

## EREMOPHILA STUDY GROUP NEWSLETTER NO. 24 AUGUST 1982

Welcome to Newsletter no. 24 which consists mainly of news from our members. Two letters relate to the big freeze which has hit many parts of Australia. From other members I have had reports detailing losses, and often it is the rare or choice plant which has succumbed. Here in Adelaide no major damage has occurred in my garden as it is fairly crowded and most plants are sheltered by trees. I noticed frost only on open ground such as the lawn area away from the trees and shrubs. True, the temperature in Adelaide was not as low as in the country areas, but closer plantings, particularly in the nursery area, may help offset some of the problem. Those of us who have carried through O.K. should propagate species and supply cuttings to those not so fortunate. If you have any special requests, I will endeavour to arrange something.

G.N.

### EREMOPHILA PENTAPTERA

Geoff Needham

The original material was collected nine years ago by Noel Lothian in the northern part of South Australia. Ken Warnes was successful in striking a plant and, whilst being able to strike second and third generation plants, the numbers never increased as the parent plants died. However, early last year Ken was able to give me several cuttings of which two struck. Yes, you have guessed it—Ken's plant died. Ray Isaacson took one plant and successfully propagated 9 cuttings; that is until the frosts arrived, but there may be one survivor. Bob Chinnock took a cutting and successfully grafted it onto *M. insulare* and has since duplicated the experiment. Both are alive and well. Mine has continued to grow with some loss of leaves but some new shoots are appearing. Three cuttings have been taken, and I await the results. So you can deduce from the above that this species is proving difficult to get into general cultivation.

*Eremophila pentaptera* is a small plant with an unusual succulent leaf and a reasonably large bluish-purple flower, making it an attractive pot specimen.

### WILL THE TRUE EREMOPHILA MARGARETHAE PLEASE STAND UP!

Bob Chinnock

It is time that I clarified the position of the very striking species in cultivation which currently goes under the name of *Eremophila margarethae*.

Unfortunately, the species is not *E. margarethae*, but an endangered and undescribed species known only from a short stretch of road near Three Springs which is south-east of Mingenew on the Midlands Highway in Western Australia. I have tentatively named it *E. "nivea"*.

The true *E. margarethae* occurs further east and north, well beyond the wheat belt and is common from Meekatharra, and south-east to Laverton. It is a much smaller plant with thick flattened yellowish-grey leaves in which the hairs are densely matted and mixed with exuded resin to give the impression of glabrous leaves. The sepals are much longer, linear, and densely clothed in long branched hairs.

### GRAFTING

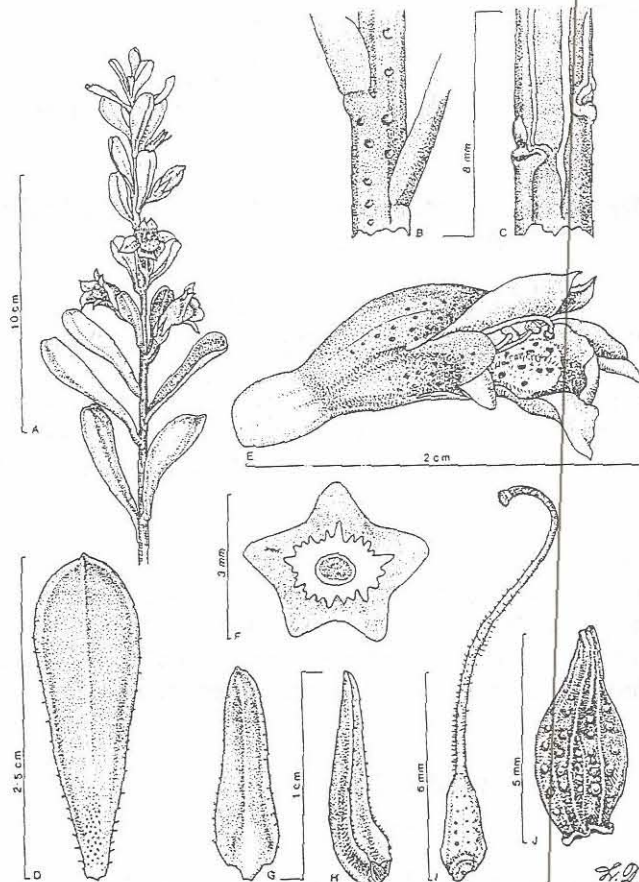
Neil Marriott

In an effort to increase my chances of striking some of the species new to me, and which I collected recently in north-west New South Wales and south-west Queensland, I tried a propagating method outlined in the *Grevillea Study Group Newsletter*. This method involves the use of a handy, easy-to-strike *Eremophila* sp. as a stock cutting,

and this is trimmed up in the normal way. A very sharp scalpel is then used to cut a diagonal slice down the stem of the stock cutting. The desired, hard-to-strike species is then also prepared as a normal cutting, but with its base very carefully cut to form a gradually tapering wedge, the same length as the cut in the stem of the stock cutting. The wedge is inserted into the cut in the stock so that the cambium layers line up as evenly as possible. The joint is then bound up tightly with tape—I found that plumber's teflon tape cut into small lengths approximately 5 x 1 cm was the best. The whole grafted cutting is then inserted into the cutting mix with the joint also below the surface.

The grafted cutting is then treated just like a normal cutting. After a bit of practice I found that they were quite easy to do. I used *E. denticulata* and *E. maculata* as stock cuttings (half of each for each species tried), and used freshly collected field material as scions: *E. latrobei* (3 forms), *E. sp.* (Gray Range, Qld.), *E. dalyana*, etc.

After 6 weeks the results are not definite, but the grafted cuttings are certainly looking far healthier than normal cuttings of the same species, and which were put in at the same time as a control test. Advantages of this method of grafting over conventional methods are of course that you are not limited by the number of stock plants you have. You can do as many as you wish. Also, they take up far less space and require less regular observation and maintenance. They can be done at any time of the year; not just when your stock plants are in the right condition (obviously results would be better in the warmer months, however). Finally, when they do strike, you have your desirable, hard to grow species on a hardy and vigorous root-stock. By the way, although you put the joint of the grafted cutting below the surface of the cutting mix, when struck, you must pot it with the joint above the soil to prevent rotting of the union. Occasionally roots will appear from the joint as well. These should be gently rubbed off when potting up.



*Eremophila pentaptera*

A, habit; B-C, portions of young and old branch; D, leaf; E, side view of corolla; F, cross-section of pedicel below sepals to show the five ribs (wings); G-H, inside and side view of sepal; I, gynoecium; J, immature fruit.



## FROST EFFECTS ON EREMOPHILA

Neil Marriott

Our block at Stawell is in a supposedly frost-free pocket; in fact for four years we have been laughing, as the rest of the district was covered in frost and we missed out. However, this year the frosts have been so bad that even we have been heavily hit. The following notes are the result of frosts, the worst of which was down to  $-4^{\circ}\text{C}$ , though most were around  $-1^{\circ}\text{C}$  or  $-2^{\circ}\text{C}$ .

E. christophorii: All flowers and buds killed, with several branches on each plant black and dead.

E. freelingii: Plants very rapidly killed.

E. hillii: All flowers and buds on upper side of bushes were killed.

E. "barbata": All upper branches killed.

E. neglecta: New growth and upper leaves dehydrated and damaged.

E. macdonnellii (Simpson Desert form): Most of the upper part of bush severely dehydrated and damaged, and may not survive.

E. oppositifolia (form from north-west Victoria): New growth burnt.

All the other Eremophila spp. were unaffected except for a number of small plants in pots of E. christophori, E. glabra (prostrate, green), E. decipiens, E. macdonnellii, E. calorhabdos, and E. racemosa, all of which were rapidly killed.

## NOTES ON FROST TOLERANCE OF EREMOPHILA

Bert Curtis

During the 2nd week of June the Murray Valley, along with other districts, experienced six severe frosts, probably the most severe in memory. Swan Hill registered  $-8^{\circ}\text{C}$  and a neighbour of mine on an orange grove registered  $-11^{\circ}\text{C}$ . There was widespread damage to horticulture and gardens with native plants also showing varying effects.

Some species of Eremophila have been known to be susceptible to damage from frost. This season has indicated the limitations of certain species in colder districts. The following are my observations for this locality (Piangil):

E. freelingii: Often affected by normal light frosts, but was affected a little more this season; the outer leaves only and then only on one plant. The other plant alongside it showed little effect.

E. latrobei: Two plants of the Paroo form (grey leaves) were badly burnt, but the form from Central Australia (green leaves) showed little effect.

E. bowmanii: Two plants were badly affected, but one plant in a different location was not affected.

D. dalyana: The two specimens up to 1.8 m high were severely scorched, but there are some sprigs that are still healthy.

E. macgillivrayi: My only specimen 1.8 m high was severely scorched, but like the previous species there are still some unaffected sprigs. The shoots at the base of the shrub are unaffected.

E. oldfieldii: My only specimen (1 year old) was killed.

E. rostrata: My only specimen 0.75 m high initially showed burnt tips, but, after 3 weeks, older foliage has died. This appears to have been caused by the bark freezing as it is now dead. The same thing has shown up with some melaleucas.

E. youngii: The two large specimens have shown no effects, but one about 0.75 m high in a different location has slowly died.

E. polyclada: An old plant was unaffected, but a younger one in a different location has some stems that are going black.

E. christophorii: The only specimen seemed unaffected but there are now a few stems going black although it is expected to survive.

**Conclusions:** It appears that some plants of the same species are more resistant to frost than others. It would therefore be advisable to propagate from them.

The location could affect the degree of frost. Some of my younger plants were situated down the slope of a hollow. This is known to be a hazard in the vineyards. Perhaps vulnerable species should be kept in a more elevated situation, or perhaps planted under the north side of an appropriate tree.

## FROST DAMAGE

Barbara Bayley

We have lived at Balaklava for a little over six years and have a reasonably sized house block. I suppose it would be about five years since we first starting planting eremophilas in the garden and, up to now, we have had no problem with frost.

It was most disappointing to find that the recent frosts have severely damaged the following:

Eremophila purpurascens: About two years old, it is really browned off and is now losing all of its leaves. Even the young branches are dried out and after getting it to a healthy plant of around 50 cm high, I think we will lose it.

E. laanii: The white and pink forms are both very badly burned, almost to the ground. They are still showing green shoots lower down in the plant where it was more protected, but now, if we get more frosts, it is likely to burn even this growth. These plants had grown rather quickly and would have been up to 60 cm or so high.

E. mackinlayi: Approximately four years old, this plant is very hard hit. The stems and leaves of most of the plant are now brown and dried up. There are one or two shoots that are still not too bad down in the middle, but I do not like its chances as this one does not appear to send out fresh shoots on old wood. It was a straggly old bush almost 40 cm high by 1 m across and always flowered well. We had taken some cuttings earlier but have had no luck as yet.

E. alternifolia: A nicely shaped bush about four years old and around 1 x 1 m, is losing leaves all over but seems to be worst hit on the south side of the plant.

The following list of plants had only been planted during the last twelve months, some only at the end of March, so they were all still rather small, between 15 cm and 35 cm high:

E. tetraptera, E. drummondii (a fine needle leaf form), E. chamaephila, E. strongylophylla, and Eremophila 627, are all leafless, brown, and apparently dead.



E. maculata var. brevifolia: Has been burned on the tips only.

E. glabra (E. "tomentosa"): Appears to have all the young flower buds blackened but the foliage is not affected.

E. brevifolia: Seems to droop on the tips after each frost but is still green and showing no real damage.

Perhaps if these had been longer established, they may not have suffered so badly. There are a number of young plants still in the shadehouse that did not get planted out and it may be just as well.

The following young eremophilas were planted out in the last twelve months and stood up to all the frost:

E. "subteretifolia", E. densifolia, E. exotrachys, E. biserrata, E. viscida, E. christophorii, E. hillii, E. glabra (grey leaves, yellowish-green flowers, prostrate), E. glabra (prostrate form from Murray Bridge area), E. glabra (large green leaves, reddish-orange flowers).

None of the larger established plants appear to have any frost damage. These are: E. dichroantha, E. ionantha, E. subfloccosa, E. maculata (various forms), E. polyclada, E. "nivea", E. drummondii (fine leaf), E. gibbifolia, E. glabra (several forms), E. crassifolia, and E. racemosa.

Not having previously experienced frosts so severely in this area, we never thought that we might lose plants of Eremophila and it was not until it was too late that I noticed in Newsletter no. 21 that Dave Gordon referred to heavy losses due to frost.

During the worst of the frosts a friend rang to see if I had a spare E. microtheca as she said hers was all frosted. I had three in small bags outside and when I went to look at them they were still in shade and had ice on them and the bags were frozen solid. I took them inside and placed them in the kitchen window and feared the worst, but to my surprise, I never lost them.

We have a small nursery here, one of those that started out as a hobby, but somehow seemed to get out of hand. Growing native plants from seed seems to be fairly easy, but those which must be grown from cuttings can cause much frustration. We only have two small cold frames and find that if we pack them with plants they end up going black, but, if we only pack them half to one third full, the results are better.

(For a follow-up of this article see Newsletter no. 26)

## NOTES ON EREMOPHILAS

Rosemary Pedler

At the annual sale of plants by the Northern Area Group of S.G.A.P. at Booleroo in April of this year, we had as usual on display many flowering specimens available from members' gardens. Among these were two nice slips of Eremophila macdonnellii, a grey-leaved and a green-leaved form, both of which I had had growing previously, but as is the way with E. macdonnellii, have since lost. These flowering slips hung all day on a string above the plants for sale, and when packing up at the end of the day I collected them, and took them home. They were placed in a tumbler of water overnight and cut up and put into my potting box next day, April 5th. The result has been a 100% strike with six grey-leaved and seven green-leaved rooted cuttings potted up by July 1st.

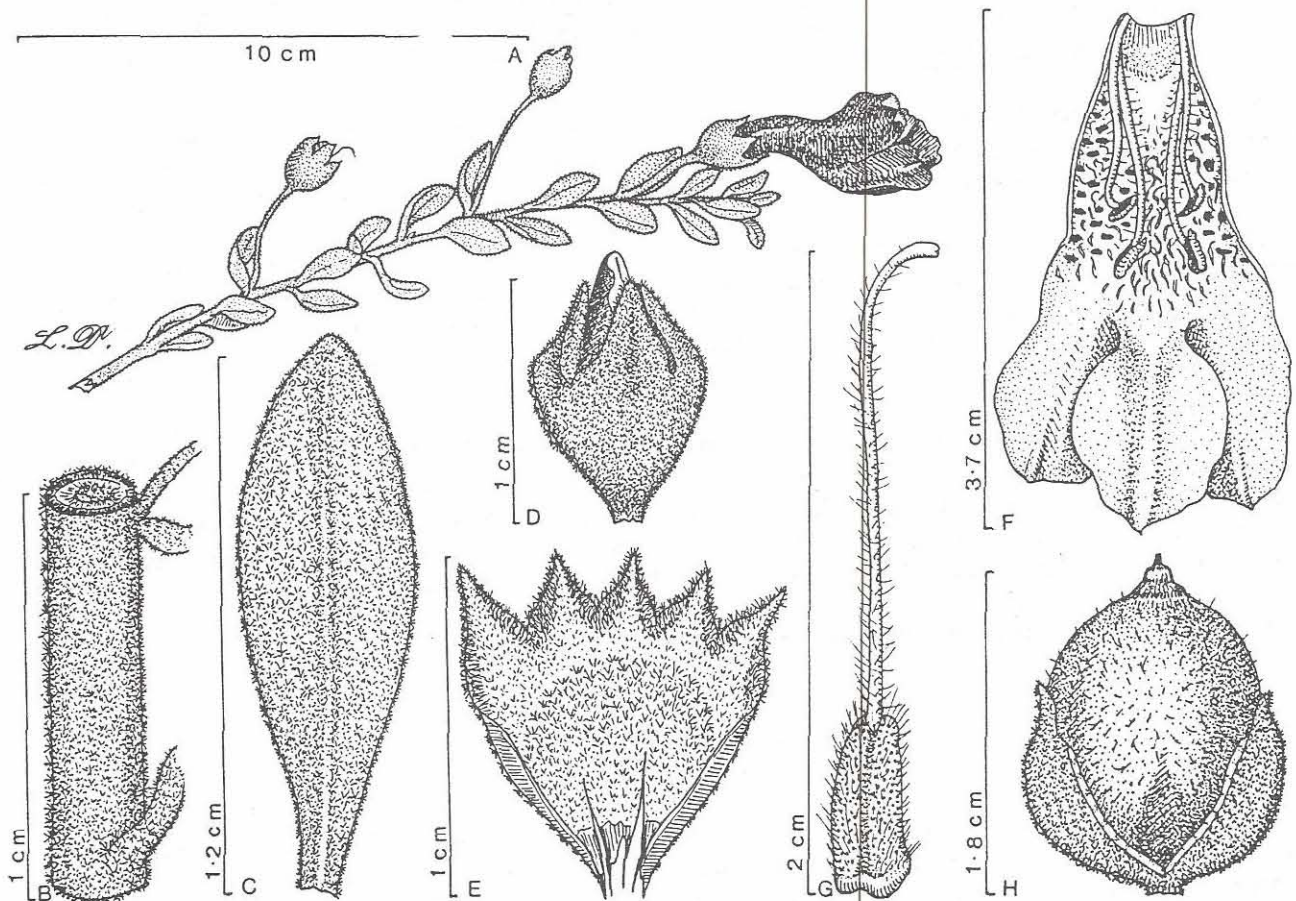
My methods are pretty run of the mill, but anyway I will relate them. My potting mix consists of about 40% sharp sand, 20% peat moss, and 40% vermiculite. I do not use



any hormone powders. My potting box is made of loose cement bricks built into a box shape about 1.8 x 0.9 m with 5 cm of loose gravel inside for drainage, and topped with a sheet of corrugated green plastic. It is situated half-way under a lemon tree and faces east, so gets morning sun only.

While on the subject of *E. macdonnellii*, my original plant of the narrow green-leaved variety is now about 8 years old and measures 1.4 m high by 5.25 x 4 m wide. It is growing in an area of deep river sand, pH. 8.5–9, and with natural rainfall of approximately 380 mm. It has successfully survived a drought, a couple of floods, and an active rabbit warren under its canopy. So it seems that treating them rough succeeds better than giving them the good life, as I have invariably lost plants of the latter type which have received garden care.

Also growing in this general area of river bank (Broughton River) is an original specimen of *Eremophila longifolia*, which must be about the grand-daddy of them all. Measured girth at approximately 0.25 m above the ground is 1.2 m. The very gnarled trunk leans skyward for about 3.5 m and then bows down in a tangled manner to 0.5 m above the ground. Its foliage is a little thin but it still flowers gamely. There are taller specimens of *E. longifolia* nearby but without the aged character which this one exudes.



*Eremophila macdonnellii* (ex Simpson Desert)

A, habit; B, enlargement of branch; C, leaf; D, bud; E, opened calyx tube; F, lower lip of corolla; G, gynoecium; H, fruit.