

Eucalypt Walk 2021

Walk developed by Jane Keogh, assisted by Glenys Bishop, March 2021
Thanks to John Turnbull for helpful comments.

Theme: Tuesday 23rd March is National Eucalypt Day. The 11:00 am walks from Monday 22nd March until Sunday 28th March will be themed Eucalypt walks.

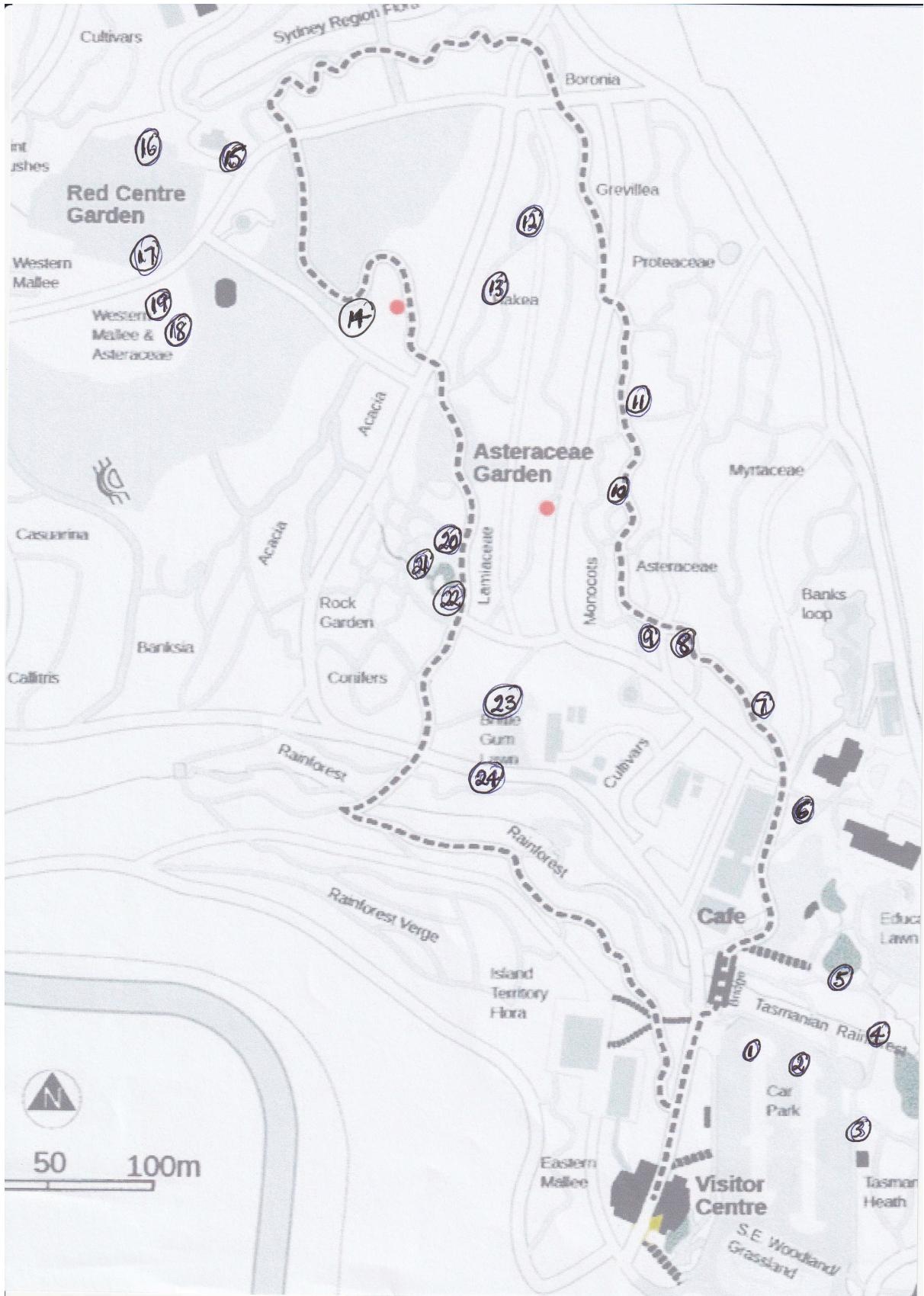
The walk described below will take more than an hour and is consequently too long for a rostered walk. It does, however, include examples of all three Eucalypt genera, and many of the notable features of the three genera. A possible one-hour walk could use the route for stops 1-14 and 20-24, selecting an appropriate number of stops. Another one-hour walk could exclude the route for stops 1-8 and include the *Angophora costata* on the Eucalypt lawn. A third might head straight up to the Eucalypt lawn and use stops 15-24

Visitors to Australia will almost certainly have heard of gum trees. And by the time that they get to the ANBG, they will certainly have seen some gum trees. Eucalypts are an essential part of any walk with an Adaptation theme or a Fire theme. The trees featured in this walk will all be useful for more than just Eucalypt walks.

One of the most easily distinguished features of any Eucalypt is the bark. The notes that follow do not attempt to describe the bark of each tree featured. The types of bark – stringy, smooth, ironbark, ribbons, stockings, tessellated etc etc – are all included in the walk.

As COVID remains an issue, we will have to be aware of the restrictions that apply e.g. maintaining a safe distance. Any props that are used can be shown to visitors but not handled.

After the map there is a list of plants that can be found at each stop. This is followed by a main message, and also some additional interesting information for each of the stops.



List of numbered stops, the featured species and the location

Stop	Species	Location
1	<i>Angophora costata</i>	S168; top row of northern car park; near to bicycle rack and rubbish bin
2	<i>Eucalyptus rossii</i>	S168. Just below <i>Angophora costata</i>
3	<i>Eucalyptus viminalis</i>	S170. Walk into the Tasmania area. On your right, almost on the corner
4	<i>Eucalyptus regnans</i>	S67. Seen from the bridge at the bottom of the rainforest
5	<i>Eucalyptus vernicosa</i>	S235 In a pipe near pond
6	<i>Corymbia 'Dwarf Orange'</i>	S240. Bottom of the road leading from the Crosbie Morrison Building to the Ellis Rowan building
7	<i>Eucalyptus cinerea x pulverulenta</i>	S12. On the right hand side of the Main Path (MP), between markers 19 and 20, at a path junction
8	<i>Eucalyptus cypellocarpa</i>	S10. On the left hand side of the path, close to marker 20 on MP
9	<i>Eucalyptus mannifera</i>	S342. Close to the intersection of the MP and a road.
10	<i>Eucalyptus saxatilis</i>	S30. On the left of the MP, near marker 29. Mallee with rusty coloured trunk
11	<i>Eucalyptus approximans subsp codonocarpa</i>	S27. Next to a small path on the right, opposite marker 33 on the MP
Continue on the MP, cross the bitumen road and then take the first path on your left		
12	<i>Eucalyptus mannifera</i>	S21. At a four-way intersection where the four sections are S21, S21, S24 and S23
13	<i>Eucalyptus eugenioides</i>	S20. On the left hand side of a small path, among the hakeas, not far from the Friends Shelter.
Detour to Eucalypt Lawn and Red Centre Garden		
14	<i>Eucalyptus globulus subsp bicostata</i>	S18. On the right. There should be a large interpretive sign next to it.
15	<i>Eucalyptus coolabah</i>	S326 Bottom of the Red Centre Garden, right of the entrance
16	<i>Eucalyptus camaldulensis</i>	S326. Along the 'water course' in the RCG
17	<i>Corymbia aparrerinja,</i>	S326.
18	<i>Corymbia calophylla</i>	S300. On the Eucalypt Trail, just above the Ducrou Pavilion
19	<i>Corymbia maculata</i>	S300. Above and just to the right of <i>C. calophylla</i>
End of detour		
20	<i>Eucalyptus macrocarpa</i>	S15s. Opposite the large <i>E. scoparia</i> which has Eucalyptus Trail signage
21	<i>Eucalyptus lacrimans</i>	S15q. Above the Rockery Pond.

22	<i>Eucalyptus lacrimans</i>	S15x. On the MP, below the Rockery Pond
23	<i>Eucalyptus sideroxylon</i>	S110. Top edge of Brittle Gum Lawn
24	<i>Eucalyptus grandis</i>	S114. Opposite the Brittle Gum Lawn

Details of Plants

***Angophora costata* (Sydney red gum, Smooth-barked apple)**

Location : Stop 1. S168; top row of northern car park; near to bicycle rack and rubbish bin

Main message :

- There are about 900 'Eucalypt' species. Three or four species are not native to Australia and a further eight are found in Australia and elsewhere., All the others are endemic to Australia. There are three genera – Angophora (10 species), Corymbia (93 species) and Eucalyptus (758 species).
 - The flowers of Eucalyptus and Corymbia have an operculum
 - The adult leaves of Angophora are opposite, while those of the other two genera are usually alternate.
 - The fruit (gumnuts) of Angophora are ribbed and angular while those of the other genera are circular.
 - This is the only Angophora with smooth bark

Additional information :

- *Angophora costata* is a large, wide, spreading tree growing to a height of between 15m and 25m. It grows well on Hawkesbury sandstone. It grows in South east Queensland and down the east coast of NSW. Bark is shed in mid-summer, leaving distinctive salmon coloured trunks.

***Eucalyptus rossii* (Scribbly gum)**

Location : Stop 2 S168. Just below *Angophora costata*

Main message :

- Best known for the scribbles on the trunk, caused by a moth called *ogmagraptis scribula*. This tree has recently shed its bark and there are no visible scribbles on it at the moment.

Additional information :

- If you are having trouble telling the difference between a scribbly gum and a brittle gum in the bush, remember that *Eucalyptus Rossii* has wRinkles in its armpits

***Eucalyptus viminalis* (Manna gum, White gum, Ribbon gum)**

Location : Stop 3 S170. Walk into the Tasmania area. On your right, almost on the corner

Main message :

- Bark is shed in long ribbons, sometimes hanging in the upper branches
- A sweet sap is exuded from the bark after the leaves have been damaged by psyllid insects. It dries and falls on to the ground, giving this tree its common name of manna gum
- It is endemic to SE Australia, is native to the ACT and is a primary food species for koalas.
- It is planted on the verge of the rain forest gully

Additional information :

- Tall tree, from 50m to 90m
- Buds occur in threes. This is one way to distinguish this species.

***Eucalyptus regnans* (Mountain ash, Swamp gum, or Stringy gum)**

Location : Stop 4 S67. Seen from the bridge at the bottom of the rainforest

Main message

- *Eucalyptus regnans* is the tallest flowering plant in the world. There is a competitor, Yellow meranti (*Shorea fagueticana*) an angiosperm from Borneo. The tallest living *E. regnans*, in Tasmania, is over 100m tall.
- The species grows in Victoria and Tasmania, mostly in cool, mountainous areas that receive over 1,000 mm of rain per year.
- *E. regnans* does not have a lignotuber but regenerates from seed. The tree will be killed by the fire. The seeds are released sometime after the fire when the branchlets on which they are positioned, die. Smoke from the fire assists the germination of the seeds. Large numbers of new trees will germinate after the fire. Because of all the ash after a fire there is little competition from other plants. As they mature, they will thin out. However, these new, replacement trees, will not produce viable seed until they are at least eleven years old. If there is another major fire event within that time frame, the forest may never recover.

Additional information :

- A living tree "Centurion" was recorded at 100.5m in November 2018, using laser technology, having grown 80 cm in ten years. It grows in forest near the Tahune Airwalk in southern Tasmania. It is the tallest flowering tree and the tallest hardwood tree in the world, exceeded only by Californian Redwood.
- During the bushfires of summer 2019 in the Huon Valley, the airwalk and Centurion were damaged. Efforts were made to protect Centurion, which sits on the state-owned forestry company's (Sustainable Timber Tasmania) land, including raking and clearing at its base, as well as the removal of ladder fuel and low shrubs. A 20-metre area around the tree was also cleared. The fire burnt the base of the tree and the surrounding understorey. Although the tree was damaged it appears to be okay.
- There were four *E. regnans* in Victoria that were taller than 90 m and they were burnt and lost in the 2009 bushfires.
- The ANBG has been inoculating the soil around the tree and throughout the gully with a range of products for a few years now. They are using products containing Trichoderma (fungi) species which are proven to consume Armillaria as well as Mycorrhizal products which we hope will colonise the roots and out compete Armillaria. These are both being applied to the soil around the base of the *E. regnans* and as a barrier right across the gully between it and the closest Armillaria mushrooms. We haven't removed any soil away from the base of the tree though but have added an inoculated mulch to its base.
- This tree is between 25m and 30m tall

***Eucalyptus vernicosa* (Varnished gum)**

Location : Stop 5 S235 In a pipe

Main message :

- Smallest of all the Eucalypts.
- It is endemic to Tasmania and is only found in alpine regions in the west to southwest, including Cradle Mountain

Additional information :

- It can be a shrub to about 1m high, or a small mallee, to about 4m high. It usually grows above the tree line.
- Leaves are small, egg-shaped and a glossy dark green

Corymbia 'Dwarf Orange'

Location : Stop 6 S240. Bottom of the road leading from the Crosbie Morrison Building to the Ellis Rowan building

Main message :

- This plant is a Eucalypt, but it belongs to the genus *Corymbia* and not to the genus *Eucalyptus*
- Flowers are arranged in the shape of a 'corymb' – a flower cluster whose lower stalks are proportionally longer so that the flowers form a flat or slightly convex head
- Gumnut is urn shaped

Additional information :

- A cultivar of *Corymbia ficifolia*, a WA flowering gum, was grafted on to *Corymbia maculata* or *Corymbia gummifera* (trees from the eastern states)
- Grows to about 3m. Useful as a street tree as it is small enough to fit under the power lines
- *Corymbia ptychocarpa*, a species from the NW of Australia, is another species that is used to produce small, colourful street trees
- *Corymbia ficifolia* is often called red flowering gum but the flowers can be pink or orange or even cream and all gum trees flower; so this is a bit of a misnomer. This *Corymbia* is a bloodwood, so named because of its thick dark red sap. In the wild it grows in open forest in a very restricted area on the far south coast of WA.
- Usually grafted to ensure colour. Seeds may give trees of various colours. Other cultivars in the ANBG include 'Precious Pearl' and 'Wildfire' on Banks Walk

***Eucalyptus cinerea x pulverulenta* (Argyle apple x Silver leaved mountain gum)**

Location : Stop 7 S10 or S11. On the right hand side of the Main Path (MP), between markers 19 and 20

Main message :

- This large tree was cut down some time ago and new trunks are growing from the old trunk (epicormic growth)
- The new foliage is silver, and the leaves are opposite. They are juvenile leaves. *E. pulverulenta* never develops adult leaves even though it can grow to 9m. *E. cinerea* can reach 30m in height without developing any adult foliage but usually has both juvenile and adult foliage present. Both species are much prized by florists. They are often coppiced regularly to retain the juvenile leaves.
- There is a *E. pulverulenta* behind the Ducrou building.

***Eucalyptus cypellocarpa* (Mountain grey gum, Monkey gum)**

Location : Stop 8 S10. On the left hand side of the path, close to marker 20 on MP

Main message :

- This Eucalypt was once known as Monkey Gum. The 'monkeys' were actually koalas and *E. cypellocarpa* is one of the species whose leaves are eaten by koalas
- It is a primary food species for koalas
- Many examples of this tree can be seen going down Brown Mountain. Their juvenile leaves stand out.

Additional information :

- Some other species that are eaten by koalas include *E. cinerea*, *E. mannifera ssp mannifera*, *E. melliodora*, *E. nicholii*, *E. viminalis* and *E. paramattensis* just nearby. The species preferred vary by location.
- Researchers on Philip Island Victoria found the trees koalas preferred to sit in, didn't necessarily correspond to what they preferred eating. <http://www.abc.net.au/science/articles/2014/04/07/3973798.htm>

***Eucalyptus mannifera* (Brittle gum)**

Location : Stop 9 S342. Close to the intersection of the MP and a road.

Main message :

- When Australia separated from Gondwana, it moved north and the climate became hotter and drier. Some of the Myrtaceae adapted to the new climate. Observe the way that the leaves are positioned relative to the sun.
- The tough leaves are typical of trees grown in dry sclerophyll forests.
- Hold a leaf up to the light and observe the oil glands – an opportunity to talk about bush fires.
- During a fire, the oil in Eucalyptus leaves volatilises, i.e. becomes volatile, and forms a ball which catches fire, hence a fireball.
- During a fire, Eucalyptus trees sometimes explode. This is not because of oil in the leaves but because the water in the trunk superheats.

Additional information :

- The outer bark on *E. mannifera* often turns red before it is shed in late summer. Although generally known as "Brittle Gum" it has been called "Red Spotted Gum" because of this characteristic.
- There are 20 Eucalyptus relatively common in ACT and another four fairly rare (*E. sieberi*, *E. cinerea*, *E. perriniana* and *E. aggregata*). Some common ACT species include *E. mannifera*, *E. rossii*, *E. macrorhyncha*, *E. viminalis*, *E. melliodora*
- There is one Corymbia species at Jervis Bay.
- Field Guide to the Native Trees of the ACT is an excellent small book to help with identifying the species.

***Eucalyptus saxatilis* (Suggan Buggan mallee)**

Location : Stop 10 S30. On the left of the MP, near marker 29. Mallee with rusty coloured trunk

Main message :

- An attractive example of a multi-trunk mallee. Has a lignotuber and many trunks
- This tree is from the SE of Victoria. Most mallee eucalypts are found in semi-arid areas, which are referred to as Mallee. Mallees regenerate from the lignotuber after fires
- The name 'mallee' is of Aboriginal origin and is used generically to refer to a particular group of eucalypt species, to the vegetation formation in which they occur, and to the region in western Victoria, eastern South Australia and south western NSW that was predominantly covered by this vegetation.

Eucalyptus approximans subsp codonocarpa

Location : Stop 11 S27. Next to a small path on the right, at marker 33 on the MP.

Main message :

- This is an example of a eucalypt which is regenerating from the lignotuber after being cut down.
- A little further on, on the right (in S11) is a large *Eucalyptus amplifolia*, one of the earliest planted in the ANBG. Since the first two trees were planted in September 1949, this tree must have been planted soon after that.

***Eucalyptus mannifera* (Brittle Gum)**

Location : Stop 12 S21. At a four-way intersection where the four sections are S21, S21, S24 and S23

Main message :

- A good example of epicormic growth
- Also an example of a hollow, where a large branch broke off the tree. This hollow will get larger.

Additional information :

- You could also talk about the value of hollows in damaged and dead trees for wildlife. Some trees at the ANBG are retained after they are dead for this reason.

***Eucalyptus eugenioides* (White stringy bark, thin-leaved stringy bark)**

Location : Stop 13 S20. On the left hand side of a small path, among the hakeas, not far from the Friends Shelter

Main message :

- A good example of a stringy bark

Additional information

- it is also known as "good kind stringybark" by beekeepers as the bees feeding on it are healthy and produce honey with a well-balanced amino-acid profile. It also provides the last crop of pollen before winter.
- Coarse string was made by indigenous people from the inner bark of stringybark Eucalypts and other trees. [Beth Gott (2008) *Telopea* 12(2): 215-226]

***Eucalyptus globulus subsp bicostata* (Southern blue gum, Victorian blue gum)**

Location : Stop 14 S18. On the right. There is a large interpretive sign on the other side on the main path.

Main message :

- *Eucalyptus globulus* has four subspecies: *subsp globulus* (Tasmanian Blue Gum), *subsp bicostata* (Southern Blue Gum), *subsp maidenii* (Maiden's Gum), *subsp pseudoglobulus* (Victorian Eurabbie). There is no Tasmanian Blue Gum in the ANBG. It is not very frost tolerant and so does not grow well in Canberra. In Tasmania it grows in coastal areas that are relatively frost-free.
- The Tasmanian Blue Gum was until recently the most widely planted world-wide of all Eucalypts. The species has been widely planted in New Zealand, South Africa, South America, California, India and Mediterranean countries. Admired overseas are its rapidity of growth, straightness of trunk, strength of wood and adaptability to a range of sites
- The Tasmanian Blue Gum is the main overseas source of eucalyptus oil. China is the biggest source of eucalyptus oil but with the rising Chinese middle class, their eucalyptus oil production is falling and so the price is rising. This has meant that Australian-produced eucalyptus oil is now more competitive

- *E. polybractea* (Blue mallee) has the highest oil content. It is grown in Australia for extraction of oil. The annual world production of eucalyptus oil is about 12,000 tonnes.

Additional information :

- *Eucalyptus globulus subsp globulus* is the Tasmanian floral emblem
- *Subsp globulus* has single buds and flowers, *subsp bicostata* has flowers in groups of three, *subsp maidenii* has flowers in groups of seven. There is a maidenii in among the acacias. Bicostata means two ribbed referring to the gumnuts. There is a young very blue bicostata across the road in section 20.
- Ethiopia's capital, Addis Ababa was moved many times as the supply of timber was exhausted. The problem was solved when Eucalypts were planted in the vicinity of the city. <https://www.syktravel.com/a-home-amongst-the-gumtrees-in-ethiopia/>
- Southern blue gum (*Eucalyptus globulus subsp bicostata*) grows in open forest in mountainous, largely inland country in New South Wales and Victoria. *E. globulus subsp globulus* occurs in tall open forest in south-eastern Tasmania. It also occurs on King and Flinders Islands in Bass Strait. Outside Tasmania it is confined to Wilson's Promontory and the Cape Otway district in southern Victoria.
- *E. globulus* is so abundant in coastal areas of California that many people assume it is a native species
- There is an old oil-distillery in Tidbinbilla
- It has also contributed to the drainage of swamps in malarial localities in Algeria, central Africa, Italy, Cuba and Turkey. Before the role of the malarial mosquito in spreading the disease was understood, there was a superstitious belief that the leaves of *E. globulus* released a magical essence which purified the air of fever germs. In reality the benefit is derived from the loss of suitable breeding sites for mosquitoes, brought about by the capacity of the trees to dry out the swampy ground.

***Eucalyptus coolabah* (Coolibah)**

Location : Stop 15 S326 Bottom of the Red Centre Garden

Main message :

- Time to sing Australia's unofficial national anthem

Additional information :

- Coolabah or coolibah is derived from the Aboriginal name for the tree, gulabaa.

***Eucalyptus camaldulensis* (River red gum)**

Location : Stop 16 S326. Along the 'water course' in the RCG

Main message :

- Most widely distributed of all the eucalypts in Australia, except Tasmania.
- Grows along river courses and in areas that are flooded regularly. Can survive up to 9 months of total inundation

Additional information :

- Regarded as invasive in many countries
- Named after a monastery in Italy (Camaldoli).
- Drop branches during times of drought. There are many signs in some parts of the Flinders Ranges National Park warning people not to stop under the river red gums
- Often depicted by Hans Heysen.

***Corymbia aparrerinja* (Ghost gum)**

Location : Stop 17 S326.

Main message :

- Ghost gum occurs in arid areas of Central Australia on rocky slopes, red sand flats and dry creek beds.
- It has distinctive smooth, sometimes powdery, white to cream-coloured and pinkish bark, (not well shown in the trees here.)

Additional information :

- Often depicted by Albert Namatjira

***Corymbia calophylla* (Marri)**

Location : Stop 18 S300. On the Eucalypt Trail, just above the Ducrou Pavilion

Main message :

- Gumnuts are urn shaped and known as honky nuts in WA.
- Also known as Red gum because of the red sap that oozes from the bark
- 'Marri' is a Noongar word meaning blood.

Additional information :

- Endemic to Western Australia
- Belongs to a group of eucalypts referred to as bloodwoods. All these species were initially in the Eucalyptus genus but have been renamed as Corymbias.

***Corymbia maculata* (Spotted Gum)**

Location : Stop 19 S300. Above and just to the right of *C. calophylla*

Main message :

- Grows in open forest from south-east Queensland to southern New South Wales
- This is the dominant species in the forest between Braidwood and Nelligen, through which the Clyde Mountain road passes when driving to the coast from Canberra.
- Often has an understorey of *Macrozamia communis* (Burrawang)

***Eucalyptus macrocarpa* (Mottlecah)**

Location : Stop 20 S15s. Opposite the large *E. scoparia* which has Eucalyptus Trail signage

Main message :

- Has one of the biggest flowers and very big gumnuts
- According to Wikipedia, *E. macrocarpa* has heart-shaped adult leaves arranged in opposite pairs. One feature mentioned by *Wrigley and Fagg, Eucalypts: a celebration* is that the leaves and flowers are not on stalks.

***Eucalyptus lacrimans* (Adaminaby snow gum or the Weeping snow gum)**

Location : Stop 21 S15q. Above the Rockery Pond.

Main message :

- This species was only described in 1991 and is considered rare in Australia due to a limited distribution. *Eucalyptus lacrimans* was originally considered a subspecies of *E. pauciflora*
- It can grow to 15m high and may be 12m in width. The foliage is pendulous. The Canberra Arboretum has a forest of these trees.

Additional information :

- The shape is very different to that of *E. pauciflora*.

- Both species have side veins that are parallel to midrib
- There are also some *Eucalyptus pauciflora subsp debeuzevillei* (Jouname Snow Gum) in the rock garden. These grow on Mt Ginini and Mt Gingera.

***Eucalyptus lacrimans* (Adaminaby snow gum or the Weeping snow gum)**

Location : Stop 22 S15x. On the MP, below the Rockery Pond

Main message :

- Look at the parallel veins in the leaves of this small snow gum.

***Eucalyptus sideroxylon* (Red ironbark, Mugga ironbark)**

Location : Stop 23 S110. Top edge of Brittle Gum Lawn

Main message :

- Ironbark is a common name of a number of species that have dark, deeply furrowed bark
- Instead of being shed annually as in many of the other species of *Eucalyptus*, the dead bark accumulates on the trees, forming fissures. It becomes rough after drying out and becomes impregnated with kino (red gum), a dark red sap exuded by the tree

Additional information :

- This is a striking tree with black furrowed bark. It is used as a street tree in Canberra. The flowers are usually white but can be pink or red. Usually the pink ones chosen as street trees.
- This species produces premium honey but is of no value as a pollen source for bees. See *Honey and Pollen Flora of South Eastern Australia* by Douglas Summerville. He uses a star rating and gives this species five stars. He gives four stars to *E. globulus*, *E. viminalis* and *E. coolabah*.
- What we now refer to as Eucalypts were originally called gum trees, because of the kino that some of them exude.
- There are two other species also called red ironbark: *Eucalyptus tricarpa* and *Eucalyptus crebra*, all three having dark red timber
- William Dampier visited NW Australia in 1688. He commented on trees which 'exude the resin that distils out of the knots or cracks of dragon trees. In 1770 Joseph Banks described a large tree yielded a blood red resin or rather gum-resin very nearly resembling Sanguis draconis. This was probably *Eucalyptus crebra* (AFHS Newsletter 36 December 2003)
- Ironbark timber is exceptionally hard. 'New Chums' were given an axe and asked to chop up Ironbark timber. Dampier's crew reported that Ironbark would blunt your axe very quickly.

***Eucalyptus grandis* (Flooded Gum, Rose Gum)**

Location : Stop 24 S114. Opposite the Brittle Gum Lawn

Main message :

- This is a straight and tall tree, usually reaching 50m but sometimes taller. The bole is straight for 2/3 to 3/4 the height of the tree.
- It is found on coastal areas and sub-coastal ranges from west of Daintree in Queensland to Newcastle in New South Wales, fringing rainforests

Additional information :

- *E. grandis* is not a rain forest tree but they grow near rainforests. They were among the first plantings when the rain forest gully was developed, because they are fast-growing. Once they were established, they provided shelter for more frost tender rainforest species.

- Eucalypts that drop seed after a fire can grow quickly whereas rainforest trees are killed by fire. If there are no fires, the rainforest will take over the area. On the other hand if fires are too often and too fierce, eucalypts will take over the rain forest.