

Association of Societies for Growing Australian Plants
EREMOPHILA STUDY GROUP NEWSLETTER No. 56

September 1995

Firstly, thank you to all who returned their census forms. I am still receiving them and ask that anyone who has not yet filled theirs in, to please do so in the next few days. We have not yet started to collate the information, but hope to do so in time for the next Newsletter.

The list contains **only** species eremophilas. A number of members commented on the fact that many of the names used by nurseries are 'made-up' names. These were not included since they do not, in general, represent naturally occurring eremophilas. We do know of some natural hybrids, perhaps a listing of those known could be printed in the next Newsletter.

One worrying comment made on quite a few returns was that the members were surprised to note the numbers of species that they once had, but have no more. One of the aims of obtaining these returns was to find out just how much of the collected material from past collecting trips made by members and interested SGAP'ers was still being grown and by whom.

Thanks once again to Jim and Wilma Thomson for their time and effort in placing an eremophila display in three locations in New South Wales. Jim rang a few days ago to let me know that the response from the public was excellent, especially at the Rouse Hill display.

I have also had several requests for an update of the 'booklet'. Our first publication was printed with the financial support of the SA Region of SGAP. It would be a very expensive exercise initially, and the turnover would be very slow. If, however, we could get sufficient interest from members and a guarantee of selling about 500 copies, then I am prepared to look at the matter further. Please let me know of your feelings.

The Eremophila Study Group wishes to express its thanks to the groups and branches of SGAP which have supported the Study Group through their continued subscription. Several of the regional groups have made quite significant grants to study groups to allow them to continue their work, some groups having greater difficulties than others to make ends meet.

Colin Jennings

ASGAP CONFERENCE – BALLARAT

Arrangements are now in place for the Study Group to put on a display at the Trading and Study Group night on Tuesday September 26. I have plans to put up a photographic and educational display, with a set of slides projected onto a screen. I have approached several of our members who will be attending and who live near to Ballarat to bring some display material, either in the form of cuts or potted plants in flower. If you will be attending the conference and can add your 'little bit', then I would appreciate you letting me know before

20 September, or seeing me at the conference prior to the Tuesday. Space could be a problem if we don't get what I have asked for.

Colin Jennings

FROST

We are frequently asked for lists of eremophilas which are frost tolerant. I am not in a position to offer personal information since we are fortunately in a frost free area here in Adelaide.

In order to provide accurate information I would like you to let me know of your experiences with frosts. I need to know which species are tolerant, which species are affected and recover, and which species have been decimated. Please distinguish between established and 'soft', newly planted material. Often older plants are much more tolerant than the younger plants.

Colin Jennings

GUY RICHMOND'S THESIS

I have, on your behalf, purchased a copy of Guy's thesis. Several members have asked about its availability. It is quite a heavy publication, postage and packing being about \$15. If any member is interested in referring to it I will post it to you. I would need to restrict it to a one month loan, and ask that you send the required postage to me before posting. I will roster it out on a first in first served basis, but will let you know if you are on a waiting list.

Colin Jennings

FROM YOUR LETTERS

Paul Rezl – Czech Republic

Paul is one of our newer members, who since returning to the Czech Republic after seven years in Sydney is keen to grow eremophilas from seed.

“My method is based on the extraction of seed from the hard woody fruits. I am using a wooden plate or board, Swiss army knife and a light hammer. Fruits are placed on the wood, the knife is positioned lengthwise alongside the middle part (some species have a visible seam which helps). I am trying to split the fruit by gently tapping the knife with the hammer. Sometimes the seed can be easily extracted from the halves, but mostly not. The whole procedure has to be repeated several times, making sure all seeds are extracted. Losses are high due to damage, but up to 50% of good, undamaged seed can be obtained. This no doubt can be improved as one gains more skills and sense.

Seed are very prone to fungal attack and should be treated with fungicide. I am not sure which ones are available in Australia, but I can recommend Captan or Benlate to treat the seed and Previcur as an addition to the water.

For sowing I am using equal parts of sand, peat and perlite, making sure it is not fully saturated with water. Seed starts to germinate in about ten days and within two months all seeds that are going to germinate have done so.

Plants respond well to regular feeding, growing best in a glasshouse, but since we have hot summers they are doing equally well outside. *Eremophila maculata* and *E. glabra* are hardy enough to survive European winters in unheated glasshouses (Nov–Dec and March–Apr with temperatures down to -3°C) and dark room (Jan–Feb 5°C on average) with part defoliation, but regenerating quickly with the new growing season.”

Cherree Densley – Killarney, Victoria

“I have just extended our garden a further ½ acre and built an eremophila bed 15m × 6m. It is surrounded by large logs and soil built up to about ½m in places, in others a bit higher. I lay the perimeter logs and dig down for the pathways, adding soil into the beds. In places the pathways are down to tuffa rock – old limestone affected by volcanic heat and pressure. The topsoil is glorious black volcanic loam.

Eremophilas grow lush and quickly. For example an *E. callorhabdos* grew one metre in one month – no! – not joking. I grow a lot of grafted plants, using *Myoporum acuminatum* as the stock plant. These are grown from seed for me. During the summer I grafted dozens of plants and 85% took straight away. They were planted out in the garden in March. Already some are flowering. I have not lost many, but I think the rabbits have chewed off a few.”

(Cherree also mentions that the Warrnambool District SGAP group has recently put in an ‘eremophila bed’ at the Tourist Information Centre using mainly grafted ones supplied by her, but also obtained from David Randall, Jan Hall and Neil Marriott).

Jan Hall – Yarrawonga, Victoria

“I am increasingly aware of the importance of the soil bacteria and fungi which are probably very lacking in our over grazed, over cultivated paddock. Even after twenty years of adding compost and mulch, something is missing which gives plants growing in virgin soil that extra vigour.

Lorraine Kernick wrote last year of her *E. bignoniiflora* as a street tree. I wonder if it is a seedling which has given such good shape. Mine is cutting grown and multi-trunked and branched.

I have been given some germinating seeds scooped up with litter from under a plant in the bush. It is wonderful to see them shooting in the mulch and growing on after pricking out into plastic bags, complete with natural soil biota, I assume. Perhaps these seedlings will grow into good street trees."

Jocelyn Lindner – Tutye, Victoria

"This afternoon, when checking labels, I noticed under an *E. maculata* some unusual seedlings at the two leaf stage. On further inspection I found they were *E. maculata* seedlings.

I checked other plants and found seedlings under *E. maculata* var. *brevifolia* as well as other 'maculatas'. We have had 88mm of rain since 30th April and until 3 days ago the temperature was in the mid 20's.

All of the plants would have been 10 years old and the germinating seeds appeared to have been from very aged fruits that were well under the plants. I will be interested to see what the seedlings develop in to."

Russell Wait – Natya, Victoria

"Early this year I accidentally burnt an *E. glabra* and after the rain in May I am sure that there are a lot of seedlings. They are still in the cotyledon stage, but they have pointed cotyledons. So, does the smoke treatment work? I would guess that it does for *E. glabra* since I have seen seedlings come up after fires in the mallee scrub."

PUBLICATIONS

From Guy Richmond I have received a copy of the paper printed in the *Journal of Ethnopharmacology* 47(1995)91-95.

The abstract reads as follows:-

An aqueous extract from the leaves of the traditional Aboriginal medicinal plant *Eremophila alternifolia* R. Br. (Myoporaceae) was tested on isolated hearts of normotensive rats using the Langendorff heart preparation. A single injection of the extract into the retrograde perfusion solution induced cardioactivity, consisting of a short initial increase in force of contraction (positive inotropism), followed by a decrease in the force (negative inotropism) with simultaneous increase in heart rate (positive chronotropism) and in coronary perfusion rate. These effects were not mediated by α - or β -adrenergic receptors.

(In short, the paper refers to some cardioeffects of an extract from *E. alternifolia*. I have a copy of the paper if anyone wants their own.)

Colin Jennings

EREMOPHILA IN PERSPECTIVE

Guy S. Richmond¹, Marcello Pennacchio², Emilio L. Ghisalberti³ & Elizabeth Alexander²

¹Plant Sciences, Faculty of Agriculture, The University of Western Australia

²School of Environmental Biology, Curtin University of Technology

³Department of Chemistry, The University of Western Australia

PAST USES

Eremophila species (Family: Myoporaceae) occur only in mainland Australia. Of the 213 recognised species, over 170 are in Western Australia. For thousands of years, *Eremophila* species have been used by the Australian Aboriginal people as bush medicines, for ceremonial purposes and as a minor food source. Of the 17 species which were utilised for medicinal purposes, *Eremophila alternifolia* (Native Honey-suckle) was the most important, and was used to treat a range of ailments: colds, influenza, internal pains.

Eremophila fraseri (Turpentine Bush) is a common shrub occurring throughout central WA (eg Wiluna, Mt Magnet). It produces a large amount of resin which covers the leaves and branches, and reduces water loss during extended dry periods. These resins were collected by the Aboriginal people and used as sealants and adhesive materials. In Queensland, *Eremophila mitchellii* (False Sandalwood) was used for carvings.

PRESENT INTERESTS

Due to their adaptability to arid regions (many are drought, fire, frost, salt and grazing resistant), *Eremophila* species are ideal for land reclamation and mine-site rehabilitation. Since *Eremophila* are the main understorey species in the Goldfields, mining companies around Kalgoorlie are now considering utilising these species in their seed mix.

Eremophila species are also a source of unique chemicals and pharmacologically active compounds. There are 14 rare and endangered species in WA, as a result primarily of farming in the Wheatbelt. These species are currently managed by the Department of Conservation and Land Management.

Eremophila species are difficult to grow from fruit and have been propagated from cuttings or by grafting onto a related plant group, *Myoporum*. Studies have revealed that germination is controlled by both the woody exterior of the fruit, which must be worn away over time, as well as by a chemical inhibitor in the fruit wall, which may be washed out by rain prior to germination. Many species are important as horticultural shrubs for both the domestic and export markets.

FUTURE POTENTIAL

As sources of medicinal compounds, renewable materials, as well as a species for horticulture and land rehabilitation, *Eremophila* species offer an exciting potential.

Guy Richmond

RED CLAY

“Oaklands” is situated between Truro and Eudunda in South Australia in undulating country in the northern Mt Lofty Range. The rainfall varies; where the house is situated the annual rainfall is approximately 450 mm. The soil is heavy red loam with a lot of heavy, sticky red clay!

The natural occurring eucalypts are *E. odorata* and *E. leucoxydon*. The only water supply for the garden is a dam which regularly goes dry, as it is at the present and has been, for three months. We also have numerous frosts, especially during a dry winter, but to date I don't believe I have lost any eremophilas due to frost.

Eremophila are wonderful under these conditions! Once established they will survive the driest summers and driest winters for that matter! *Eremophila longifolia* is found growing naturally along the banks of the creeks and watercourses. A little further to the east I find *Eremophila glabra* [common red form], *E. scoparia* and *E. alternifolia* [plain pink, spotted pink and yellow/cream flowering forms].

The eremophilas under garden conditions which have done the best are those which I have planted in a raised bed of 30 cm of sand over heavy clay and pea straw mulch. I believe the sand acts as a good deep mulch. In summer, as the red clay dries out it cracks badly and roots can be exposed through these deep cracks. I have also mixed gypsum into the clay in some areas. This also is most effective in getting plants established in the heavy clay areas, but the plants in the ‘sand over the clay’ site growth rate is much quicker than that of in any other area. *E. maculata*, *E. nivea*, *E. glabra* [grey and green forms], *E. sargentii*, *E. serrulata*, *E. youngii* and *E. complanata* have all grown to 1 m high and as wide, and more within two years. Those planted in other areas are not as quick to get established, except for various forms of *E. maculata* which seems to grow regardless of what soils they are in. *E. racemosa* seems to be quite happy in partial shade under *Eucalyptus torquata*, also *E. ionantha*. *E. drummondii* seems more than happy to accept extra water from the surrounds of the lawn along with *E. maculata*. *E. serpens* [ground cover] tends to ‘die off’ in the centre of the bush during summer, but this does not happen in the ‘sand over clay area’ – does the sand act as a good mulch and thus keep the clay moist underneath?

I usually try and plant after the first rains in April to May or June, preferably to spring planting. I believe that the last spring rains are important to carry the young plants over the following summer. If there is water I do try and give the young plants a summer drink but once established they survive on naturally occurring rainfall. Wind can cause havoc at times, some being more brittle than others e.g. *E. complanata*. But I have also been guilty of killing off *E. barbata* by light pruning! I prune many of the eremophilas with the edge clippers to

keep them dense and bushy. Some of my favourites are *E. maculata* var. *brevifolia* [everyone's favourite]; *E. inflata*, [wonderful mass of blue to deep mauve flowers and easy to propagate]. *E. interstans* [lovely for picking and also easy to propagate] this is one that takes to being pruned and kept 'in control' to avoid tipping over in strong winds after a wet winter. *E. oldfieldii* is a good garden variety. I have used many cuttings to establish borders of *E. drummondii* and *E. densifolia*. *E. nivea* is also always admired by visitors and *E. microtheca* is always smelt by visitors!

The bird population has increased dramatically since I have planted many eremophilas, any of the red to pink flowering varieties are loved by the honey eaters, they always leave a mat of petals on the ground as their calling card [White plumed, Singing and New Holland Honey Eaters are all constant feeders.] They also love any of the green flowering eremophilas, leaving a mat of green flowers around the plants. The small honey eaters covort and fight over their rights to various plants, driving off the larger red wattle birds. The wattle birds prune *E. calorhabdos* bushes well, being heavy, they tend to snap off the side branches. The small honey eater also have a taste for a *E. maculata* 'Thunder Cloud', which I think originated from Tony Clarke [dull pinky/purple flowers] which often flowers later than others. A large, spreading *E. glabra* has proved an excellent nesting sight for various honey eaters, including a nest built by the black honey eaters [one rare visit only]. Apart from the black honey eaters the others are permanent residents and all nest and raise young every year. Cats are banned!

Beverly Rice

Thank you for the letters and articles for this issue of the Newsletter. It has made the compiling of this issue so much easier and I hope that there is sufficient to keep you all interested. Please keep your articles coming in; I will use whatever I receive, provided that it is of general interest.

Leader: Colin Jennings, 4 Kinnaird Crescent, Highbury SA 5089

Editor: Bob Chinnock (c/- Address below)

Typed and printed at the Botanic Gardens, North Terrace, Adelaide SA 5000

