

ASSOCIATION OF SOCIETIES FOR GROWING AUSTRALIAN PLANTS
EUCALYPTUS STUDY GROUP NEWSLETTER NO. 20, MARCH 1989

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Dear Members,

I hope all your eucalypts survived the summer. Correspondence has been fairly light over the last few months, but most had good news to report. My gardening activities have suffered of late, because I have just completed a book that I've been working on for six years; entitled "The Distribution of Queensland Eucalypts". It is a compilation of distribution maps for every eucalypt species indigenous to Queensland. I can send an order form to anyone who may be interested. We have three new members since November. A warm welcome to them:

New Eucalypts from the West

Six new Eucalyptus species have just been described by Mr Ian Brooker. All of them are endemic to south-western W.A. and are related to E.foecunda. The names of the new species are E.hypochlamydea, E.salicola, E.perangusta, E.latens, E.dissimulata, and E.kumarlensis. Judging by the descriptions given, at least some of these species have horticultural potential.

E.perangusta is a small mallee with very narrow leaves, like E.formanii.

E.dissimulata resembles E.albida. E.kumarlensis looks like a small salmon gum.

E.salicola also has the appearance of a salmon gum, and it grows near salt lakes.

Because of its adaption to saline sites, it may be a useful species for reclamation.

E.latens is the only rare species of the six. It is a smooth-barked mallee with glossy, narrow-lanceolate leaves. There is just one stand known, comprising several hundred stems, near North Bannister.

In the same paper, it is revealed that E.foecunda is in fact a species of very restricted distribution along the coast north and south of Perth. It is a rough-barked mallee.

Eucalyptus leptophylla was described from the "Murray Scrub" in 1856 and was treated as a separate species for many years. However, in recent times, it has been synonymized with E.foecunda. Now, Brooker maintains that E.leptophylla should once again be recognized as a species, encompassing all populations in South Australia, Victoria and New South Wales.

A New Eucalypt from South Australia

Eucalyptus wyolensis is a new species described by Mr C.D.Boomsma last year. It is a mallee or small tree to 6 metres high. It has persistent rough bark at the base, and smooth pale bark above. Branchlets are markedly glaucous. Leaves of the mature plant are stalkless, glaucous, and about 6 x 7 cm.

Inflorescences are axillary, up to 11 buds per cluster. Fruits cupular, to 9 x 10 mm. Flower stamens are described as "golden".

E.wyolensis is known only from the north edge of the Nullarbor Plain in the far west of S.A. It is related to E.socialis and also to E.gillii. E.wyolensis should have potential as an ornamental in low rainfall areas of southern Australia. The round silvery leaves and the reportedly "bright yellow flowers" will attract growers.

The specific name refers to Lake Wyola, which is close to the type locality.

Members Letters

Florence Treverrow from Lismore, NSW has a small, early flowering form of *E.gummifera*. She recently sent me two photos ; one of the tree while flowering, and the other of a floral arrangement using these flowers. Quite beautiful. Florence comments "This tree is going to flower again this summer and seems to grow hardly at all between flowerings. I am growing some seedlings from this tree to see if they retain the dwarf characteristics.

Tim Hayes (Goulburn, NSW) reports that he has recently planted out *E.pauciflora*, *E.forrestiana*, *E.grossa*, *E.lansdowneana* and others. He is having some problems with suspected phosphorus deficiency, and has given affected plants weak doses of Aquasol. Tim has also sent a Euc identification form designed to help identify species in the field. It has the appearance of a comprehensive questionnaire and Tim says it works well. Members interested in this can contact Tim.

Thomas Ross of West Germany says that they have experienced a very mild winter (that was up to mid-February anyway), and this has suited his eucalypts very nicely. Thomas is growing (amongst others) *E.calophylla* and *E.ficifolia* and so far, they are doing fairly well. Thomas has also undertaken an extensive planting in Spain, where the climate is much more amenable to the cultivation of eucalypts.

Insect pests of Eucalypts: BORERS

As the common name suggests, these insects bore holes and tunnels into the wood of eucalypts. The insects involved are Longicorn beetles and their larvae, or large moth larvae, or sometimes auger beetles.

It is rare for a tree-grower to observe a borer "in person". The first clue you will have about his presence is his waste products. You will see chewed wood or sawdust, often held in place by loose webbing. This frequently occurs near the junction of the trunk and a large branch. Borer attacks are most severe on weakened trees; and may enter at a point of injury. Borer activity decreases the mechanical strength of branches and it is not uncommon for breaks to occur at sites of borer activity.. Borers may also attack perfectly healthy trees, but often they are able to outgrow the damage ie. new branches grow quickly to replace the affected ones. Borers are severe pests and should be actively discouraged.

Control:

1. Avoid "Supermarket" situation. Some species are particularly susceptible to borer attack. If you are able to determine which species in your area are most readily attacked, you would be wise to either a) not plant that species or b) only plant occasional widely spaced specimens. You should definitely not plant several susceptible trees in close proximity - you will be setting up a borer supermarket. The probable result would be that every tree will be attacked, and the borers will often spread to other species, even though they are not normally susceptible.

2. Leave it to nature. Trees have natural defences against borers. They exude gum or kino, a sticky substance which envelops or prevents progress of the borers. Copious exudate of kino should be interpreted as a vigorous response by a healthy tree, and not that the tree is unthrifty or in trouble. Borers are also attacked by predators such as assassin bugs, other beetles and wasps, although I don't have much faith in them myself.

3. Human Action. If natural defences prove to be inadequate, (and that may well prove to be the case. After all, the garden or paddock is not very close to the natural situation, and population imbalances are bound to occur) then as soon as you notice the symptoms of a borer (sawdust and/or droppings), clean away the debris to expose the hole and poke a piece of wire inside and wriggle it around until you are confident that you have killed the larva. Then plug the hole with wax or grafting compound to discourage further attack at the same site.

It is important to take action promptly. If you see sawdust, and then say "I'll get

onto that next week", you may be leaving your run too late. The larva will have progressed too far into the wood and out of reach of your wire bayonet. If all else fails, you may need to squirt in kerosene or soap solution which will cause the grub to emerge. Alternatively fill the hole with mild contact insecticide. Severely affected limbs should be removed and burnt. Dead and dying trees should be removed to prevent infection of healthy specimens.

Helen Bizzea from Gawler S.A., (not an ESG member), has kindly sent me some seed of interesting hybrid eucalypts. These are *erythronema* x *woodwardii* and *erythronema* x *nutans*.

Any member who would like to try these can contact me.

The Mallee-Boxes and their Allies by Kevin Rule

The term "mallee-box" has been applied to a group of species growing as either mallees or small trees, mostly of south-eastern Australia, whose floral features are typical of other boxes. These floral characters include a fused petaline and sepaline operculum, irregularly flexed stamens all of which are fertile, and adnate anthers. As well, conflorescences are axillary and simple, but may be terminal panicles. With reference to bark, in most species it is fibrous at least basally on major stems, but a few species are smooth throughout.

Blakely (1934) placed the mallee-boxes in a group he called Series Subbuxales. Numerous species and varieties were included but subsequent assessments rendered many of them hybrids or minor variants. One species, *E.decipiens*, a mallee-box look-alike from WA was placed with species with which it had natural affinities. A major assessment of the relationships of all known species was carried out by Pryor and Johnson in 1971. In their treatment of the mallee-boxes they erected the informal series Odoratae which contained 8 species: *E.odorata*, *E.lansdowneana*, *E.polybractea*, *E.viridis*, *E.froggattii*, *E.porosa*, *E.bosistoana* and *E.argophloia*. *E.lucasii*, a so-called mallee-box of WA, was placed with another group of boxes.

Chippendale (1988), in "Flora of Australia", re-established the old series of Subbuxales but erected two new series. In doing this he placed *E.lansdowneana* with *E.thozetiana* and *E.ochrophloia*, together with the recently described *E.petraea* of WA, in the Series Porantheroides. He further created a monotypic series called Lucasinae to cater for *E.lucasii*. Another newly described species, *E.sparsa*, was added to Series Subbuxales.

It is obvious that opinions differ over the relationships of the so-called mallee-boxes and perhaps in the foreseeable future a systematic cladistic analysis of these and other boxes will sort out the confusion. Obviously, too, knowing which criteria to apply and where to set the parameters for the mallee-boxes creates difficulties and with such blurred boundaries it is conceivable that species such as *E.largeana*, *E.intertexta*, *E.orgadophila* and *E.behriana* could also be included in the group. However, the main purpose of these comments is not to assess the mallee-box concept. It is to present brief descriptions and distinguishing features of a number of species historically regarded as mallee-boxes and to offer information regarding horticultural backgrounds. It is unfortunate, however, that these comments are mostly drawn from Melbourne experiences. No doubt there is a wealth of other experiences that could be presented by many other members of the Eucalyptus Study Group.

E.odorata Scented Box, South Australian Mallee-Box

This eucalypt is widespread from the Eyre Peninsula and the Flinders Ranges to western Victoria. In favourable conditions it is a small to medium, spreading, rough-barked tree, but may be reduced to a mallee with rough bark on the lower stems. It favours a variety of heavy soils and, as the distribution shows, tolerates a range of climates. Presumably the typical form has not been favoured for cultivation because

of its persistent rough bark and unattractive size and habit. Its buds and fruits are variable in shape and size and can be readily confused with those of *E. polybractea* and *E. viridis*. However, typical *E. odorata* can be easily distinguished by its bark and grey-green, densely reticulate adult leaves.

E. odorata is variable and its variety *angustifolia*, a smallish mallee with narrower leaves and smaller fruits growing in the Flinders Ranges and on the Eyre Peninsula, is considered distinct enough to be given at least subspecies status. Other outliers occur in western and northern Victoria and these are currently under investigation. For example, populations in the Little Desert and adjacent areas, which are usually small mallees and have been confused with both *E. odorata* and *E. viridis*, may represent a distinct species. Likewise, populations further east towards Bendigo require close scrutiny. To say the least, *E. odorata* in Victoria is not clearly understood.

E. polybractea Blue Mallee-Box, Blue-leaved Mallee

The Blue-leaved Mallee is usually a mallee but occasionally a small tree. Its bark is creamy grey and smooth with a small amount of rough bark at the bases of major stems. The distribution is restricted to northern Victoria in the Bendigo area and central-western New South Wales around West Wyalong. Heavy, yet well-drained soils on undulating terrain are favoured. Adult leaves are usually narrow lanceolate and grey-green but juvenile leaves are strikingly ash grey. Fruits and buds are small and inconspicuous and similar to other mallee-boxes in shape. The species has been cultivated to a small extent in Victoria and this is disappointing as it is an attractive garden subject. It has been much favoured for oil production. Regular harvesting of foliage has little effect on its health and vigour. The name *E. fruticetorum* has been incorrectly used for this species and should be applied to anomalous materials associated with *E. odorata* in South Australia.

E. viridis Green Mallee Box

A mallee or more rarely a small tree to 10 metres, this species features linear to linear-lanceolate somewhat lustrous dark green adult leaves and small hemispherical to ovoid fruits. Juvenile leaves are conspicuously linear and green, and bark is subfibrous green-brown about the base and smooth grey above. The range is from inland south-east Queensland to northern Victoria with an outlier in the Flinders Ranges of South Australia. Favoured soils are varied, but are usually well drained, heavy and on undulating terrain. The species is adaptable and in cultivation grows as a slender, small tree with an open crown, its size offering excellent potential as a garden or street specimen.

E. froggattii Kamarooka Mallee

This mallee box is an endangered species of very restricted natural distribution occurring in two areas of Victoria; one being mallee scrubs around Bendigo and the other to the south-west of Horsham. Fruits and buds are uniquely squared in section and adult leaves are broad, lustrous, yellow-green and coarse. As with other mallee-boxes, such as those with which it is associated, basal bark is rough and upper bark is smooth. Under good conditions *E. froggattii* reaches 10 metres, but more often it is smaller. Horticulturally, exploitation has been limited and the potential of this species for gardens and streets has not been realized. The species has been successfully grown in Melbourne.

E. bosistoana Coastal Grey Box

Natural to coastal and subcoastal hilly terrain, *E. bosistoana* ranges from near Sydney southward to the Latrobe Valley in Victoria. It is regarded as a medium to tall forest tree which favours well drained fertile soils. Its bark is typically box-like and grey, hence the common name, and its adult leaves are lanceolate, green and slightly glossy. Buds and fruits are typical of mallee-boxes but somewhat larger. The horticultural potential is limited but its use for farms and roadside plantations seems logical.

To be continued.....