EREMOPHILA STUDY GROUP NEWSLETTER NO. 2 FEBRUARY 1973

PROPAGATION

With cooler weather approaching it is time to prepare for setting cuttings again, so a few words about propagation may be opportune. I am no authority on this subject and the more experienced of you no doubt have your own methods, but here is my method which over the years has built a collection of more than 50 species.

Hygiene and general care are the first two essentials and if neglected even the easiest species will fail. I use 10 cm plastic pots or cream containers (6 x 10 cm). Larger pots cause trouble at potting on when the weight of cutting medium is difficult to handle and often breaks roots. You may prefer clay pots, but I find plastic cleaner and not so likely to dry out.

A base mixture of 3 parts coarse river sand to 1 part vermiculite, or 2 parts sand to 1 part vermiculite for woolly types, has proved satisfactory. (Others report good results with a 1:1 peatmoss and coke-breeze mix, or clean crushed 3 mm gravel, or perlite.) Pots must be well crocked with larger gravel.

In summer, pots are placed individually in plastic bags, inflated by blowing into them, and sealed. A wire frame helps support the bags, which are placed on the south side of a citrus tree giving 80% shade but full light. The bags are opened for inspection weekly and watered as required.

A cold frame saves much work, but mine is in the open and is only satisfactory in winter. The frame is made of two layers of bricks, topped by wooden walls tapering from 15 to 23 cm, with a glass top. It is far too hot in summer and I must build a shade over it. However, for woolly types it is better than plastic bags which become too humid. In my frame the pots are kept off the floor with a layer of bricks but many members prefer to half bury the pots in a layer of gravel or coke-breeze. This keeps conditions more constant but makes hygiene more difficult. One or two jars of water help maintain humidity.

Encouraging reports of improved results using SERADIX B hormone powder are coming in, although in my experience cuttings treated with powder are the first to die. Further experimenting is obviously required. I am certain in my own mind that dipping cuttings in a solution of FORMULA 20 is a great help in the settling-in period.

Regular spraying with a fungicide such as BENLATE is recommended.

Tip cuttings 75–100 cm or semi-hardened side shoots make the best cuttings, a heel making little difference (I prefer them without heels). An exception is E. sturtii which has only been struck from hard wood, and perhaps this type of cutting will prove successful with other very viscid species which have been difficult in the past. You must use older wood also with some very woolly species.

One member reports rather exciting results from experiments with bottom heat, automatic mist, and blowers to control temperature. It sounds complicated, but he has achieved strong root systems in two weeks from tip cuttings taken in the middle of summer from cultivated plants.

DESPATCH OF CUTTINGS

Fresh healthy growth should be selected whenever possible. Very sappy tips and old wood generally give poor results. Cuttings should be labelled and placed in a plastic bag

with a **few drops of water.** The bag is slightly inflated, sealed, then wrapped in 3 or 4 layers of damp newspaper, placed in another plastic bag and packed in a light cardboard box (a shoe box is ideal). This method keeps weight to a minimum but prevents crushing.

The alternative is to wrap direct in damp newspaper, then in plastic, but I have found it difficult to judge how wet the newspaper is, and both rotting and drying out have occurred.

SELECTION OF SPECIES

Now comes the hard part, especially to those of you new to the genus: the selection of which species you wish to try. I think a future Newsletter should be confined to a description of the species but you will find many described in "Australian Plants", especially Vol. 1, no. 10, and Vol. 6, no. 51.

For the beginners I suggest the following species: E. calorhabdos (tall, pink); E. decipiens (bright red); E. dempsteri (spreading, waxy violet-blue); E. densifolia (dense spreading, small purple flowers); E. denticulata (very easy, vigorous; red); E. drummondii (fresh green bush, waxy purple); E. glabra (varies in flower and foliage); E. laanii (pure white or pink); E. macdonnellii (purple); E. maculata (vigorous, orange, red, yellow); E. polyclada (white); and two W.A. prostrate species which are good ground cover. These are all fairly easy to strike and are proving adaptable to garden conditions.

TRIP TO WESTERN AUSTRALIA

Recently I was in W.A. for two weeks. Although this had no direct connection with native plants and was at an unsuitable time of the year I was able to collect cutting material of several species around Norseman. Pots of E. pachyphylla, E. interstans, E. latrobei (W.A. form), E. parvifolia, and some unknowns, are now set in home nurseries here and in Adelaide, and already some have struck. It was a thrill to see several old friends growing in their natural state.

Efforts to make new collecting contacts were frustrating as the genus appears to be virtually ignored, in Perth at least, but I have written to one or two people whose names I obtained, and from whom I am awaiting a reply.

SEED GERMINATION AND OTHER REPORTS

There have been no reports on birds, and only one on common names, but we have some news of limited success with seed germination, so perhaps I will concentrate on this first.

All those who wrote in, agree that germination is erratic and unreliable, with the quality of the seed being the most important factor.

Dave Gordon has been the most successful, sowing large quantities of seed in pots containing ironstone, laterite soil, and patiently waiting for up to four years in some cases. His record of 16 specimens from seed speaks for itself. Bert Curtis uses a good loamy soil in full sun and keeps it constantly damp. He sows seed from March onward, in order to simulate a natural break to the season. Water free of salt is important in his opinion and this point is endorsed by other members who recommend rainwater only. Bert reports germination in from 2 to 4 weeks.

Murray Catford has had some interesting experiences. In one batch of E. glabra seed he had two distinct forms appear. From my own observations of variation in this species this is not surprising. Half of a large batch of E. scoparia was sown in 1964 with no success. The remainder was stored in a plastic bag in a dark cupboard for four years, then rediscovered and sown in 1968. Good germination occurred within 10 days. Murray asks 'Did the long, dark, dry storage have an effect?' Bruce Speirs has gone to the extreme of opening fruits and extracting the actual seed, a slow tedious process, but he has germinated seed on blotting paper. Hygiene is essential with such delicate methods. I tried the same method, using wet cotton wool as a seed bed. The white embryos started to swell and turn green but then went black, presumably from a fungal attack.

This leads to my own experience which has been varied and almost invariably a failure. Over the years I have tried many methods, and the only plants have come from sowing whole fruit. An open well-drained soil is required, but it must not be allowed to dry out or become too wet.

From hundreds of seed I have germinated only about 20 and lost most of them. Seed coat dormancy does not seem to be a factor, as noted in Dr. Beard's article "Australian Plants" Vol. 4, no. 34, and I support this. Fruit of E. macdonnellii was placed on wet cotton wool in full light and within days the valves had opened wide but no germination took place. On other occasions I have split fruit with secateurs and sown the opened fruit with seeds exposed to soil and moisture. The fruit was recovered twelve months later with a healthy plump embryo still just sitting there, so obviously a triggering effect is required.

What is this trigger? Who knows, but it appears that an acidifying factor may be involved. Remember Dave Gordon's ironstone and the salt-free (non-alkaline?) water of Bert Curtis and now, my iron chelate. I sowed a batch of 6 species and watered them in with a solution of sequestrene iron chelate. Germination of 12, 2, and 1 plants of three species occurred within a week. Three weeks later I applied more solution and 2 and 1 plants of the first two species came up. Three months later, with more solution, one more seedling resulted. This was two years ago and two applications since have had no effect. But the coincidence seems very marked and may be worth following up. The easiest germination I know of was achieved by a friend who threw one fruit of E. macdonnellii on a wet bag and it grew!!

There have been no reports on birds, except my own observations. Noisy Miners, Singing Honeyeaters (with White-plumed Honeyeaters probably joining in) have been observed feeding on nectar from the flowers of E. denticulata, E. oppositifolia, and two prostrate species with insignificant green flowers. The latter are only 10 m from the house and the Noisy Miners are there every day. Broken branches on other species, especially E. glabra and E. calorhabdos, indicate visitors as yet unknown.

OTHER NEWS

Mr. Peter Dadswell, Superintendent of Parks and Gardens with the Whyalla Council has enquired about the availability of plants to try in the City's garden. This is an encouraging sign and they should be ideally suited to the area and Mrs. Noble, leader of the Eastern Eyre Group of SGAP was able to supply several young plants.

Our fame is spreading, with other enquiries from Moscow Botanic Garden, and from Trondheim, Norway.