

Evolution of eucalypts

Eucalypts are thought to have evolved from rainforest species in response to great changes in the landscape, soils and climate of the continent. As the environment became drier, eucalypts adapted to live in challenging conditions of variable rainfall, low nutrient soils and high fire risk existing over much of the continent. They grow from the arid inland to temperate woodlands, wet coastal forests and sub-alpine areas.

Adapted to fire

Dormant epicormic buds hidden beneath the often thick insulating bark of most eucalypts are ready to sprout new stems and leaves after fire. All but a few eucalypts have a special structure at the base of the trunk known as a lignotuber which also contains dormant buds and nutrients protected from fire. Some species rely on seeds released by gum nuts following fire to produce seedlings in the nutrient-rich ash bed.

Important to wildlife and people

Eucalypts are important for wildlife habitat. Tree hollows and bark provide nesting and refuge sites for native animals. Leaves, nectar, pollen and seeds are all important food sources for many native animals. Eucalypts are a vital resource of the Australian environment. They have many commercial uses including wood products, pulp and paper production, honey and eucalyptus oil. They are the world's most widely planted hardwoods. Indigenous Australians have long used eucalypts for medicinal purposes, food and tools as well as shields, dishes, musical instruments and canoes.

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Key facts about eucalypts

Eucalypts are a defining feature of much of the Australian landscape and an essential part of Australian culture. They dominate the tree flora of Australia and provide habitat and food for many native animals.

More than 850 eucalypt species are known and almost all are native to Australia.

Some species have a wide geographic distribution; others are extremely restricted in their natural habitat and need conservation.

Not all eucalypts are *Eucalyptus*

The term 'eucalypt' refers to three closely-related genera of the Myrtaceae family – *Eucalyptus* with around 735 species, *Corymbia* with 96 species and *Angophora* with 10 species. Many eucalypts are colloquially called 'gum trees'

Eucalyptus is derived from the Greek *eu-* meaning 'well' and *kalyptos* meaning 'covered', referring to the small cap or lid (operculum) which covers the flower bud before it blooms in *Eucalyptus* and *Corymbia*.

Angophora species have no flower bud cap. The name *Angophora* comes from the Greek *phora* meaning 'carries' and *angos* meaning 'jar' or 'vessel' referring to the cup-shaped fruit borne by members of the genus.

The genus *Corymbia* is named from the Latin *corymbium*; a 'corymb' refers to the form of the flower clusters.

Eucalypts show a great diversity of size, form, leaf and bark type. Each of these characteristics help in their identification. Species featured in this walk illustrate the diversity and many uses of eucalypts.

Leaves

Eucalypts have tough leathery leaves that often hang vertically to minimise exposure to the sun and moisture loss. They are rich in volatile oils, making them flammable during bushfires.

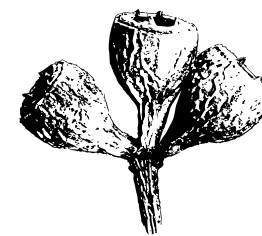
The leaf form changes from seedlings to maturity. In most species there is a pronounced difference between the juvenile, intermediate and adult leaves. Generally, the mature leaves of *Eucalyptus* and *Corymbia* are alternate. *Angophora* leaves grow opposite each other.



Look for the different shapes and textures of the gum tree leaves. Do the leaves grow opposite each other, or do they alternate?

Eucalypt fruits

There is great variation in eucalypt fruits (gum nuts). The fruit is usually a woody capsule and may be small or very large, single or clustered.



Typical *Eucalyptus* fruit



Most *Corymbia* species have thick-walled woody fruit that are more or less urn-shaped

Angophora species have ribbed fruit



Look for gum nuts near eucalypt trees as you walk through the Gardens. Can you tell the difference between *Eucalyptus*, *Angophora* and *Corymbia* fruits?

Known for the diversity and beauty of their bark

As well as having great beauty, eucalypt bark can help in a tree's identification. At a popular level, many people use bark to help identify eucalypts. Bark types are often used in the common names of eucalypts.

Mature eucalypts vary in bark characteristics.

Smooth-barked species shed their bark annually in strips, flakes or slabs revealing a colourful, fresh, smooth trunk. Other species have rough bark that persists for many years giving the trunk a rough and often dark-coloured appearance.

Rough bark may be referred to by its texture, such as compact, tessellated, stringy or ironbark. Rough bark may be present only on part of the trunk, with branches and upper trunk being smooth.



Feel the different textures of the gum tree barks.

Eucalypt Discovery Walk



Alive with discovery

Discover a selection of Australia's iconic eucalypts on this self-guided walk



Australian National Botanic Gardens



Eucalypt Discovery Walk

Discover a selection of Australia's iconic eucalypts as you follow this self-guided walk.

LIST OF TREES

- 1 *Eucalyptus langleyi* – Green Mallee Ash
- 2 *Eucalyptus macrorhynca* – Red Stringy Bark
- 3 *Eucalyptus regnans* – Mountain Ash
Eucalyptus vernicosa – Varnished Gum
- 4 *Corymbia ficifolia* 'Dwarf Orange'
- 5 *Eucalyptus mannifera* – Brittle Gum
- 6 *Eucalyptus macrocarpa* – Mottlecuh
- 7 *Eucalyptus lacrimans* – Weeping Snow Gum
- 8 *Eucalyptus scoparia* – Wallangarra White Gum
- 9 *Eucalyptus globulus* ssp. *bicostata* – Southern Blue Gum
- 10 *Eucalyptus polybractea* – Blue Mallee
- 11 *Eucalyptus benthamii* – Camden White Gum
- 12 *Eucalyptus robusta* – Swamp Mahogany
- 13 *Eucalyptus rossii* – Scribbly Gum
- 14 *Eucalyptus pulverulenta* – Silver-leaved Mountain Gum
- 15 *Corymbia calophylla* – Marri
- 16 *Eucalyptus saligna* – Sydney Blue Gum
- 17 *Corymbia citriodora* – Lemon-scented Gum
- 18 *Eucalyptus siderophloia* – Northern Grey Ironbark
- 19 *Eucalyptus cloeziana* – Gympie Messmate
- 20 *Angophora costata* – Smooth-barked Apple
- 21 *Eucalyptus grandis* – Flooded Gum
- 22 *Eucalyptus viminalis* – Manna Gum

