

Eucalypt identification basics

Family Myrtaceae, genus Eucalyptus

There are over 800 species of eucalypts in Australia and about 240 in New South Wales. The great majority occur on the coast and Great Dividing Range in NSW, with the number declining considerably on the western slopes and plains.

The occurrence of each species depends on the climate, soil type, drainage, altitude and aspect.

Why are Eucalypts important?

They are the dominant species in most vegetation communities in the Central West.

They define the vegetation community, so we will talk about a *grassy box woodland* or a *stringybark – scribbly gum forest*. The trained observer will get a picture of the landscape and also understand what other species might occur there by knowing the Eucalyptus species in the area.

Eucalypts are recognised as indicators of the suitability of land for agriculture. Yellow Box, (*Eucalyptus melliodora*) is an indicator of high quality agricultural land while Red Stringybark (*E. macrorhyncha*) occurs on infertile, well drained ridges with limited suitability for agriculture.

Being the dominant species in the landscape, Eucalypts provide valuable habitat resources for wildlife – nectar-laden blossoms, leaves for arboreal folivores (koalas, possums) and limb hollows as nesting sites for a wide range of fauna.

Features used to identify Eucalypts

Bark

Eucalypts can be divided into broad groups based on the texture of the bark of mature trees.

The bark of eucalypts can be classified into six major categories:

- gums or smooth barks,
- stringybarks,
- peppermints,
- bloodwoods,
- boxes and
- ironbarks.

Look carefully at the bark of the tree you want to identify.

Is the bark rough or smooth? Does the tree have a short section of rough bark (a “stocking”) near the base with the branches being smooth above? Does the rough bark extend all the way to the small branches? Are there ribbons of loose bark hanging in the crown of the tree?

Tree form

Trees growing in a forest usually have a small crown relative to the length of the trunk. Trees in a woodland, where they are more widely spaced, have a crown that is larger than or about the same height as the trunk.

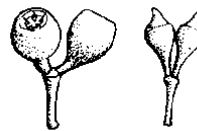
Mallees have multiple trunks and a relatively small crown.

Buds and fruits

The size and shape of the buds and fruits and their arrangement on the flowering stem are important characteristics for identifying Eucalypts – note the differences in the following illustrations.



Eucalyptus blakelyi (Blakely's Red Gum)
(Left) The bud cap (also called the operculum or calyptra) is pointed.
(Right) The gumnut (the fruit or seed capsule) has exerted valves, ie. they point outwards from the centre of the fruit



Eucalyptus melliodora (Yellow Box)
(Left) The gumnut has enclosed valves.
(Right) The bud cap is conical and sometimes beaked

Leaves

Eucalypts produce different types of leaves at different stages of their life cycle. Leaves can be of three basic types:

- Seedlings – the first 10 or so pairs of leaves on a young plant
- Juvenile – those of a young sapling or of new growth following damage to a mature tree
- Adult – the leaves in the canopy of a mature tree.

Some species can be readily identified in the field once you are familiar with the colour and shape of adult leaves. For example, Snow Gum (*E. pauciflora*) and Black Sallee (*E. stellulata*) are distinguished from other species by having veins running parallel to the margins of the leaf.

The size and arrangement of the juvenile leaves can also be useful in separating some similar species. For example, Ribbon Gum (*E. viminalis*) has narrow, opposite juvenile leaves while the very similar Mountain Gum (*E. dalrympleana*) has oval or round juvenile leaves.

Habitat and associated species

Each species of Eucalypt usually occurs in a limited range of habitats in association with a restricted number of other species. Therefore, the habitat and other species present can provide clues to the identity of an unknown tree. For example, in the Central Tablelands, Blakely's Red Gum (*E. blakelyi*) is usually associated with Yellow Box (*E. melliodora*) and Inland Scribbly Gum (*E. rossii*) with Red Stringybark (*E. macrorhyncha*).

Important habitat elements to note when you are trying to identify an unknown Eucalypt are position in the landscape – i.e. creek bank, lower slopes, mid slopes, ridge tops - and altitude. For example, on the Central Tablelands Yellow Box and Blakely's Red Gum (*E. melliodora*, *E. blakelyi*) form the dominant vegetation community in the Bathurst basin, while Manna Gum and Apple Box (*E. viminalis*, *E. bridgesiana*) dominate on the higher altitude plateau around Orange.

Trees near Me is a handy app to help identify the broad vegetation communities in your local area.

Identifying Eucalypts – checklist

To successfully identify a eucalypt, you need to have as many parts of the plant as possible, as well as a description of the bark. It is also useful to collect information about the location where the tree is growing.

The following checklist will help you to ensure that you have all of the necessary information before you attempt to identify your specimen. Write down the necessary information in your field note book.

Remember to seal your specimen in a plastic bag and store in a cool place until you are ready to press it or identify it.

Tick	character	what to look for
	<i>Bark</i>	<i>Is the bark smooth, smooth with ribbons of bark hanging in the crown, smooth with a stocking of rough bark, scribbly, stringybark, ironbark or box.</i>
	<i>Adult leaves</i>	<i>Collect a sample of mature, healthy leaves. Try to avoid leaves that have been severely chewed by insects.</i>
	<i>Juvenile leaves</i>	<i>Look for young eucalypt plants growing nearby, or look for places where a mature tree has been wounded, e.g where a branch has broken off. The leaves arising from the wounded area will usually take the juvenile form.</i>
	<i>Seed pods (gumnuts)</i>	<i>Try to find some mature gumnuts. Hint: if the tree does not appear to have any gumnuts, or they are too high for you to reach, search in the leaf litter beneath the tree for old gumnuts that have fallen off.</i>
	<i>Flower buds</i>	<i>Flower buds are often found on the young growth towards the ends of the branches.</i>
	<i>Position in landscape</i>	<i>Is the tree growing on the bank of a river or creek, half way up a slope or on the top of a ridge?</i>
	<i>Altitude</i>	<i>Look at a topographic map or use a GPS to work out how high above sea level your tree is growing.</i>
	<i>Location</i>	<i>Where did you collect your specimen?</i>
	<i>Associated species</i>	<i>Are there any native plant species that you can recognise growing nearby?</i>
	<i>Naturally occurring or planted?</i>	<i>Is your specimen growing in the bush or other natural area, or is it in a park, garden or revegetation area? Trees that have been planted are not necessarily native to the local area and can be more difficult to identify.</i>

Eucalypt identification resources

Euclid Eucalypts of Australia [EUCLID Home \(lucidcentral.org\)](http://lucidcentral.org)

PlantNET Flora of NSW [PlantNET - NSW FloraOnline - Plant Name Search](http://www.plantnet.nsw.gov.au)

Costermans, L (2009) *Native Trees and Shrubs of South-eastern Australia*. New Holland Publishers (Australia) Pty Ltd

Some tips to remember when using Lucid (Euclid Eucalypt identification)

- Become familiar with the specimen you wish to identify;
- Note any features you think may be relevant;
- Choose an appropriate character set;
- Browse the characters list and answer any easy character first, this is an advantage of an interactive key opposed to a dichotomous key;
- When selecting states, always choose more than one if you are uncertain, this will retain the taxa that are coded for either state and not those coded for both;
- If you are using a measurement character, where possible take an average measurement rather than the largest or smallest;
- When you've addressed all the obvious characters ask the player to suggest the best remaining character;
- If you have no taxa left, review what you have chosen and delete any character states that you are dubious about;
- Don't assume you will end up with a single taxon remaining, in many cases there may be a small number of taxa remaining, these can usually be differentiated by checking the images and other supplementary information, and
- Once you have a potential answer, check its supplementary information to see if it matches.