

Allan Foster, 40 Fairfax Road, Warners Bay, N.S.W. 2282 is a member of N.S.W. S.G.A.P., and we hope he enjoys his membership with us too.

Prissy Martin, Strawflower Farms, 8995 Nehalem Road, Nehalem, Oregon 97131 U.S.A. writes she is a member of the W.A. Wildflower Society and grows some of our annuals, but would like to try growing more varieties. We wish her luck and look forward to hearing how they fare in Oregon.

R.R.O. and M.J. Turner of 52 Lacey Street, Whyalla S.A. 5600 are landscape gardeners in Whyalla and Bob writes that:-

"On the 27th May, 1981, we planted approx. 1 1/4 acres of Helipterum & Helichrysum on a trial basis under natural conditions at Elbow Hill, approx. 120 km. south of Whyalla at our shack. The rainfall was approx. 10"; the soil pH about 8. We rotary hoed the area three times, the soil texture is fine ashy loam. We divided the area (1 1/4 acres) into ten sections and broadcasted the seed by hand, then harrowed with wire netting. The varieties we planted were:-

- Helichrysum cassinianum - good germination, grew reasonably well, flowered naturally.
- " davenportii - none germinated.
- " subulifolium - not good germination but grew reasonably well naturally.
- " bracteatum var. - none germinated.
- albidum.
- Helipterum venustum - none germinated.
- " splendidum - few germinated and grew miniature.
- " chlorocephalum - few germinated and grew reasonably, flowered.
- " manglesii - germinated but died, lack of moisture.
- " humboldtianum - germinated well, grew dwarf, lack of moisture, flowered.
- " roseum - germinated well, grew well and flowered.

We did not use any fertilizer. We used Roundup carefully to spray weeds amongst plants (very carefully). We transplanted approx. 100 Helichrysum cassinianum, not watering them in and found they survived and grew well and flowered, we also gathered seeds of same. We also planted these varieties under irrigation in Whyalla with horse and fowl manure mixed in the soil, these were planted in Sept. and we did not have any success at all with these.

We hope to be planting again some varieties in May or at first opening rains. We are also studying Myriocephalus stuartii, Calandrinia, Ptilotus exaltatus and Clianthus formosus."

Good luck with your plantings in May Bob. Let's hear how you get on.

Whilst on the subject of plantings, and for those members in Victoria who still haven't started to grow annuals as yet, if they read how easy it is, they may be encouraged to start now. My plantings, in a suburban garden and large pots, are on a much smaller scale than the Turners. All species were sown in coarse sand and container stood in water until germinated.

<u>Species</u>	<u>Date Sown</u>	<u>Date Germ.</u>	<u>Comments</u>
<u>Helipterum:</u>			
craspedioides	5. 8.81	.	None germinated.
(yellow)	21.11.81	15. 1.82	1 germinated. Transplanted into 5 cm.pot in Feb. Very slow growing.
chlorocephalum	22. 9.81	2.10.81	Good germination. Transplanted when 1cm high into 5 cm.pots 21.10.81, sand & compost soil, added 1/4 teaspoon blood & bone. Transplanted into larger pots when buds appeared 16.11.81 7 cm.high. Flowered 25.11.81 & some still flowering.
(white)			

<u>Species</u>	<u>Date Sown</u>	<u>Date Germ.</u>	<u>Comments</u>
<u>Helipterum:</u>			
humboldtianum (Clusters of yellow flowers)	22. 9.81	29. 9.81	Good germination. Transplanted when 1 cm. high into 5 cm.pots 21.10.81, sand & compost soil, added blood & bone. Transplanted into garden & larger pots 20.11.81 8 cm.high. Flowered 12.12.81.
manglesii white, pale & deep pink.	7. 6.81	17. 6.81	Good germination. Transplanted when 2 cm. high into 5 cm.pots 5.8.81. Transplanted into garden in Sept.when 7cm. high.& in bud.
roseum (varying shades of pink)	6. 6.81	17. 6.81	Good germination. Transplanted when 2 cm. high into 5 cm.pots 5.8.81, In bud 8 cm.high. Transplanted into garden in Sept.
	4. 9.81	9. 9.81	Good germination but dampened off as I had foam box covered with plastic. 8 rescued and transferred to 5cm pots 14.10.81 1 1/2 cm.high.
	22. 9.81	2.10.81	Did not cover. Good germination. Transplanted when 2 cm.high into 5 cm.pots 14.10.81. Transplanted into garden 12 cm.high 16.11.81. New lot of seed and flowers much larger than above. Some 3 cm. diam.
strictum white	22. 5.81		None germinated.
	6. 6.81	17. 6.81	Covered box with plastic. Poor germination, all died.
	4. 9.81	3.10.81	1 only germinated.
sterilescens (clusters of white flowers)	22. 5.81		None germinated.
	6. 6.81	27. 6.81	2 only germinated. Transplanted when 1 cm. high into 5 cm.pots 5.8.81. Transferred to large pot early Oct. Flowered 9.10.81.
	4. 9.81		None germinated.
splendidum (white)	22. 5.81		None germinated.
	6. 6.81	17. 6.81	2 only germinated. Transferred to large pot Oct. first flower appeared 14.10.81.
	4. 9.81	3.10.81	1 only germinated.
	22. 9.81	4.10.81	New seed. 1 germinated.
venustum (yellow)	7. 6.81	19. 6.81	Good germination. Transplanted when 2 cm. high into 5 cm.pots. In bud 4 cm.high 1.9.81 Grew to 10 cm. high, flowers only 1/2 cm.diam. .
	4. 9.81	3.10.81	Good germination. Transplanted into 5 cm. pots on 23.10.81. Flowered well.

I have more success if my seed is left uncovered and out in the open. I have tried the egg carton method, but seed goes mouldy, and sowing direct into peat moss and sealing in a plastic bag. The latter two methods do not appear to be suitable for Asteraceae seed, but if other members have had success, would you please let me know?

Leila Huebner outlines some of her experiences with seed germination:-

"With perennial Helichrysums and similarly related genera, a post ripening period appears to operate in conjunction with heat, as in bush fires. For instance, fresh seed usually (I'm being careful, because sometimes fresh seed does offer a small percentage of germination) will not germinate within 3-6 months, in fact, even heat treating of fresh seed may show little or no response, but, a percentage of seed usually, in fact, nearly invariably, will germinate the following autumn. The percentage can be stimulated up to 20% or rarely more, by heat treatment of seasoned seed, and allowing this seed to be soaked by the first autumnal showers, before putting back under cover (i.e. plastic tunnel or similar) and keeping just damp. Use of fungustat drenches is not always necessary, unless a known pathogen fungus problem already exists, but I dare say that a fungustat such as "Previcin"

wouldn't hurt, as this type of drench may actually stimulate more vigorous germination. Under natural forest conditions one can usually locate the odd seedling coming up the following autumn from seeding, and spasmodically thereafter further seedlings generally after spring showers, but after a fire, generations of seed flash germinate after the first autumn rains, which sudden density of germination makes one imagine incorrectly that the seed must be very fertile. I have not tested such species with chemicals like Tetrazolin staining for viable embryos, but I am reasonably confident that the normal fertile % of seed would be no more than 20% for most perennial species of genera *Brachyscome*, *Helichrysum* and *Olearia*, coupled with the aging viability is the longevity of the seeds viability. Experience after wildfire in the Glenelg National Park would confirm the probability that up to 20 generations of seed of post dormant type (i.e. hard seed) were lying covered by litter, which seed was stimulated into activity by fire. I doubt if any gases released, other than Ethylene (a seed ripener) during or after a fire, would have any direct result on overcoming inhibiting factors. Ethylene usually is only active in damp situations, and may have effects on ripening seed of post dormant species, such as *Boronia* species, but there are so many other leachant and chemical factors involved, that a great deal more research must be done before any evaluations can be satisfactorily made. I've had *Ixodia* seed for over six years and have had a similar % germinate as that of 12 months old seed, after dry heat treatment. "

Leila also gives a word of warning on dry-heat treatment. She nearly caused a bad fire when treating *Helichrysum leucopsidium* recently. Flames shot out the sides of the oven door and her first reaction opening the door and rescuing the seed, resulted in an even more vigorous conflagration "like looking into the Dragon's mouth". Her explanation is that the pappi were so light, and when ultra dried, floated even in the convectional currents of heating/cooling in the oven, that literally the whole oven was a mass of thistle-down which, when the density was thick enough, spontaneously ignited when it came into contact with the bottom element.

Whilst talking of dry-heat treatment, John Colwill suggested to Judy Barker at the Seminar that we try germinating difficult seed by placing in Microwave Oven for 30 seconds to 1 minute on low setting, but remember, sowing must then be done within 3 weeks. This also assists in 'knocking out' any insects or pests.

SEED BANK: JOY COOK.

Prior to the mail strike in December, 1981, I sent an order for seed to the value of \$30.00 to Nindethana Seed Service. The seed was despatched from their premises on the 8th December, 1981.

Allowing time for the backlog of mail to be cleared, an enquiry was made to Australia Post in mid. January why it had not been delivered. As I had failed to request registration of the seed, it now seems certain that the order has been lost.

A Claim Form for a missing article has now been lodged with Australia Post, and I am waiting to hear from them.

Hereunder is a list of seed at present in our Seed Bank:-

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|----------------------|---|
| <i>Brachyscome</i> | - <i>ciliaris</i> var. <i>brachyglossa</i> , <i>graminea</i> , <i>iberidifolia</i> , <i>latisquamea</i> , <i>leptocarpa</i> , <i>lineariloba</i> , <i>multifida</i> (fine leaf), <i>parvula</i> . |
| <i>Helipterum</i> | - <i>craspedioides</i> , <i>humboldtianum</i> , <i>venustum</i> |
| <i>Helichrysum</i> | - <i>baxteri</i> , <i>bracteatum</i> (small gold, large gold, lime, red & white), <i>cassinianum</i> , <i>obcordatum</i> , <i>scorpioides</i> . |
| <i>Microseris</i> | - <i>scapigera</i> . |
| <i>Celmisia</i> | - <i>asteliifolia</i> |
| <i>Craspedia</i> | - <i>species</i> |
| <i>Olearia</i> | - <i>myrsinoides</i> , <i>pimeleoides</i> , <i>teretifolia</i> , un-named species from Tas. |
| <i>Leptorhynchus</i> | - variety from Qld. (un-named) |
| <i>Podolepis</i> | - <i>robusta</i> |

We wish to thank the following for their donation of seed:-

Judy Barker, Mena Roussac, Joy Greig, Bob Turner, Joy & Maureen.

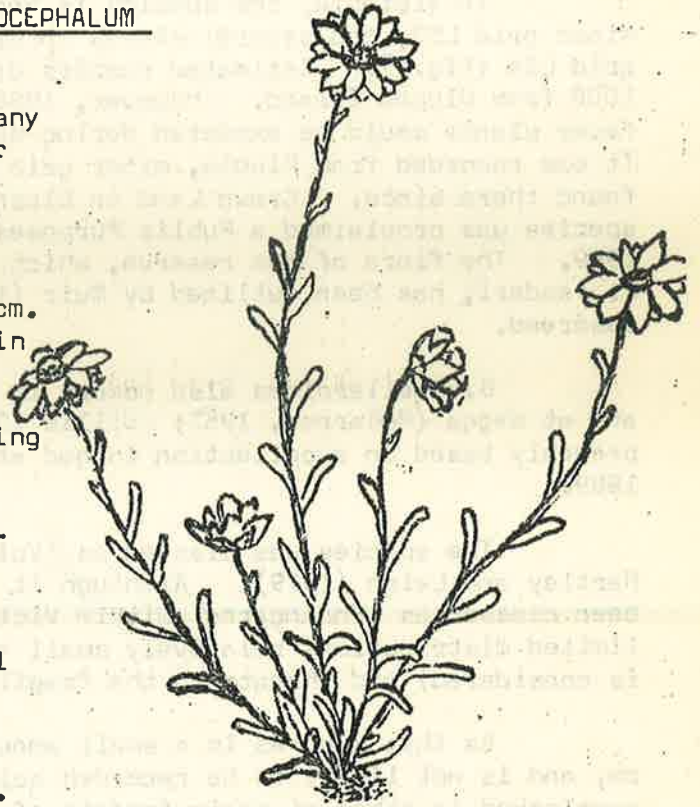
PLANT FOR THE MONTH OF MARCH:

HELIPTERUM CHLOROCEPHALUM

Helipterum chlorocephalum is a small annual herb branching at ground level to produce many slender leafy stems 23 cm. x 13 cm. Linear leaves are 2 cm. long, glaucous, and stem clasping.

Buds, pink tipped, appear at the end of the stems and open to small white daisies 1-1½ cm. in diam, with lemon disc centres. Bracts in many rows, all petaloid, 4-5 m.m. long are pure white, sometimes tinged pink on the underside. The bracts of the involucre being pale brown and hemispherical.

My plants have been confined to large terracotta pots containing a mixture of compost, soil, sand and peat moss and placed in full sun. Seed planted on 22.9.81, germinated 2.10.81, and commenced flowering on 25.11.81 and have continued flowering to end of Feb. Many flowers are produced on one plant - up to 50, sometimes more, and although flowers were numerous, many were very small. These have been picked regularly and wired for display at Flower Shows etc.



As I have been unable to gather any information about this little plant, the above is based solely on my own observations. If any other members are growing Helipterum chlorocephalum, I would welcome information regarding their experiences.

Just a thought - would de-budding help to produce larger flowers?

Maureen

Maureen

DONATIONS:

Our sincere thanks and appreciation to the following for their donations:-

- S.G.A.P. (Victorian Region) - \$50 (covering establishment expenses)
- Judy Barker - \$6 as well as slides & photos.
- Bob Mylius - \$5

All correspondence should be addressed to:- Mrs. Maureen Schaumann
88 Albany Drive,
MULGRAVE. 3170

Requests for seed enclosing stamped self-addressed envelope to:- Mrs. Joy Cook,
2 Lotus Crescent,
MULGRAVE. 3170

The following is a copy of an article written by Mr. J. Stuwe, LaTrobe University, in Victorian Naturalist Vol.98, on Rare and Endangered Victorian Plants:-

BRACHYSCOME MUELLEROIDES

Range and abundance

In Victoria, the species is known only from one stand in Barmah Forest, minor grid L53, and several stands on Ulupna Island, north of Strathmerton, minor grid L54 (Fig.1). Estimated numbers of plants were 500-1000 at Barmah and over 1000 from Ulupna Island. However, 1980 was a good season for this species and fewer plants could be expected during more usual years (W.Stebbing, pers.comm.) It was recorded from Picola, minor grid M7, in 1930 by J.H. Willis but has not been found there since. Crown Land on Ulupna Island, including the area carrying this species was proclaimed a Public Purposes (Preservation of Flora and Fauna) Reserve in 1969. The flora of the reserve, which includes another rare Brachyscome species, *B. readeri*, has been outlined by Muir (1972). The Barmah Forest population is not reserved.

B. muelleroides also occurs in New South Wales in the Walbundrie district and at Wagga (McBaron, 1952; Willis 1972). The Wagga record, however, is probably based on a collection lodged at The National Herbarium, Melbourne, dated 1889.

The species was classed as "Vulnerable 3V" on an Australia-wide basis by Hartley and Leigh (1979). Although it occurs within a biological reserve, it has been classed as "Endangered" within Victoria in the present work because of its limited distribution, relatively small numbers of plants (especially when life-span is considered) and threats to the fragile environment it occupies (see below).

As this species is a small annual, less than 15 cm high and often only 5-7.5 cm, and is not likely to be recorded outside its flowering period, it may have been overlooked in other riverain forests of northern Victoria such as Gunbower Forest as well as in other areas of Barmah Forest. We would like to know of any records of this species other than from Ulupna Island Reserve.

Habitat

In Victoria, the species is restricted to shallow depressions with heavy, cracking topsoil, where herbaceous plant cover and plant litter (including eucalypt leaf litter) are sparse. Surrounding areas are dominated by *E. camaldulensis* or *E. microcarpa* although eucalypts are sparse to absent within this species' habitat. The depressions would be seasonally inundated and the area forms part of the Murray River floodplain.

Threats and recommended conservation measures

Cattle grazing, the use of recreational vehicles and (potentially) timber extraction, combined with associated soil disturbances and the ingress of weeds are the major threats to this species. The regulation of water flow in the Murray River, especially the decrease in flood frequency (Dexter, 1967) may have affected this species' range, although relevant data are lacking. Possible further controls resulting from the completion of the Dartmouth Dam may threaten this species in the future. Low-lying, seasonally inundated areas are usually extremely sensitive to disturbances caused by domestic stock or vehicles during the wetter months. Although many such habitats at Barmah and Ulupna Island have been disturbed and invaded by weeds, a number have largely escaped damage. This is somewhat surprising when the long history of grazing is considered but may be explained by the seasonal nature of such activities. At Barmah, and possibly in the past at Ulupna Is., domestic stock are removed during the wetter months of the year (E. Chesterfield, pers.comm.) Similarly, recreational activities at both areas are largely restricted to the summer season when the heavy topsoil of this species' habitat is hard and not as readily susceptible to disturbance.

BRACHYSCOME MUELLEROIDES

Domestic stock, vehicles and timber extraction should be excluded from areas carrying this species. The Barmah population, including an adequate buffer, should be formally reserved. As riverain forests of northern Victoria are not adequately reserved, a large reserve at Barmah encompassing various plant communities, including this population and other *B. muelleroides* habitat, is desirable.

The reservation of the section of Ulupna Island carrying this species has lessened but not totally removed the current threats. Sporadic, illegal cattle grazing still occurs, areas of past disturbance carry well-established populations of serious weeds, adjoining farmland represents a source of invasion of introduced species and the area is popular with campers and day trippers, especially during summer. Regular monitoring is necessary here to attempt to quickly detect and/or control processes which threaten these populations. It is hoped that the infestations of weeds will be largely checked once processes causing soil disturbances are removed. Blanket spraying or forms of weed control involving soil disturbances may adversely effect *B. muelleroides* and other native species and should be avoided if possible.

The establishment of Ulupna Island Reserve offers an example of how interest and a good deal of effort by local residents has been invaluable in the protection of rare plant species and a range of habitats which are otherwise unreserved in that part of the state. Another benefit of such interest is in ready monitoring and a general understanding of local problems.

Recommendations sent to: Forests Commission, Victoria; Dept. of Crown Lands and Survey; Ulupna Island Reserve Committee of Management.

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Contact has been made with Mr. W. Stebbing, Sec. Ulupna Island Reserve Com. of Management, expressing our interest in these two rare and endangered species and asking his assistance in the establishment of a seed bank.

Mr. Stebbing's reply was most encouraging, he promised to bring my letter before the 1982 Com. of Management and advise results at a later date. In the meantime, he drove out to Ulupna Island, desparing of finding any seed and found a patch of *B. readeri* still holding some; and kindly forwarded this on to me. My letter arrived too late for collection of seed of *B. muelleroides*.

Mr. Stebbing has suggested that we may care to view these plants in the field, and we hope to do this later this year when they are in flower. A further report will be made after our visit.

Maureen.

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The following is a list of Rare and Endangered Species of *Brachyscome* and *Helipterum*:-

<i>B. eriogona</i>	S.A., Qld.	<i>B. petrophila</i>	Vic.
<i>B. eyrensis</i>	W.A.	<i>B. radicata</i>	Tas.
<i>B. gracilis</i>	N.S.W., Vic.	<i>B. readeri</i>	Vic.
<i>B. muelleri</i>	S.A.	<i>B. riparia</i>	Vic.
<i>B. muelleroides</i>	N.S.W., Vic.	<i>B. stolenifera</i>	N.S.W.
<i>B. papillosa</i>	N.S.W.	<i>B. tatei</i>	W.A., S.A.
<i>H. gracile</i>	W.A.	<i>H. pyrethrum</i>	W.A.
<i>H. zacchaëus</i>	W.A.		

The above list has been copied from a book written by John Leigh, John Briggs and William Hartley, C.S.I.R.O. and published by the Australian National Parks and Wildlife Service. The latter providing us with a free copy, for which we thank them.