

Eucalypts as bonsai

Part 2 of 2



Eucalyptus camaldulensis (River red gum) with remarkable trunk development. At the NBPCA collection, donated by Errol Jobsz.

Part 1 of this article was published in the September 2020 issue of *Wirrabara*.

Ground-growing

There is conflicting advice in relation to ground-growing eucalypts.

Some posts indicate they can be ground-grown to speed up their development and that they should be trunk-chopped every year and lifted and root-prune every two years.

Others say they have stopped ground-growing eucalypts. One points out that one or two roots of a ground-growing eucalypt often become thick and dominant and won't survive being cut. Another says the taproot goes like a jack hammer into the ground and the radial roots suffer as a result. Then, when you cut the taproot and lift the tree, the surviving radial roots aren't vigorous enough to sustain the tree.

Heat/cold/sun/shade

Multiple posts on AusBonsai note that eucalypts are adapted to grow in a wide range of climates, but species that grow in hotter climates will not necessarily do well in colder climates, and vice versa. Another reason to grow species that grow naturally in your area.

There is wide agreement that eucalypts are sun-lovers.

Pests and diseases

A few posts on AusBonsai identify pests and disease that afflict eucalypts, and suggest remedial measures: leaf-eaters (caterpillars, grasshoppers and fauna that seem to like to eat fresh young eucalyptus leaves but not mature leaves); mealy bug (strip some of the bark off so they don't have anywhere to hide); myrtle rust; galls (usually caused by a wasp which lays eggs into the bark and the larvae grow inside it, creating a swelling. The holes are where the mature wasp emerges at the end of its metamorphosis).

Styles

Aside from discussion as to whether eucalypts are suitable for bonsai (see above), the weight of opinion is that eucalypts are best trained to look like trees in nature. The following comment from an AusBonsai post is typical of the views of eucalypt enthusiasts: 'There are wonderful majestic old trees out there, it's up to us to work out what we can build into in our work: large trunk/few leaves proportions, the large and strong dead branches, the constant movement in the branches, curious "clunky" angles, not graceful at all, but can make a tree with a lot of character.'

Tree development, trimming and pruning

There are several words of warning from experienced growers in relation to trimming and pruning: 'it's damned hard not to fall back on your standard pine-and-juniper habits, but eucalypts don't grow that way'; and 'if we are to strive for convincing looking AGED eucalypts as bonsai, wouldn't traditional bonsai techniques need to be used with caution?' Hopefully, the following information from AusBonsai posts will help you give practical meaning to these warnings.

Trunk development

There is general agreement that you should develop the trunk first and then concentrate on branches. As one post says: 'You do want a separate trunk-growing phase. Really. The trunk is the core, the heart, the centre of gravity of the tree. It doesn't matter what you've done to the branches and leaves if there's nothing at the heart of it. My opinion only. For sure, grow, pinch and go crazy with whatever you want, but a tree that will live with you a long time needs a solid centre.'

There is conflicting advice on wiring trunks. Remembering that most growers say eucalypts are generally best trained as quite large bonsai (see above), the most commonly expressed view is that it is best to develop a thick trunk by growing them in a big pot and allowing them to grow freely to about two metres tall then reduced to (say) 30 cm then regrowing to the two metres height and reduced again and so on until the desired trunk diameter is achieved. Correcting branching should wait until trunk diameter is finally achieved.



The photographs above are of a beautiful (unidentified) mature eucalypt growing in a horse paddock at Jeir, near Murrumbateman. They clearly show what one post notes: that in nature, gums can have massive branches that almost match the width of the trunk. The photograph to the right is a seedling from the tree in photos above.

You will see I wired the immature branches. The wire is off now, and I will let it grow freely for a year or two. Unless otherwise identified, I am calling this trainee '*Eucalyptus horse paddock*'.



Here is a place where attention to the species being grown is important. Eucalypts that naturally grow as large trees, and shoot from the trunk, are likely

to respond well to growing the trunk and chopping back hard. But there are species that naturally grow to only small tree, or shrub sizes. Some of these shoot back on old wood. You can develop attractive 'small' bonsai with these, without going through the grow-big-chop-hard phase. Example species are *E. kruseana* or *E. caesia* ssp *caesia*. These grow well in Canberra, though they are native to SW Western Australia.

One post suggests that 'by the time you have made two cuts to the trunk, with two resulting bends, you have pretty much defined the eventual size of the tree.'

There is, however, a place for long, slender, elegant eucalypts, particularly in mallee forms. Wiring the young trunks/primary branches on these designs is a good idea. So too if you are training the tree as a shohin.

If you do choose to wire the trunk, one post suggests that 'wiring for shape while still flexible is a great way forward. I put more bend than needed in young trunks because most trees thicken more inside the bends, so trunks get straighter as they thicken'.

An experienced CBS grower says: 'My experience with mallees falls into two categories. First are the ones that produce the mallee form which needs complete replacement periodically. This is achieved by cutting all the existing trunks and letting a new crop grow from the lignotuber. The second are those that produce a lignotuber which produces a large number of 'trunks' but which progressively thins these naturally until there is only one trunk left!'

Pruning

In the early stages, it is recommended that you prune once a year, and only allow two or three shoots to grow and rub off the rest. After a few years, when the trunk has developed some bulk and movement (see trunk development above) you are better placed to understand where you want branches to develop. This technique works for developing eucalypts because they bud back freely.

It is helpful if you have some idea of how large a tree you want to have at maturity (i.e. how tall). This helps you to know where you want branches to form.



In December 2013, Peter H posted a story titled '[Nicholii reduction](#)' which has been viewed over 23,000 times and generated a discussion that continues today. These photographs, extracted from Peter's AusBonsai post, show the pruned tree, and new branches just a few months later. (This is the tree that won the BCI's 2020 Tree of the Year competition (see above). It is fascinating to see it at an earlier stage of its development.)

As Peter said: 'I have had this *E. nicholii* for many years and as this tree has progressed it has taught me many things about eucalypts and in particular this variety. I have been unable to keep the height reduced with the pruning regime I have used over the past 16 years. So, observations of street pruning of eucalypts has shown that if pruned hard (cut back with no foliage) in the hot months (December and January), they produce new growth at and below the cuts. With this in mind I have done this to several of my eucalypts this year with success.'

So, the message is to be brave but be prepared for the tree to present you with some new design challenges.

NOTE, however, that Peter's 'rejuvenation' technique can only be used on species that back-bud on old wood. If you are unsure, ask, or check the Care Calendars in the CBS knowledgebase.

While you can expect your eucalypt to bud back after pruning, some posts on AusBonsai report that back-budding can be variable. The reason(s) for this variability are not clear, but it may well be that some species bud back more readily than others. Please fill this knowledge gap if you are able.

Be aware too that cutting back mature branches can lead to dieback in which case the tree may need a major rebuild. But as one post notes: 'this is not so bad because the tree has grown in thickness and any thick dead branches can be used as jins.'

Trimming

There is an active discussion on AusBonsai about trimming eucalypts, with a range of views as to how best to go about trimming at the various stages of the tree's development. It is not entirely clear to what extent these views reflect personal preferences or differing needs of different species.

One post notes that, 'like most trees, eucalypts try to grow to full height as quickly as possible. Pruning seems to be the best way to get branching lower on the trunks. Pinching the soft tips generally only results in the last 2 buds sprouting. You can let them grow quite large then cut back hard and they will sprout new buds from the trunk and base.'

If you are wanting to mimic what one poster calls 'the unique and incalculable branching characteristics of this native tree' the usual techniques of regular clipping, constant pinching and wiring may not work with eucalypts. The same poster states: 'Deadwood, for instance, is an important feature on eucalypts. The undersides of branches often have dead limbs hanging downwards and, while you can recreate them by attaching dead sticks yourself, you may prefer to allow branches to grow until you are ready to create the deadwood.'

This is not to say that standard techniques of bonsai can't be used to capture a native tree. As another post says: 'it's the forms we create with those techniques that determine whether we are successful or not, and gum trees respond well to root pruning and wiring.'

You can pinch the tip growth using tweezers so that you do it before the shoot extends too much. This way the internodes are close, and you get better ramification. But be aware that, as one experienced grower says, 'generally, after soft growth pinching, the tree will throw back 1 or 2 nodes with reduced leaf size. This causes creep over the years until it becomes too tall. I then have to cut the primary branches back and restrain the new growth. I think this can add to the look of the tree over time'.

Also, remember that, as another post says, 'if you pinch a thin tree frequently it will stay thin, pretty much. It won't thicken slowly and naturally any time soon.' Another post advises: 'Do not cut back the stock until it is much bigger. Die-back usually occurs on eucalypts if you cut back the same area constantly (like more than once a month)'.

A CBS member, experienced with eucalypts, says small-leaved eucalypts such as *E. crenulata*, *E. bridgesiana* and *E. parvifolia* tend to be less apically dominant and can be cut back and pinched reasonably frequently without die-back. They also do not need defoliation. You do need to leave more foliage on all natives through our hard winters in Canberra. These species are hardy and strong growers here. Longer-leaved eucalypts such as *E. nicholii*, *E. scoparia*, *E. viminalis*, *E. elata* and *E. punctata* tend to be more apically dominant and more problematic with cutting back but can still make good bonsai.

We are clearly still learning about how best to manage eucalypts as bonsai, as the following response of one grower to a question about tip pruning shows: 'I'm still working this out. At the first stage, even before I dug it up, to get a rough branching structure I let it grow wildly and cut back into hard wood. Each cut would give a change in direction or a bifurcation depending on what I wanted. This gave me the bare bones. At this stage I am feeding (normal Osmocote) and constant tip pruning. I do this most days as I water. On the top two thirds of the tree I try take off the tip as soon as possible after the first two leaves open. For the crown I will do a couple of cycles of tip pruning and growing and then I cut back hard. This usually results in four buds and I select the weakest pair and start again. As I am still developing the structure of the lower branches and they are less vigorous I am letting them run for several pairs of leaves before pruning.'

Lignotuber

Quite a few posts mention lignotubers, an unusual feature seen in most species of *Eucalyptus* and some other members of Myrtaceae. These organs are large, woody, rounded outgrowths, up to several centimetres in diameter, surrounding the base of the young tree trunk. The lignotuber consists of a mass of vegetative buds and associated vascular tissue and contains substantial food reserves. If the top of a seedling, which has developed a lignotuber, is destroyed by fire, drought, or grazing, growth is vigorously renewed by the development of new shoots from the lignotuber. It is evident that this organ is of considerable value in an environment where fire and drought are frequent.

NOTE that there is a lot of advice in the literature indicating that when replanting a eucalypt, you

should ensure you plant it at the same depth or you run the risk of your tree dying. This advice is no longer considered to be correct. Eucalypts and other natives are now routinely planted out deeper by Landcare groups. Having the roots deeper seems to give a far better survival rate over the first summer as the tree has access to slightly deeper moisture in the soil profile. Most species just grow new roots from the buried trunk. As said in a [post on AusBonsai by Shibui](#), 'planting a lignotuber deeper or shallower will not kill or even harm any of the eucalypt species I have worked with and probably none of the others'.

As a general rule, rub off most of the buds that appear on the lignotuber, keeping only a few to grow long. This will help build taper into the trunk.

There is a (disputed) suggestion that you should not allow lignotuber shoots to grow freely because they can take over and you will lose the tree's upper structure.

Clearly, if you have a tree with a developed or developing structure of primary and secondary branches, you are unlikely to want new shoots from the lignotuber.

If, however, you are developing a multi-trunk design, shoots from the lignotuber are just what you want: the lignotuber allows eucalypts to become multi-trunked, which you see all the time in the wild.

This photograph is of a multi-stemmed eucalypt (possibly *E. mannifera*, brittle gum) on the Barton Highway at Hall.

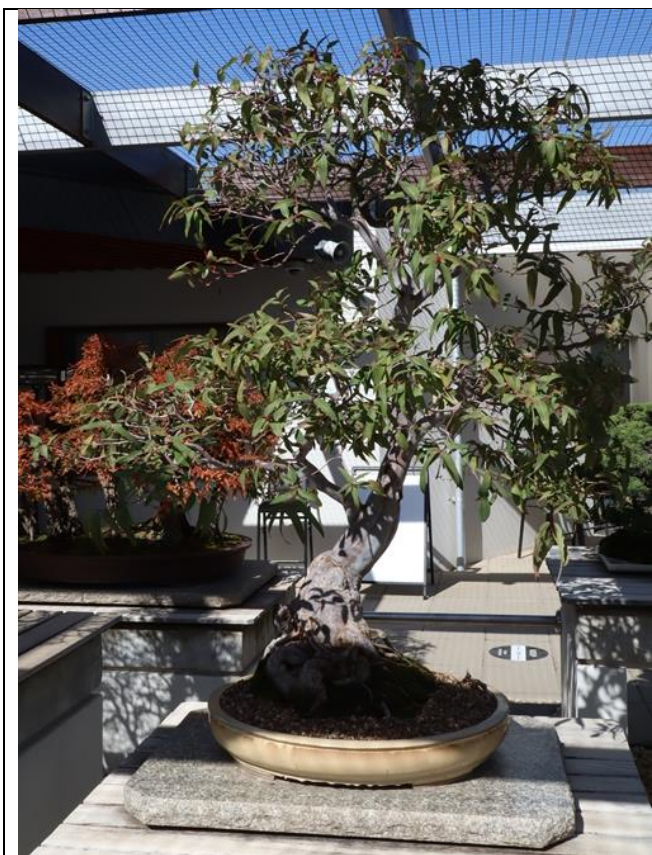


Ramification

Numerous posts indicate that there are challenges to face in getting good ramification on eucalypts.

One says: 'All that detail in the movement of the branches which can be achieved on a maple or an elm or just about anything, cannot be achieved on eucalypts. It can't be done by wiring, only with scissors and time, and gums just won't accept cutting and growing like that. Or, perhaps there is a technique which has not been worked out yet? If it

can be achieved, I would like to see it! Maybe someone slavishly working in his backyard will have something to look at in the coming few decades?"



Angophora costata (smooth-barked apple) on loan to the NBPCA by Ted Poynton

On the other hand, another believes it all boils down to species selection. He says he is confident he can get natural movement and ramification using many of the gums that he is growing, but acknowledges that it can take many years, partly because cutting back a gum branch outside the period mid-spring to late summer carries a big risk of die-back. Some gums that he has trunk-chopped have died back right to the base, but he says with time and experience you develop an understanding of which species are better to pursue and which ones are better left alone.

Wiring

There is general agreement that you can apply wire to eucalypts.

One post says: 'I've had no problems wiring as long as I kept a close eye on any strong upward growth on the wired branch. Another says: 'The tree is very pliable and sets to shape well when wired.'

Others offer caution: 'Be cautious with wiring the weaker branches until they have more foliage; don't let the wire bite into the bark, it can take years to lose the wire marks; if you do wire small branches, you can cage-wire them (loose wiring) to get some shape into them but you need to do it early, and not for long. They harden off, thicken and scar quickly.'

As covered above, some say it is a waste of time wiring a trunk, but one post says: 'wire the trunk straight away but also choose and wire the primary branches as soon as possible. In nature, gums have massive branches that almost match the width of the trunk, so you want them in place and growing quickly. In my observations even branches that extend below the horizontal still start off leaving the trunk close to the vertical so wire accordingly.'

Propagation

Popular wisdom is that eucalypts are notoriously difficult to strike as cuttings, so they are nearly always grown from seed. But [a recent post on AusBonsai](#) suggests the popular wisdom may be a myth. The post includes some links to great information on striking eucalypts from cuttings.

- An article on the [ANPSA](#) site titled *Eucalypts by cuttings*, sets out some history and parameters that could be useful.
- [CSIRO research](#) suggests that some eucalypts have a rooting inhibitor in adult tissue. The inhibitor is absent in easily rooted seedling stems of all *Eucalyptus* species the CSIRO tested. So, it is definitely possible to strike eucalypt cuttings but usually only from younger stems and under controlled conditions.

If you are going to collect seed, you need to be able to identify ripe seed capsules and understand seed germination techniques.

As explained by Neil P, an experienced CBS member:

'normally when the seed is ripe the capsules open on the tree and drop the seed. Much later the spent capsules fall but by then they are almost always empty. In my experience any seed that is left after initial seed drop is very unlikely to be viable. I have found this with many species including exotics like pine.

To get good seed you need to target unopened seed pods, but I understand the problems with very tall trees. Best opportunity to collect is when the wind has picked a branch or two for you and dropped it on the ground. Also, sometimes after the cockatoos have been there, there will be small branches of ripe pods on the ground. You need to be quick though. Seed capsules open and spill the seed as they dry out, usually a couple of days after they are cut off the tree. A lot of seed is actually viable for some time before it naturally drops, and some species retain ripe seed for a year or more before dropping it so you can collect good seed for a large part of the year rather than just when it is dropping.'

If you are thinking of layering a eucalypt, be aware that you will have to be very patient. One post advises that 'they will take a long time, so you need to check if the layer is drying out.'

Collecting


If you are planning on collecting a tree, be aware of the legal constraints (you can only dig trees on private property, and with permission) and that the roots may be long and deep and you may not have surface roots to keep it going. If you want to be more certain do some work on it first.

One post says: 'I would cut around it with a shovel, cutting heavy roots and then replace some of the dirt with your bonsai mix. Leave it for a few months then if there are new roots growing in the mix dig it'.

Opinions as to when is the best time to do a dig vary: some say autumn; other say the warmer months. There is general agreement, however, that you should put it into as free-draining mix as you can get, and water it frequently (2-4 times a day) afterwards. Some growers have succeeded, others have failed.

Conclusion

If you have not already done so, add a eucalypt to your collection and help grow the knowledge about training them as bonsai.

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