

## EREMOPHILA STUDY GROUP NEWSLETTER NO. 4 MAY 1974

The work of the group has continued, seven new members have been enrolled, and a lot of cuttings have been despatched. It seems ironic that we have enrolled three Queensland members at a time of record floods. Any Eremophila which survive the floods will certainly prove their adaptability.

Unfortunately we still lack members in W.A., but despite this the number of species from there is steadily increasing and the promise by Christmas of Part IV of Grieve and Blackall "How to Know Western Australian Wildflowers" will enable classification of some of the unknown species. Almost certainly we have some undescribed species, but at least this key will expand our knowledge.

From a short preview of the key I was able to sort out some problems. As I had suspected for some time, the plant we have been calling E. eriobotrya is in fact E. eriocalyx. I had been unable to find out anything about the former name despite repeated efforts.

Now the bad news. The E. dempsteri, which so many of us are growing and which is widespread in the nursery trade, is mis-named and is a form of E. drummondii. The true E. dempsteri is more like a gross form of E. dichroantha and quite unlike the plant we formerly called by this name. We have the true E. dempsteri from two separate collections from W.A. It was being sold at the Eremophila Symposium as E. aff. interstans, so if you obtained one please note the correct name. I now know the true E. interstans type, in fact cuttings are set, but are not likely to root. It has longer leaves than E. dempsteri and cream flowers.

Rodger Elliot has been successful in introducing E. caerulea, E. dempsteri, 2 pink forms of E. granitica, E. parvifolia, and a species in the E. clarkei group (all from his expedition to W.A.) as well as E. rotundifolia and E. calycina from cuttings I collected at Coober Pedy. These two superb S.A. species are not yet in cultivation.

John Blakeman, a member from Alice Springs, sent cuttings of E. elderi, E. willsii, and E. christophorii, to Geoff Nedham who was successful in striking each species. Unfortunately all were later lost with the exception of one E. willsii which is still lingering on in my plantation. Such disappointments are all too familiar in the search for new species. However Geoff has successfully raised E. calycina, E. clarkei, E. georgei, E. gibsonii, E. latrobei (Alice Springs, grey leaf), E. paisleyi, E. aff. viscida and E. willsii (small-leaved form) and has also made available plants of established species to new members. That is an impressive list of new species for one year.

Len Richardson continues good work at Loxton, and one of his major contributions this year is the grey-leaved coloured sepal form of E. latrobei. This form, widespread in the Centre and in the Eastern States, is rare in cultivation. In fact E. latrobei in all its multitude of forms is not proving easy to propagate—a pity, as it can be a glorious shrub. With the aid of Bert Curtis, Geoff Needham, and Len Richardson, I now have eight forms and if these grow the supply of good cutting material should enable increased numbers to be grown.

One of my forms of E. latrobei at Owen has a chequered history. Grown from seed, it was eaten off by a mouse after potting on when 6 cm high. I set the wilted top and it rooted. Now it is a sturdy 20 cm and planted out.

A promising form of E. latrobei is the one Bert Curtis collected on the Bulloo River in south-western Qld. Although having a rather spindly habit, this green-leaved whitish-stemmed form, has flowers of a glowing scarlet. Another form collected by Bert, this time from Bourke, is growing well for Geoff Needham. It has grey leaves and very large deep pink flowers.

It is clear that we are making progress with E. latrobei which is always a delight in flower and has more forms than E. maculata although it still cannot match E. glabra for variety.

We still gather more forms of E. glabra, E. glabra var. viridiflora, and of E. decipiens, and E. subfloccosa. Dr. Barlow is overseas at present, so no revision is in sight, but we continue to build up a range in cultivation, which should ultimately assist in clarifying the E. glabra complex.

While the senior members of the Group have been concentrating on new species, the work of general distribution continues. Some members have achieved spectacular results. Russell Wait, who visited me a year ago, now has 40 species growing after only a 15 months membership, while Joy Noble has 26 after only 18 months. At the Canberra Botanic Gardens they have struck 22 of the 36 sent to them, and Heather Meek struck 16. I cannot help but feel a little envious of the ease with which members are developing their collections when I recall the struggles of those who established the number of stock species over a period of many years.

There is only one aspect of our study which is disappointing and that is the relatively few number of species under trial in garden conditions. By far the majority of plants I have seen are being grown virtually as bush plants. This is satisfactory if you only want a bush garden, but we are not learning much about tolerance to competition, water, or fertilizers. I suspect that anything that forces growth is detrimental in the long term, with plants collapsing in apparent full health when just coming into their prime. This view is shared by the Director of the Adelaide Botanic Gardens, Mr. Noel Lothian, who considers a period of dormancy necessary to maintain healthy plants.

The records are already full of reports of E. gilesii and E. goodwinii collapsing, and considering their harsh natural conditions it is not surprising. Already I feel these two lovely species are for enthusiasts only, especially E. gilesii, with replacements being propagated continuously. If any member knows of these species surviving in cultivation for several seasons I would like a report (source of plant, seed or cutting, and soil conditions). Len Richardson has a form of E. goodwinii with two dark streaks in the throat, greatly enhancing an already beautiful flower. E. willsii and E. elderi are the only others I know with similar markings, although of course a great many are spotted.

#### EXTRACTS FROM LETTERS

The longer we continue as a group the more conflicting become the reports. Consider the following information from members:

'I've reached the conclusion that some eremophilas, at least in their early life, are very adaptable. We have had just on 500 mm of rain for the first quarter of 1974 and the humidity, always high in January–February, has kept on and now in mid-April it has been running 80 to 85 per cent. And yet some eremophilas look so happy: E. macdonnellii, E. bowmanii, E. goodwinii, E. maculata (forms), E. densifolia, E. oppositifolia, E. ionantha, E. dichroantha, E. polyclada, E. laanii, E. denticulata, and 2 prostrate spp.'

(Gordon Cousins, Toronto, N.S.W.)

'The humid weather during spring and summer was detrimental to some of the eremophilas resulting in several losses of established plants.'

(Len Richardson, Loxton)

'The wet weather during the past months has badly affected some of the eremophilas; it seems to be a mildew which causes odd branches to suddenly die. Perhaps someone may know of a fungicide which would overcome this.'

(from Kangaroo Island)

'Species affected are E. glabra (especially prostrate forms), E. latrobei (some forms more than others), E. macdonnellii, E. exilifolia, E. gibbifolia and E. dempsteri (mis-applied name. K.W.) These species appear to have limited range in southern climates (E. gibbifolia is a southern species. K.W.) Strangely, E. bowmanii is very healthy this year; most winters it loses all but the newest leaves.'  
(Bert Curtis, Piangil, Victoria)

I also noted die-back on some of my species at Owen last winter, in particular E. glabra (forms), E. latrobei, E. maculata (northern forms) and E. subfloccosa.

To such conflicting reports add the fact that among my 50 forms of E. glabra, the only two to die were locals. Admittedly this occurred on heavy wet soil, but Bruce Copley, on sand at Bute, reported their local forms were also the ones to die. This same observation also comes from Tom Lowe at Mystic Park, Victoria. (Did I say confusion!)

### DISEASE

Len Richardson was able to arrange for fungi obtained from his affected plants to be cultured. Three fungi were isolated, Botrytis being the main one. Nematode infestations on roots were also found and apparently this allows easier access for the fungus through affected roots.

In an earlier letter Len Richardson reported that he had planted out in red sand seven of the E. aff. glabra, ex Pingrup, W.A. They grew well, until the three largest went very yellow and stopped growing. On investigation these three were found to be infested with nematodes. They were replaced with three plants of a prostrate E. glabra from Owen, to see whether they were any more resistant (soil was untreated). No results are available yet from this experiment.

Ev Hickey from Sydney reports that nematodes are a problem there also, and she treats the soil with NEMAGON 90 to give protection.

While in Melbourne for the very successful Eremophila Symposium I stayed with Ron Paine at Parkdale. Most of his eremophilas looked unhappy in the sandy soil, the exceptions being E. laanii and E. calorhabdos growing in imported loam. A neighbour had top-dressed his garden with loam and several eremophilas were much more vigorous and healthy. The largest were just starting to deteriorate and I deduced that the root systems had reached the sand.

Two questions arise, the answer to one of them being obvious. The imported loam was much better for Eremophila than the natural sand. The other one remains unanswered, but I suspect nematodes again. Ron Paine is to make some investigations for me and I have also asked him to do some more work with heavier soil.

Tom Fowler, on old dunes in Adelaide's western suburbs, reports disappointing growth in his very sandy area, but improving in areas of sandy loam. He did not report on nematodes; in fact they do not seem to be a problem in Adelaide.

King's Park in Perth cannot grow eremophilas in the acid sand and the late Mr. Keith Ashby was unable to grow them in acid sand at "Wittunga", Blackwood, S.A., with the exception of a thriving plant of E. drummondii.

It appears that the majority of species are definitely happier on medium to heavy soils and do not like pure sand, especially of coastal origin. Even in the Centre there are not many found on sandhills; they prefer areas with a clay subsoil even though the surface is pure sand. The few from areas of pure sand, e.g. E. exotrachys and E. willsii, are proving temperamental.

The other suggestion from these observations is that root diseases may be more prevalent in sandy soils although it is too early to be dogmatic about this. I know at least one nurseryman who considers damping-off occurs more in sandy potting mixes.

So if you have any plants that turn yellow and become stunted I would appreciate any information gathered from a study of the roots or treatment of nematodes. These parasites are evident from a small white fleshy growth on the roots, causing the roots to be gnarled, twisted, and shrivelled. The plant is literally being starved. Any such reports require information on topsoil and subsoil composition.

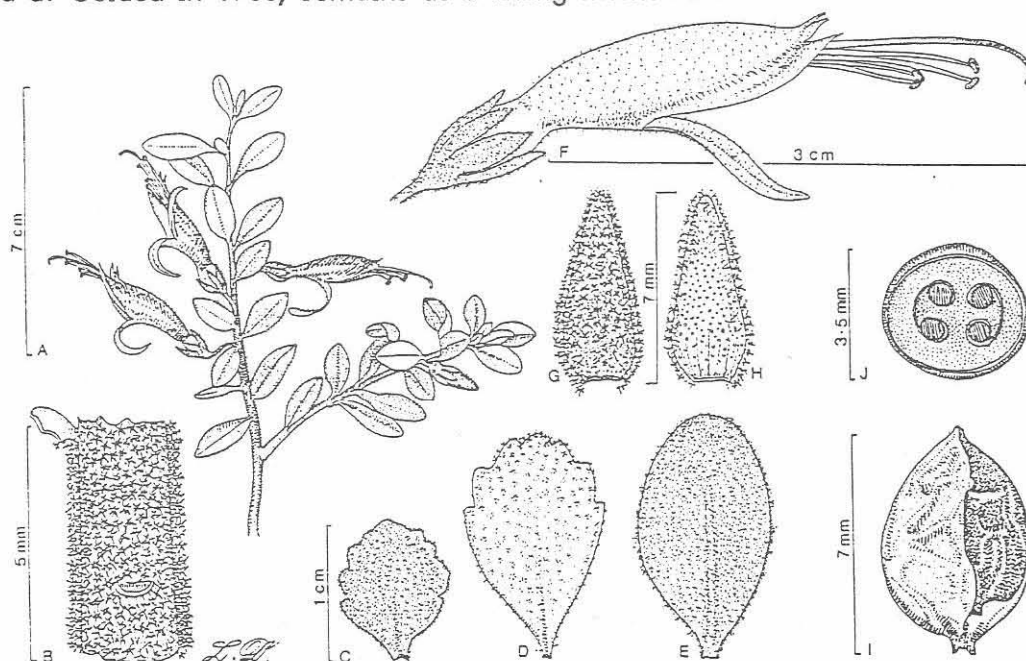
### SEED BANK

The following species have been collected and are available from Geoff Needham, 2 Stuckey Avenue, Underdale, S.A. 5032:

E. bignoniiflora, E. calycina, E. decipiens, E. delisseri, E. densifolia, E. denticulata, E. dichroantha, E. drummondii (2), E. glabra (2), E. ionantha, E. laanii (white), E. maculata (several), E. macdonnellii, E. mitchellii, E. pantonii, E. polyclada, E. scoparia, E. sturtii, E. drummondii (often incorrectly named E. dempsteri), and a few E. bowmanii, and E. mackinlayi.

When I look back on our progress I feel considerable satisfaction. Two years ago there were a few enthusiasts working in a rather loose liaison, largely unaware of each other's efforts. Now we have a cohesive group, sharing experiences and plants, and the genus Eremophila is becoming better known, better understood, and more freely available. It will be some time yet before a complete report can be compiled; in the meantime I thank you for your efforts, especially those who have sent information of their experiences to date.

It is with regret that I close this Newsletter by informing members of the sudden death of Ron Hill at the age of only 46 years. Ron's great love for all native plants and his position at the Adelaide Botanic Garden made it possible for him to take an active interest in the work of our Group. The beautiful Eremophila hillii, which he first collected at Ooldea in 1960, remains as a living memorial.



#### Eremophila hillii

A, habit; B, enlargement of branch; C-E, leaf variation; F, side view of flower; G-H, outside and inside of sepal; I-J, side and cross-section of fruit.