

Eucalyptus Study Group Newsletter

April 2008 No.47

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Greetings everyone from beautiful Coleraine. Spring finds us with plenty of green in the paddocks and new growth on all the trees, shrubs etc. but unfortunately no run-off into the dams. However, nearly every small depression that can hold some water has become home to a pair of mountain ducks ----- they are here in profusion. I am told that is a sign of a "good" season coming, so let's hope so.

This newsletter we have included a membership renewal form and I would like to remind everyone to send such correspondence with money to the treasurer Elspeth. If not, I simply have to post it on again because Elspeth and I live about 500 km. apart!! Please note however that subscriptions were frozen in July 07 to cover the change-over period when not many newsletters were produced. A number of people still paid their subs and they are listed below. These people do NOT need to renew in July 2008.

Menai Wildflower Group, APS QLD, APS VIC, APS Maroondah, APS NSW, Kevin Penny, Steve Harries, Allan Raine, Wendy Fopp, John Cleary, Paul Kennedy, L.J. Daniels, Christine Leiblick, APS SA, and APS TAS.

What we do enjoy receiving at the Arboretum are all your snippets of information (or longer articles) for the newsletter. Sometimes people query whether what they have decided to submit is "knowledgeable" enough or "valuable" to other members and of course the answer is always yes. If the newsletter is to fulfil it's role as an information exchange then we need to encourage EVERYONE to take part. Last edition Elspeth asked if any members had useful suggestions for nurturing young seedlings through their critical early growth period. Anyone with a good idea?

Love to hear from you.

Growing *Eucalyptus tetraptera*

by Leigh Murray

There was a magnificent photo of *Eucalyptus tetraptera* in the June 2007 issue of the Canberra ANPS Journal. We grow *E. tetraptera*, and one of our plants is flowering as I write this in June – with only slightly daggier-looking flowers than that photographed beauty.

E. tetraptera grows as a very open, rather gangly small tree, up to a few metres high and wide. It takes pruning quite well, and it's suitable for training as an espalier on a fence. The square red buds are huge – almost the size of a small cup. When the bud cap falls off, the pinky-red flower appears as a frill at the bottom of the downward pointing bud. Honeyeaters love the flowers. The bright green, leathery leaves are large too (up to about 20cm long by 8cm wide), and the stems are sturdy. The whole effect of the plant isn't so much beautiful as interesting and striking. It makes quite a statement.



After reading that *E. tetraptera* grows on granite soil in its natural habitat in Western Australia, I planted some in our garden at Tuross Head (on the NSW coast), which also has granite soil. *E. tetraptera* does well there in the drier parts of the garden. Good drainage is important. Tuross Head has long dry periods interspersed with 100mm downpours. And these downpours cause a fair bit of trouble to any plants that are susceptible to *Phytophthora cinnamomi* root rot, which include *E. tetraptera* – although I think most of our losses were related to drought, exacerbated by strong winds and the moisture-hogging power of large Norfolk Island Pines. The salt-laden winds haven't otherwise harmed our plants. They flower in winter and spring, bearing a flower or two over a long period.



The ground beside two closely-planted *E. tetraptera* at Tuross is tastefully decorated with dark blue plastic objects (spoons, straws, lids). A male Satin Bowerbird has set up a bower in a tiny clearing there. He diligently pursues his display and bower-maintenance activities, and lustily entertains many female friends, apparently unconcerned by the honeyeaters that pop in and out of the *E. tetraptera* and the nearby grevilleas, *Anigozanthos flavidus* and *E. conferruminata*.

I've tried *E. tetraptera* at Queanbeyan where we have a steep sunny ridge of shaly soil amongst rock. Although no plants have yet grown large enough to flower, and several died, a couple have hung on tenaciously in dreadful conditions where other plants died, coping well with minus 7 frosts. So I think they'll be worth trying again, planted slightly differently: in less exposed positions and in improved soil, with additives such as coir peat and compost, plus pebbles (my latest attempt to aid water penetration). (Our shaly soil readily becomes water repellent, and it's proved hard to apply wetting agents often enough, especially as care has to be taken not to cause problems for the much-loved local frogs – the detergent action of many wetting agents is said to harm their delicate skin. I've also seen a report that wetting agents can harm earthworms too, so I want to minimise their use.)

E. tetraptera is said to be suitable for growing in containers, and also as bonsai. It should make a striking pot plant. It looks promising as a small, interesting, bird-attracting eucalypt for sunny, well-drained spots or pots in home gardens in the Canberra area and the NSW South Coast, and probably elsewhere too.

Brenda Galey writes:

Thanks for a great newsletter. I'm looking forward to the next instalment on growing seed. I am absolutely useless it seems and I would love grow a E. Insularis and E. Salubris glauca. I have about 70 native bonsai and I particularly love the eucs. I work for DSE and my specialty is aerial mapping of our forests. I've been doing it for 15 yrs now. My current job is mapping the closed catchments of Melbourne's water supply. I will be able to send you a few photos of some amazing old Regnans and Nitens soon. We measured one tree the other day at 80m and we measured another with a diameter of 4m. Amazing. It is such a privilege to be able to spend time in this great old forest.

Cheers,

This article was prepared by Elspeth Jacobs for the Maroondah APS newsletter. She has kindly allowed us to reprint it for study group members to think about too.

Q: WHEN IS A MALLEE NOT A MALLEE ?

A: WHEN LIFE IS A BED OF ROSES.

I have long been puzzled by the fact that of all the many so-called 'mallees' that I am growing at Montrose, not one has grown with a mallee habit without some intervention.

A mallee can be described as a small Eucalyptus tree having several, more or less equal stems, arising from a lignotuber. The lignotuber is a dormant storehouse of food and latent buds, a bit like an insurance policy against attack.

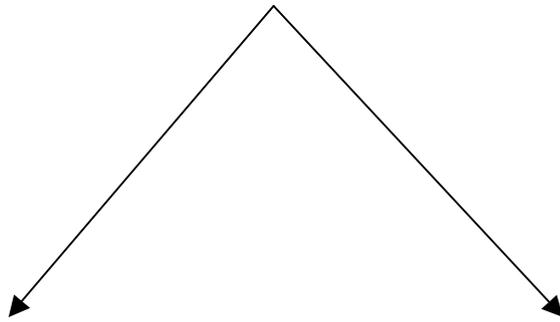
I wonder if life has been too easy for them, and possibly a true mallee form develops only when there is some form of 'set-back'. This could be caused by drought, extreme heat, frosts, wind, fire, grazing, insect attack or soil of extremely poor fertility.

If you think about where mallees grow naturally, they tend to be in areas experiencing one or more of the above conditions. 'Mallee Heaven' is in the south east of W.A. where rainfall is very unreliable, and many of the other conditions mentioned above exist. If you can imagine a fan-shaped piece of land from Kalgoorlie to the south coast of W.A. taking up about 15% of Australia, this area has 25% of Australian eucalypts, mainly mallees.

In the home garden where mallees so often grow with a single trunk, I thought that this was simply because life was 'a bed of roses'. However, Paul Thompson pointed out to me that it was much more complicated than this, and that the species do not want to fit comfortably into the categories we have decided on.

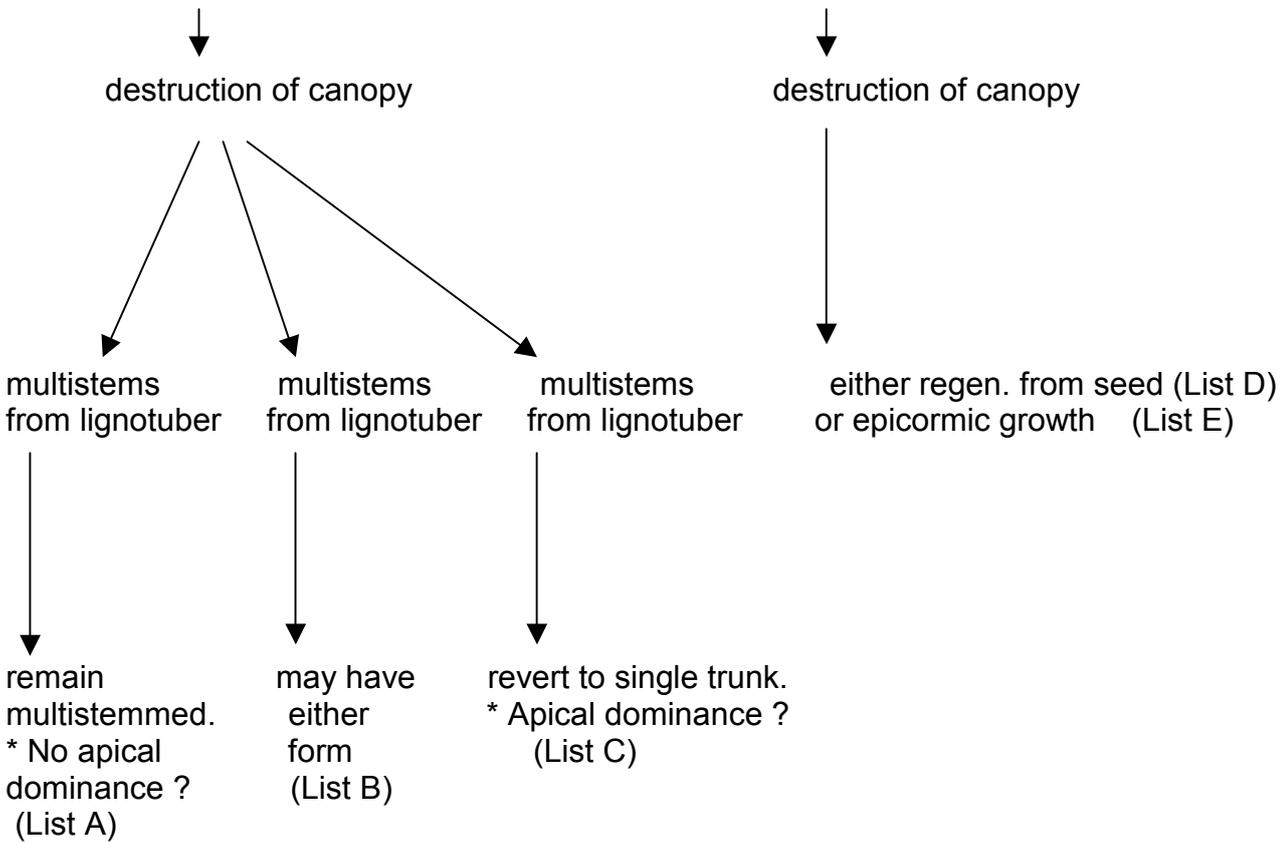
The following diagram is just my attempt to get my head around this confusing conundrum. It would be interesting to hear other peoples' thoughts about this.

Every species starts with a single stem



Some species develop a lignotuber.

Other species never develop a lignotuber.



(* Apical dominance describes the situation where one strong leading apical shoot produces hormones which prevent lateral buds from competing with it.)

Consequences for the garden.

Generally a single-trunked species will provide a larger shade tree, with less room taken up at ground level.

When a more shrubby size is required, choose a mallee, and this can always be coppiced if it gets too large. (Remember, though that it is generally unwise to chop off a eucalypt at ground level unless you are pretty sure a lignotuber has formed.)

So that you don't have to wait several years for the tree to redevelop, it is sometimes good to have 3 of the same species planted together, and these can be coppiced in rotation. This can lead to great interest in the comparison of juvenile and adult foliage—eg. *E. albida*, *latens*, 'Moon Lagoon' or *leptophylla*. In fact the whole point of coppicing sometimes is to retain the juvenile foliage.

Plant mallees in the 'tough' places of the garden—eg. beside a brick wall (but not the house !), amongst rocks, in gravel, etc.

It is good that the great majority of smaller decorative eucalypts that we are likely to want for our gardens *do* have a lignotuber. (see List A)

APPENDIX

LIST A (lignotuberous and remain multistemmed after 'damage')

Euc. albida, *albopurpurea*, *caesia*, *crucis*, *gregsoniana*, *grossa*, *kruseana*, *macrocarpa*, *orbifolia*, *pleurocarpa* (formerly *tetragona*), *preissiana*, *pyriformis*, *tetraptera*, *websteriana*, *youngiana*.



E. orbifolia

LIST B (lignotuberous and may be mallee or single-stemmed after 'damage')

Euc. erythrocoris, *erythronema*, *macrandra*, *pauciflora* ssp *pauciflora*, *pulverulenta*, *sepulcralis*.

LIST C (lignotuberous but revert to single stem after 'damage')

Euc. eximia, *lacrimans*, *maculata*, *scoparia*, *sideroxylon*, *viminalis*.

LIST D (No lignotuber so needs to regenerate from seed.)

Euc. forrestiana, *stoatei*, *dolichorhyncha*, *gardneri*, *platypus*, *cernua* (*nutans*), *regnans*, *torquata*, *woodwardii*.

LIST E (No lignotuber, regenerate from seed or epicormic growth)

Euc. macrorhyncha, *fastigata*, and many other stringybarks.

References for lignotuber presence:

EUCLID : Eucalypts of Southern Australia (CD Rom) MIH Brooker, AV Slee, JR Connors, SM Duffy. Centre for Plant Biodiversity Research

Nicolle, Dean. (2003). Currency Creek Arboretum Eucalypt Research. Vol.2. (D.Nicolle: Adelaide)

Ray Clay, Arboretum curator, adds his thoughts to the mix:

Eucalyptus torquata, Coral Gum, Coolgardie Gum.

Name means - adorned with a collar or necklace; alludes to ribbed base of buds and fruits.

Symphyomyrtus

It is endemic to West Australia, with a scattered distribution in the Coolgardie/Norseman region.

They can grow to 12m, usually with a single trunk with rough grey to black bark, the upper branches being smooth grey over coppery colour. Lignotuber is unknown.

The adult leaves are dull grey-green to glaucous in colour

Attractive buds amongst the leaves become reddish at the time of flowering and the stamens are usually pink but can be combinations of white, cream or red. I often find myself wanting to look into the foliage to inspect these pretty delicate looking flowers.

Their flowering is over a long period.

They can grow over a large climatic area from cool temperate to subtropical although they are ideally suited to semi arid to warm temperate districts.

These small trees are very ornamental, suitable to large yards and produce abundant nectar and pollen for apiarists.

We have about six growing at the Points, (cool temperate), varying in age from year 15 to year 25.

Soil types they are on are reddish clay-loam to grey-loam.

All are growing well and come into flower fairly quickly.

A number however become wind thrown easily which seems to indicate that their root system is not strong enough for growing here! Yet we have not lost any of these as they re-grow from the trunks and branches readily.

Once they are established, it is rare to have them die on us so they are proving quite hardy.

Growing from seed is quite easy with no special requirement needed.

This is a tree my Mum-in-law chose for her garden down in town. It is on loamy moist soils and it is doing so well that there it has already a lean on it which may require us to do some cutting back at some stage.

This is one of those quietly attractive Eucalypts that gives a surprise on close inspection.

Eucalyptus tetraptera Square-fruited Mallee, Four-winged Mallee

Means - four winged, in reference to the buds and fruits.

Symphyomyrtus

Has a lignotuber.

Leigh Murray has a very informative article on growing this plant.

At the Points we have about 20 plants ranging in age from year 5 to year 24

The soils they are on range sands to clay loams. All are proving to be very hardy once they are established

The seed is easy to grow in nursery conditions. I have collected some fruits from our plants but was unsuccessful in extracting any seed. (I don't make a habit of collecting Eucalyptus seed from here as there is a problem of hybridizing with some of the 500 other species).

The younger plants are the most attractive in their leaf and flower and as Leigh puts it they do make a statement. People who see them are usually drawn over to them asking lots of questions. I tell them to feel the leaves as there is no other Eucalypt like them.

Our year 24 plant is now permanently overshadowed by other Eucalypts and is very ragged in appearance. It is only about 2m tall with half its limbs dead and only flowering occasionally. Yet it still refuses to give in.

Other Square-fruited Mallees that lose their limbs from storms or die back readily coppice from the lignotuber.

It has proved to be one of those plants worth seeing on a walk around the Arboretum.

Some time ago we had a call for help from South Africa: Lawrence Woollam was having trouble propagating seed of *E. ficifolia*. Our curator sent an email with the following advice.

Greetings to you Lawrence and South Africa from the Points Arboretum in Victoria Australia.
Thank you for your enquiry on growing Flowering Gums.

These plants naturally grow on gravelly sands with clay sub soils in southwest West Australia.

October is a good time to start them off, but if you have bottom heat, then most times of the year. Make sure your seed is not too old – less than 10 years old.

I use an open coarse sand to start them off; sometimes with Vermiculite mixed in.

Plant the seed in the seedling tray no deeper than the length of the seed (not the length of its wings). I then mostly use the capillary method – putting the seedling tray on moist sand with enough moisture in it to reach the surface of the seedling tray. Overhead watering can be done if you are not using the above method.

Place in a well lighted are and water as required. (The secret is enough moisture for dampness but not wet as the bog method would do.) The seed should come up in 2-4 weeks. When the cotyledon leaves are big enough you can prick them out into a container with a well draining soild mix. Fertilise with a low phosphorous fertiliser.

thanks for the note Ray, I am most grateful ...

I guess got lucky the first time round - second time I think I must have drowned them because the water-tray (an old sump drain pan I found in a field) I used for the seed trays was often filled to near capacity as it is located next to a sprinkler ... I also used a compost base and with the high moisture turned it into a real bog! My other error was planting them too close to Xmas - this time round October it will be ... in course sand and I will use the capillary method to keep moist ...

My seeds were sourced from a magnificent specimen on my pavement which I understand is close to 50 years old: in SA they are considered alien but existing trees are not to be removed (we have two lists - one for hostile removal and one for control) ... I have heard on the grapevine however that a special concession is being made to growers to provide these trees to a public development project and hence my interest in propagation ...

Thanks again and best wished to all

Lawrence Woollam

From member John Purse:

A small contribution for the next ESG newsletter, in response to the request in Leigh Murray's article in newsletter #44.

Leigh was interested in information of control of root rot caused by *Phytophthora cinnamomi*, using the fungicides based on phosphorous acid. There is a very good summary of the action and uses of these products, entitled 'Understanding the Phosphonate Products', published on the web at: http://turfgrassmanagement.psu.edu/sorting_through_the_phosphonate_products.cfm

The illustrations in this publication are dramatic. Reference 7 in the article cites one of the Australian studies on control of *P. cinnamomi* on *Eucalyptus marginata* using these materials.

The financial statement for the year July 07 to June 08 is as follows....

OPENING BALANCE		\$1,224.09
Income....memberships...	\$215	
	<u>Interest</u>	<u>5.84</u>
	TOTAL	\$220.84
Expenditure	newsletter	\$100
	<u>Seed bank etc</u>	<u>50</u>
	TOTAL	\$150
Surplus		\$70.84
CLOSING BALANCE		\$1,294.93

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MEMBERSHIP RENEWAL FORM
ASGAP EUCALYPTUS STUDY GROUP
Financial year July 2008 – June 2009

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Please enclose cheque/money order for \$ 10.00 ordinary member
\$ 15.00 overseas member
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And send to Treasurer Elspeth Jacobs at 377 Cambridge Rd, Montrose Vic 3765

Thank you for your continued support.