE SOWN	NO. SEEDLINGS TRANSPLANTED	
		CONTROL	PLUS Hc
H.obtusifolium (Fairhaven)	31.3.88	4	41
" " " "	4.5.88	9	134
H.obtusifolium var. tephrodes	11.3.88	8	
	2.4.88		86

The Hc used for sowing on 4.5.88 was a stronger looking brew, which may have accounted for the higher germination.

Before I knew about Hc, however, I had sown the same amount of H.obtusifolium seed (collected on the same day) on 28.4.87. Only one seedling had germinated by 25.11.87. This pot was relegated to a table by our incinerator which is open to the elements, but never artificially watered. In October '88 it is full of little seedlings which need to be potted on. It seems to me that this hemicellulose solution may speed germination of some species, but that seed will germinate in abundance if exposed to the elements for nine or twelve months. Are there any other theories?

The Ixodia story is not so neat. I will repeat this exercise next autumn and this time I will go back to the original reference (NL 19, p.23).

Helipterum anthemoides (wine bud form)

As soon as I read Bev's article (p.42) I raced out to my plants and collected a large envelope of seed. Unfortunately,I did not collect as much mature seed as Bev. did, but my seedlings are planted in twos and are still small. My seed mainly came from three large plants about 5 metres apart. This year Betty Campbell planted scores of little plants and the effect has been wonderful. Now we will be expecting to see this form self-seeding in our gardens as prolifically as the Queensland form.

Have you noticed the horrible name bestowed by some nursery proprietors on this delightful form? It is called 'Paper Baby'. Oh, horror! The mind recoils in distress from the possibility of 'Paper Preschooler' or 'Paper Teenager' for the Queensland or Whitlands forms. When the Plant Promotion Group of the WA Association of Nurserymen called Brachyscome formosa B.'Tinker Bell' it was hard enough to swallow, but at least the Victorian nurseries did not seem to use it. Perhaps it means that in future we will have to forestall these mindless flights of fancy with some fancies of our own before we let our daisies loose. The problem is that my heart would not be in it. I am happy to use the official name of a species and see absolutely no reason why anyone should tamper with it.

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FINANCIAL STATEMENT (1/7/87 to 30/6/88) — Joy Cook (TREASURER)

INCOME

Cash at Bank (1/7/87)		552.31
Subscriptions	397.00	
Donations	161.00	
Bank interest	41.43	
Surplus petty cash '86	8.70	
Reimbursement of Book establishment costs	341.24	
Seed sales	1116.70	
Sales (labels, wires, pyrethrum)	13.53	
Income to 30/6/88	$2079.60	2079.60
		$2631.91

EXPENDITURE

Cash at Bank (30/6/88) (cheque account)		861.76
Term deposit		1000.00
Travel allowance	24.00	
Presents/cards	22.15	
Trolleys	53.98	
Seed	275.43	
Stationery	45.63	
Photocopying	40	
F.I.D.	3.47	
Books	66.50	
Herbarium boxes	38.88	
Pyrethrum	24.66	
Newsletter	40.00	
Labels	12.50	
Float for seed sales	25.00	
Stamps	137.55	
Expenditure to 30/6/88	770.15	770.15
		$2631.91

The Study Group is indebted to Neal Greig and staff at Camberwell Grammar for their generosity in printing the Newsletter for the cost of the paper. I wish to thank

them as it is more than a considerable saving to the Group.

Once again seed sales have been our main source of income, allowing the Group to sustain a healthy bank balance. It must be remembered that it is only through our very active members participating in speaking and shows that we have been able to sustain such high volumes of sales.

It was decided during the current financial year that speakers would be reimbursed with travelling costs if they were personally out of pocket. I felt this was justifiable whilst the Group is financial. It may not always be in such a healthy financial position.

I would personally like to thank Alf and Esma Salkin, Judy Barker and that trusty band of members who always offer assistance at flower shows. They do an excellent job in promoting the daisies and selling hundreds of packets of seeds. It is their enthusiasm that has made the Study Group financially successful.

Joy.

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NEW MEMBERS

We wish to extend a warm welcome to three new members:-

Mrs. Mary McEvoy, R.M.B. 428, Murdunna via Sorell, Tasmania, 7172.

Mr. A.J. (Joe) Stephens, 103 Princes Highway, Lucknow, Victoria, 3875.

Mrs. Joyce Strong, 2 Ocean View Parade, Canes Beach, NSW., 2281.

STUDY GROUP NEWS

Future activities:-

- A weekend at Mt. Samaria (near Heathcote in Victoria) has been planned for 19th/20th November or a one day trip on 20th for those who can only spare one day. Contact Esma for details (Ph. 03.232.6213)

-Microscope Evening. A practical evening, a co-operative Group activity, has been planned to increase our knowledge of the taxonomy of Brachyscome species etc..It will be held at the Salkins in the near future.

- Open Weekend. Esma has tentative plans for an Open Weekend with Melbourne members in October or November next year. She would particularly like to hear whether interstate or country members would be interested in this project.

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- Travelling Display. SGAP-Canberra asked us to display some material for their Show and for a part of their contribution to a Show at the National Botanic Gardens. Maureen spent many hours producing eight 30 cm cellophane cylinders and twelve 20 cm corsage boxes, each with several specimens of a separate species standing in oasis. The results were beautiful. We have sent them off by carrier, together with two display boards, and hope to Heaven they have travelled well.

- R.H.S. Colour Chart. The Group has taken advantage of the exchange rate to buy a Colour Chart from the Royal Horticultural Society. We will now know exactly what shade of mauve-blue or mauve-pink we are trying to describe.

- December monthly meeting (Christmas Break-up). We will meet at Yarran Dheran Reserve, Mitcham, Melways Map 49 B 6, at 11.00 am.and stay until about 1.30 pm. BYO food and drink. We hope to visit a garden later. Contact Esma for details.

DRYING MORE DAISIES

by Maureen Schaumann.

After our August meeting we were strolling around Judy's garden when we came across a magnificent bush of Helichrysum elatum in full bud. While I admired its beauty Judy handed me the secateurs and generously told me to help myself. This opportunity was too good to miss as in the past (when drying this species) problems were encountered with the upper stems bending and the central disc turning a dirty cream colour instead of remaining a nice clear yellow. Florists never seem to mind this drawback since dyeing the flowers can overcome the problem, but I found this spoilt an otherwise perfect daisy.

Wiring also proved difficult because of the soft stems behind the flower-heads. Now having enough specimens in perfect condition to play around with, I felt more hopeful of preserving this daisy in such a way that all these problems would be solved.

Dividing the specimens into several bunches of five, I tried glycerining some, spraying the top half of the stems with either 'Nuart' Matt Spray or a stronghold hair spray called 'Silhouette', while others were simply hung upside down and given no treatment at all.

After a few weeks I found the glycerine method to be of no benefit, while the pressure pack sprays were not capable of stiffening the stems enough to hold the everlastings upright. Finally, as a last resort, I tried painting the top half of the stems with Dulux 'Timberclear' (clear semi-gloss polyurethane) and this worked like a charm.

I then received a bag full of daisies from the Maroondah Show, courtesy of Beth and John Armstrong, and kindly delivered by Colin and Barbara Jones. Among these was a magnificent bunch of bright yellow Cephalipterum drummondii, all with drooping heads, as well as new species not dried before by me.

Below are the results of those painted with polyurethane and others which have been preserved by simpler methods:-

Helichrysum elatum x ½

Helichrysum elatum

The main and side stems supporting flower-heads were all painted with polyurethane, then hung upside down and left to dry. After two weeks they were stood upright. All the stems have remained stiff and are now supporting the heads in an upright manner. I recommend picking this species in firm bud to prevent discolouration of the disc as it was noticed that when the specimens finally opened, it was only the flowers at the top of each stem that showed any discolouration. All the other flower-heads on the side stems had pale lemon centres, probably due to the buds being much tighter when picked. This colour was a vast improvement on previous specimens dried.

Myriocephalus stuartii

This daisy usually has thick stems which I hoped would remain so after drying, but not so. Stems hanging upside down for three weeks became quite fragile behind the flower-heads, making it impossible to support the everlasting. Painting the top half of the stem thickly with polyurethane has ensured that the head is now well supported.

Cephalipterum drummondii

Finding this beautiful daisy too difficult to wire in the past, I have just simply hung my very few specimens upside down. Stems will shrink when dried and then become too weak to support the full head. After painting with polyurethane and hanging upside down for a couple of weeks, specimens look far superior to those I received with their drooping heads. They have now become my pride and joy.

Helipterum floribundum

This helipterum usually dries quite well just by hanging upside down. This time I sprayed behind the flower-head with 'Nuart' and 'Silhouette' stronghold hair spray. All specimens appear satisfactory.

Helipterum stipitatum

I have never been able to grow this pretty everlasting so these flowers were rather special and I was very grateful to receive them. Flowers were fully opened when they arrived and as they proved very easy to wire I didn't bother hanging any upside down. However, after a week most of the outer bracts had reflexed back against the stem, making it necessary to wire in bud when any further specimens become available. Not unattractive with reflexed bracts, these wired specimens could still be used. This species has great potential as a dried flower.

Helipterum tietkensii

It is always a great thrill to receive a new daisy and this helipterum was one I had never laid eyes on before. Being one of the clustered variety, I tried hanging small bunches upside down and spraying behind the head with 'Nuart'. Heads dried well, but a few side clusters were inclined to droop when turned upright. These were either nipped off or painted with polyurethane.

This helipterum is similar in appearance and colour to H.moschatum, only much nicer. They can be distinguished by the achene; the seed of H.moschatum is surrounded by a dense wool.

... to be continued.

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SEED LIST:

ADDITIONS

Bellida graminea, Brachyscome multifida var. dilatata (Colquhoun's), (Gippsland Lakes)
Calotis cuneifolia, Cassinia sp.(Mt. Buller), Craspedia glauca (Aberfeldy), small form
Helichrysum bicolor, bracteatum 'Diamond Head', (Swift's Creek), (Yarrangobilly), tall form (originally from Mt. Wilson, NSW), scorpioides (Lithgow),(Tas.) (Mt. Wilson), (Ringwood), subulifolium
Helipterum albicans ssp. albicans var. albicans (NSW), (Mt. Samaria), var. incanum (NSW) (Tas.), (Rokewood), ssp. alpinum, anthemoides (Whitlands)
Olearia phlogopappa lavender form, Northern Hemisphere, var. subrepanda, xerophylla, sp. (Mt. Selwyn)
Rutidosis leptorhynchoides

DELETIONS

Calocephalus brownii, Craspedia pleiocephala
Erodiophyllum elderi
Helipterum splendidum, strictum
Ixodia achillaeoides
Olearia axillaris, decurrens, glandulosa, pinifolia ramulosa blue form, (Tas.)

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SEED DONORS

Many thanks to Colin Jones, Shane Huebner, Jeff Irons, Neville Walsh and Barbara Buchanan.

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A **stamped self-addressed envelope** must be enclosed with each request for seed. Please write to Esma Salkin, 38 Pinewood drive, Mt. Waverley, 3149.

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SUBSCRIPTIONS

1988 SUBSCRIPTIONS ARE NOW OVERDUE. A LARGE RED CROSS means you are an unfinancial member and this will be your LAST NEWSLETTER unless payment is received. Cheques * should be made payable to the Australian Daisy Study Group and forwarded to the Leader. Subscriptions are $5.00 per year or $10.00 for overseas members. If you have paid up between mid-October and the receiving of this newsletter please disregard this dread warning.

DONATIONS

Many thanks to Sharon Howard for her donation.

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The next Newsletter is due in March, 1989. The deadline for contributions is early February. Thank you all for your articles and observations, even if some of them have been extracted by force. The greater the number of contributors, the more interesting the Newsletter and the more we all learn. I am very grateful to my artists, Betty Campbell, Gloria Thomlinson, Peter Vaughan and Maureen's friend, Jim.

Merry Christmas and Happy New Year to you all from us all.
Judy. (9 Widford Street, East Hawthorn, Victoria, 3123.)

* Our Treasurer, Joy, has asked that members do not pay their subscriptions with Post Office Money Orders. Bank charges account for the major part of the five dollars.