

Field key to the eucalypts of the Atherton Tablelands & vicinity

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This version: 15 November 2014. This is a working draft and field testing is not yet comprehensive.

Please provide the author with feedback including errors and suggestions for improvement.

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Eucalypt = *Eucalyptus*, *Corymbia* & *Angophora*

Area covered The Atherton and Evelyn Tablelands north to Mt Molloy, and the western slopes west to Mt Garnett, Irvinebank, Petford and Mt Molloy.

A field key

The intent of this key is to facilitate getting-to-know your local eucalypts. It grew out of my attempts to do so. It will not always yield the definitive results that may be expected of a formal botanical key.

- I have deliberately emphasized vegetative traits such as bark and foliage which are, however, prone to considerable variation within species.
- the key works best with mature (flowering-age) trees because the bark of young trees often hasn't developed fully, and the leaves of seedlings, small saplings and coppice growth may differ from those of mature trees.
- the need to consider buds, flowers and capsules is deferred as long as possible in the key because these are often not available, but consideration of them is unavoidable for the identification of many species.

To a reasonable extent, variation within species is allowed for by multiple entries for some species, often in different groups. It follows that "groups" are not necessarily natural (taxonomic) groups and close relatives do not necessarily appear close together in the key.

In attempting identifications and especially in the absence of buds, flowers or capsules, the counsel of John Clarkson (2009) to concentrate on stands of species rather than individual trees (especially aberrant individuals) should be heeded:

"Take some time to look around ... pick out several trees which you think belong to the same species ... Once you feel you know something about the sort of variation which exists, look carefully at the bark. ... Look at the size and shape of the leaf and, in particular, at the pattern of veins in the leaf."

In most couplets or triplets, some characters are emboldened. If your plant convincingly matches one emboldened option then you may not need to consider the other characters listed.

Names

The names and relationships of a number of eucalypts in the study area are not fully resolved. I have adopted those of the Australian Plant Census (<https://www.anbg.gov.au/chah/apc/>) which was updated for eucalypts in 2011. Where these differ from those currently adopted by the Queensland Herbarium, I have drawn attention to the fact.

Key references

Species names (both scientific and common) employed in these sources will not necessarily be the same as in this field key. In particular, the scientific names of Brooker & Kleinig (2004) are very dated.

Brooker MIH, Kleinig DA. 2004. *Field Guide to Eucalypts. Northern Australia. Volume 3 Second Edition*. Blooming Books: Melbourne.

Centre for Plant Biodiversity Research. 2006. *EUCLID: Eucalypts of Australia. Third Edition*. CSIRO Publishing: Collingwood.

Clarkson J. 2009. *A Field Guide to the Eucalypts of the Cape York Peninsula Bioregion*. Queensland Government: Mareeba.

Quick guide to distinctive species**Colour of smooth bark (note that colour varies with time of year)**

- * bark strikingly pink or patchily pink and grey; leaves lemon-scented when crushed *Corymbia citriodora* (Lemon-scented Gum)
- * bark pumpkin orange or patchily so (dry, western forests) .. *Eucalyptus pachycalyx* (Pumpkin Gum)
- * bark pale lime green (rainforest edges) *Corymbia torelliana* (Cadaghi)

Growth form

- * straight tall tree (often more than 40 m) with pale smooth bark and a distinct “sock” of rough bark at the base (close to rainforest) *Eucalyptus grandis* (Rose Gum)

Flower colour

- * flowers orange *Eucalyptus chartaboma* (Queensland Woollybutt)
- * flowers with red “throat” (otherwise whitish) *Corymbia rhodops* (Red-throated Bloodwood)

Quick guide to groups

Groups are not necessarily exclusive; i.e. a species may belong to more than one group.

- crown leaves mostly opposite (may be more-or-less stalkless) Group A
- smooth-barked trees Group B
- half-barks Group C
- ironbarks Group D
- rough-barked bloodwoods Group E
- other rough-barked eucalypts (stringybarks, boxes, mahoganies) Group F

If in doubt, use the Key to groups below.

Key to groups

1. - **crown leaves in pairs (opposite)** Group A
- **crown leaves mostly alternating** along the branchlets 2
2. - **bark on trunk mostly smooth** (may have rough bark at the base extending up the trunk for several metres or as much as 25% of the trunk) (gums & others) Group B
- **“half-barks”** – bark smooth on major branches and often the upper trunk, but rough on most of the trunk Group C
- **bark on trunk and large branches mostly or entirely rough** (bark on smaller branches may be smooth) 3
3. - **ironbarks** – rough bark hard (may be impregnated with resin), deeply furrowed, slatey-grey, dark grey or blackish Group D
- **rough bark** not as above, **fibrous, flaky or tessellated**, often brown 4
4. - **leaf veins feather-like** – lateral veins typically more than 5 per cm on each side of the mid-vein, more or less straight and parallel, diverging from the mid-vein at an angle of about 60°; **rough bark often tessellated**; flowers in terminal branched inflorescences (corymbs); capsule urn- or barrel-shaped with deeply recessed disc and valves (red and yellow bloodwoods, part genus *Corymbia*) Group E
- **leaf veins not feather-like**, typically with fewer than 5 lateral veins per cm, veins typically curved and forming loops (in some species diverging at an angle of less than 45°); **rough bark often fibrous or flaky or finely fissured**; flowers often arranged in simple or compound axillary inflorescences (umbels or panicles); capsule of various shapes with the disc and valves of many species at or above the rim Group F

Eucalyptoids

A suite of species related to eucalypts – known as *eucalyptoids* – may be confused with them. Beyond the notes below, eucalyptoids are not covered by this field key. The species in the study area are:

- Brush Box (*Lophostemon confertus*)
- Northern Swamp Box (*Lophostemon grandiflorus*)
- Honey Myrtle (*Lophostemon suaveolens*)
- Stockwellia (*Stockwellia quadrifida*)
- Turpentine (*Syncarpia glomulifera*)

Stockwellia occurs only deep within rainforest where no eucalypt occurs. The capsules of Stockwellia and Turpentine are fused into structures that are obviously compound, unlike any local species of eucalypt. Flowers of the three *Lophostemon* species have petals and could thus only be confused with Rough-barked Apple (*Angophora floribunda*) in this area. The stamens on *Lophostemon* flowers are in five bundles and the petals are obvious, whereas the stamens are unbundled in Rough-barked Apple and the petals are small and hidden below the stamens.

Group A: crown leaves mostly in pairs (opposite)

- A1 - **bark smooth** on large branches and often much of the trunk
Corymbia confertiflora (Broad-leaved Carbeen)
- **bark rough** on trunk and large branches A2
- A2 - **crown leaves stalked, green**; capsules with teeth extending beyond the rim A3
 - **crown leaves stalkless, often silvery**; capsules lacking teeth (but may be ribbed) A5
- A3 - **crown leaves darker above than below, mostly less than 15 cm long, not leathery**; flowers with small white petals; capsules no more than 12 mm long (known only from Tumoulin area)
Angophora floribunda (Rough-barked Apple)
- **crown leaves the same colour on both sides, often more than 15 cm long, leathery**; flowers without petals; capsules more than 15 mm long (western slopes from Irvinebank to Mutchilba and Dimbulah)
 A4
- A4 - buds and fruits strongly ribbed, more-or-less square in cross-section
Eucalyptus megasepala (Cape York Stringybark)
- buds and fruits not or weakly ribbed, more-or-less circular in cross-section
Eucalyptus tetradonta (Darwin Stringybark)
- A5 - **crown leaves small** (to 9 x 5 cm but often less); **tree more-or-less erect though often small**; common stalk for bud, flower and capsule clusters 0.5 to 1.5 cm long; buds and capsules not ribbed
Eucalyptus melanophloia (Silver-leaved Ironbark)
- **crown leaves to 13+ x 8+ cm but can be smaller; stunted small tree or large shrub, often multi-stemmed and gnarled**; common stalk for bud, flower and capsule clusters 1.7 to 3.7 cm long; buds and capsules often ribbed
Eucalyptus shirleyi (Shirley's Silver-leaved Ironbark)

Group B: smooth-barked trees (gums & others)

Note that the smooth bark of most species changes colour with time of year.

- B1 - **crown leaves broad** – mostly more than 4 cm wide and less than twice as long as wide B2
 - **crown leaves narrow** – mostly less than 4 cm wide and more than twice as long as wide B3
- B2 - **crown leaf stalks absent or less than 5 mm long**; crown leaves mostly in pairs (opposite) (western slopes) *Corymbia confertiflora* (Broad-leaved Carbeen)
 - **crown leaf stalks 10 – 24 mm long**; crown leaves alternate, markedly darker above than below (tree of rainforest margins, especially near Kuranda) *Corymbia torelliana* (Cadaghi)
 - **crown leaf stalks 25 – 70 mm long**; crown leaves alternate, the same colour on both sides (tree of drier woodlands particularly on plains) *Eucalyptus platyphylla* (Poplar Gum)
- B3 - crown leaves darker on one side B4
 - crown leaves the same colour on both sides B6
- B4 - **trees of wet tall forests or rainforest edges**; bark smooth throughout or with a stocking of flaky bark at base usually covering less than 25% of the trunk.. .. B5
 - **trees of woodlands or open forests** (can be montane, but with a dry understorey); trunk with a stocking of rough bark often covering more than 25% of the trunk .. go to Group C (half-barks)
- B5 - **erect, tall tree** (often much more than 30 m tall); **smooth bark white or pale grey**; inflorescence in leaf axils and unbranched; capsule with valves exerted beyond the rim *Eucalyptus grandis* (Rose Gum)
 - **spreading or erect tree** usually less than 30 m tall; **smooth bark often greenish**; inflorescence terminal and much-branched; capsule with valves enclosed below the rim *Corymbia torelliana* (Cadaghi)
- B6 - **trunk with a distinct stocking of grey or black tessellated rough bark** at the base extending 1 – 4 m up the trunk, abruptly smooth and **white above** *Corymbia tessellaris* (Moreton Bay Ash)
 - trunk not as above (mostly smooth-barked) B7
- B7 - **leaf veins feather-like** (lateral veins more or less straight and parallel, diverging from the mid-vein at an angle of about 60°, more than 5 per cm on each side of the mid-vein,); **leaves lemon- (citronella)-scented** when crushed (bark often strikingly pink) *Corymbia citriodora* (Lemon-scented Gum)
 - **leaf veins not feather-like** (lateral veins typically diverging at an angle of 45° or less, curved and forming loops and typically with fewer than 5 lateral veins per cm), **leaves eucalypt-scented** when crushed B8
- B8 - bud caps rounded; capsule with the valves enclosed below the rim *Corymbia dallachiana* (Dallachy's Ghost Gum)
 - bud caps pointed; capsule with the valves strongly exerted above the rim B9
- B9 - **bud/flower/fruit clusters** in simple **pairs** emerging from the base of the leaf stalk; valves of capsule exerted and spiky (new bark "pumpkin"-coloured; rocky areas on western slopes).. .. *Eucalyptus pachycalyx* (Pumpkin Gum)
 - **bud/flower/fruit clusters** simple and **singular** emerging from the base of the leaf stalk; valves of capsule exerted but not spiky B10

B10 In our area, these species may be reliably distinguished only by the colour of the seed, and local trees attributed to River Red Gum may actually be a hybrid population between these two species.

- **stream-bank tree** of the Walsh River and tributaries; bark often with brown patches
Eucalyptus camaldulensis (River Red Gum)
- **widespread tree** (can occur on stream banks but if so, usually extending to adjacent slopes); bark usually lacking brown patches
Eucalyptus tereticornis (Forest Red Gum*)

* known locally as Blue Gum.

Group C: half-barks

- C1 - **crown leaves mostly in pairs (opposite), broad, stalkless or short-stalked**
Corymbia confertiflora (Broad-leaved Carbeen)
- **crown leaves alternate, much longer than wide, with stalks usually more than 5 mm long** .. C2
- C2 - **crown leaves darker on one side** C3
- **crown leaves the same colour on both sides** C4
- C3 - **buds and capsules large and strongly ribbed**; bud caps tapered (buds 1.6–2.1 cm long, capsules 3–7.5 cm long) (tree often multi-stemmed and spreading, confined to far western areas)
Eucalyptus chartaboma (Queensland Woollybutt)
- **buds and capsules small and not ribbed**; bud caps rounded (buds and capsules less than 1 cm long) (tree often single-stemmed and erect)
Eucalyptus cloeziana (Gympie Messmate)
- C4 - **rough bark strongly tiled** (tesselated); leaves with feather-like veins C5
- **rough bark not tiled**; leaves lacking feather-line venation..
Eucalyptus lockyeri (Lockyer's Box)
- C5 - **rough bark dark grey to black**, changing abruptly above to smooth bark
Corymbia tessellaris (Moreton Bay Ash)
- **rough bark of thin loose flakes which are grey-brown over rich red-brown and/or with reddish tiles**, changing gradually to smooth bark with numerous flakes
Corymbia erythrophloia (Red Bloodwood)

Group D: Ironbarks

- D1 - **crown leaves in pairs** (opposite), **stalkless, often rounded** (silver-leaved ironbarks) D2
 - **crown leaves alternate** (not paired), **stalked, not rounded** D3
- D2 - **crown leaves small** (to 9 x 5 cm but often less); **tree more-or-less erect though often small**; common stalk for bud, flower and capsule clusters 0.5 to 1.5 cm long; buds and capsules not ribbed ..
Eucalyptus melanophloia (Silver-leaved Ironbark)
 - **crown leaves to 13+ x 8+ cm but can be smaller**; **stunted small tree or large shrub, often multi-stemmed and gnarled**; common stalk for bud, flower and capsule clusters 1.7 to 3.7 cm long; buds and capsules often ribbed *Eucalyptus shirleyi* (Shirley's Silver-leaved Ironbark)
- D3 - **many crown leaves more than 2 cm wide**; intramarginal vein present.. .. D4
 - **most crown leaves 1–2 cm wide**; intramarginal vein present D5
 - **most crown leaves less than 1 cm wide**; intramarginal vein absent (Stannary Hills only)
Eucalyptus exilipes (Fine-leaved Ironbark)
- D4 - **canopy leaves green and glossy**; branchlets, buds and fruit without whitish wax; leaf stalks mostly less than 2 cm long *Eucalyptus granitica* (Granite Ironbark)
 - **canopy leaves not glossy, often blue-grey**; branchlets, buds and often also the fruit covered with a whitish wax; leaf stalks often more than 2 cm long *Eucalyptus atrata* (Herberton Ironbark)
- D5 - **capsule with level or ascending rim and strongly exerted valves** (western slopes only)
Eucalyptus cullenii (Cullen's Ironbark)
 - **capsule with a descending rim and enclosed valves** (Tablelands & western slopes).. ..
Eucalyptus crebra (Narrow-leaved Ironbark)

Ironbarks with alternate leaves can be difficult to identify and intergradation may occur. *Eucalyptus crebra*, *E. granitica* and *E. exilipes* are very closely related. There is some doubt about the occurrence of *E. exilipes* in this area.

Group E: red & yellow (rough-barked) bloodwoods

- E1 - **bark yellow, yellow-brown or yellow-grey** (yellowjackets) E2
 - **bark grey or brown or with red patches** E3

- E2 - **leaves the same colour on both sides, often more than 14 cm long and 2 cm wide**; buds and capsules tightly clustered (stalks 0–4 mm long) on a longer common stalk (6–25 mm long); capsules mostly more than 10 mm long by 8 mm wide; sapling/coppice leaves broad
Corymbia leichhardtii (Yellowjacket)
 - **leaves mostly darker on one side than the other, mostly less than 14 cm long and 2 cm wide**; buds and capsules loosely clustered (stalks 2–7 mm long) on a shorter common stalk (4–13 mm long); capsules no more than 10 mm long by 8 mm wide; sapling/coppice leaves slender (2.5–7 cm wide) (bark is variably yellowish or brown)
Corymbia trachyphloia (Brown Bloodwood)

- E3 - **bark rough (as on the trunk) to the smaller branches** E4
 - **bark on smaller branches smooth or strongly flaking or lightly furrowed** E5

- E4 - **leaves much darker on one side than the other and tending quite strongly to be held horizontal**; capsules mostly less than 1.5 times as long as wide.. .. .
Corymbia intermedia (Pink Bloodwood)
 - **leaves not as markedly contrasting in colour between sides and somewhat pendulous**; capsules mostly 1.5–2 times as long as wide
Corymbia clarksoniana (Clarkson's Bloodwood)

These species may be difficult to distinguish. Pink Bloodwood is generally a taller tree (to 35 m cf to 15 m) of moister and/or more fertile sites. It generally has broader leaves and somewhat looser, less tessellated bark than Clarkson's Bloodwood. The capsules of Pink Bloodwood are often rusty when fresh whereas those of Clarkson's Bloodwood are often green.

- E5 - **crown leaves often more than 4 cm wide**, dark green and glossy above, much paler below; individual buds and capsules more or less stalkless; **capsules large (to c. 3 by 2.5 cm)** (stunted tree of elevated, harsh sites with strikingly broad, dicolorous leaves and huge capsules)
Corymbia abergiana (Range Bloodwood)
 - **crown leaves less than 4 cm wide**, the same colour above as below or only somewhat paler below; individual buds and capsules stalked (may be short); **capsules less than 3 x 2.5 cm** E6

- E6 - **leaves more or less the same colour on both sides** (bark often with prominent red tiles) E7
 - **leaves somewhat darker on one side than the other** (bark not red or may be reddish underneath) E8

- E7 - **bark on lower trunk thin**, flaky, with prominent red tiles *Corymbia erythrophloia* (Red Bloodwood)
 - **bark on lower trunk becoming thick with age, coarsely chunky**, the redness underlying the outer layer
Corymbia ellipsoidea (Western Slopes Bloodwood)

These species can be difficult to distinguish and may not be distinct.

- E8 - **leaves tapered to an elongated point**; capsules more than 10 mm long E9
 - **leaves pointed but not strongly elongated**; capsules no more than 10 mm long
Corymbia trachyphloia (Brown Bloodwood)

- E9 - **bark not flaky**; capsules 17–28 mm long; individual capsule stalks often more than 13 mm long; flowers with red throat
Corymbia rhodops (Red-throated Bloodwood)
 - **bark somewhat to quite flaky**; capsules mostly less than 16 mm long; individual capsule stalks no more than 13 mm long; flowers with yellow/green throat
Corymbia stockeri (Gum-topped Bloodwood)

Group F: miscellaneous rough-barked species (boxes, stringybarks, mahoganies)

- F1 - **bark on branches c. 4 cm diameter smooth** F2
 - **bark on branches c. 4 cm diameter rough** F4

- F2 - **bark on trunk long-fibred, furrowed, peeling in strips (stringybark)**; capsules in tight clusters (stalkless or nearly so) *Eucalyptus tindaliae* (Tindal's Stringybark)*
 - **bark on trunk not as above (more-or-less box-type)**; capsules stalked and in loose clusters .. F3

* known locally as White Stringybark, and by the Queensland Herbarium as *E. reducta*.

- F3 - **bark on smooth branches white, cream or pale grey**; erect tree
Eucalyptus moluccana (Gum-topped Box)
 - **bark on smooth branches dull copper or reddish-brown**; small, spreading tree often branched close to the ground *Eucalyptus lockyeri* (Lockyer's Box)

- F4 - **leaves held more-or-less horizontal, darker above than below** (medium to tall tree of moist forests with strikingly elongated bud caps and the common stalk to bud and capsule clusters prominently flattened) *Eucalyptus resinifera* (Red Mahogany; known locally as Red Stringybark)
 - **leaves held more or less vertically, the same or similar colour on both sides** (small to medium trees of woodlands and drier open forests; bud caps and common stalks not as above) F5

- F5 - **bark long-fibred, peeling in strips** F6
 - bark short-fibred (box-type), not peeling in strips *Eucalyptus leptophleba* (Molloy Red Box)

- F6 - **bark in flattish strips; leaves not leathery, mostly less than 15 cm long, semi-glossy or glossy**; buds and capsules not teathed (Tablelands & western slopes)
Eucalyptus mediocris (Inland White Mahogany)*
 - **bark furrowed**; leaves leathery, often more than 15 cm long, dull; buds and capsules teathed (western slopes only) F7

* known locally as Yellow Stringybark. There remains much uncertainty about the classification and naming of white mahoganies. A white mahogany species abundant in dry eucalypt forest around Herberton, here named as *E. mediocris*, is known by the Queensland Herbarium as *E. portuensis*. There are also reports of *E. acmenoides* in moister eucalypt forest on the Tablelands but I have treated these as unconfirmed. *E. acmenoides* differs from *E. mediocris* in being a taller tree with the leaves more distinctly darker above than below, but the species intergrade.

- F7 - buds and fruits strongly ribbed, more-or-less square in cross-section
Eucalyptus megasepala (Cape York Stringybark)
 - buds and fruits not or weakly ribbed, more-or-less circular in cross-section
Eucalyptus tetradonta (Darwin Stringybark)