

24th National Street Tree Symposium


Dry rainforest species with potential for urban forests



Philip Holzknecht, Mirisa Dry Rainforest, SEQld, Friday 8th September 2023

Introduction

- Australia was once covered by rainforest
- Some longest-lived trees are from Gondwana times
- Rainforest trees are very adaptable
- Closed canopy helps adaptation to climate change
- Planning enhances benefits of closed canopy
- 15 potential trees & options for urban spaces

A vertical photograph on the left side of the slide shows a tree trunk with thick, grey, peeling bark. The bark is cracked and flaking, revealing a lighter, fibrous inner layer. The background is slightly blurred, showing more of the tree and some dry ground.

Points to consider

- rainforest trees grow to $\sim \frac{2}{3}$ of nominated height in full sun, with broader canopy & potential for multi-trunking
- straight rooted seedlings are critical; or up to 60% losses
- better results with watering and care
- respond well to pruning to ensure straight trunk
- remove weeds & competition to ~ 1 m from base, use forest mulch or shredded leaf mulch
- tolerate infertile, poor soils – will benefit from leaf litter to build up mycorrhizal networks. Only soil additive used at Mirisa Dry Rainforest is crushed basal rock dust.
- While normally ‘ever green’, if very dry, trees will shed leaf (some trees, e.g. Brachychitons, need to drop leaf to flower)

1 *Atalaya salicifolia* (Scrub Whitewood) Sapindaceae > 15–20 m

- endemic to dry rainforests in eastern & northern Australia
- good potential for street trees, parks & home gardens
- masses of white flowers (late spring & early summer), followed by joined winged seeds
- shiny green leaves are slim when young, broadening with age
- hardy & adaptable to poorer conditions, somewhat slow growing when young

Other options: Atalaya hemiglauca
(Whitewood) & ***Auranticarpa rhombifolia***
(Diamond Leaved Pittosporum)



2 *Baloghia inophylla* (Scrub Bloodwood)

Euphorbiaceae > 25 m

- wide natural range from far north Qld to southern NSW and offshore
- tough dry rainforest tree with thick and shiny dark green leaves
- fragrant pinkish flowers from winter to early summer
- bleeds a blood red sap when cut, used for cloth dyeing
- some planted in Adelaide Botanical Gardens
- can be slow growing

Other option: Baloghia marmorata (Marbled or Jointed Baloghia), shorter, rarer



3 *Cadellia pentastylis* (Ooline) Surianaceae > 10–25 m

- found in drier regions of Qld and NSW
- single genus (ancient Gondwanan tree)
- has bright green leaves & patterned bark
- white flowers from Oct to Dec.
- small fruits attached to mature maroon coloured flower sepals from Nov to Dec.
- vulnerable, seed available, propagation trials

Other options: Brachychiton genus (already in use): **B. acerifolius** (Flame Tree), **B. australis** (Broad Leaved Bottle Tree), **B. gregorii** (Desert Kurrajong), **B. populneus** (Kurrajong), **B. rupestris** (Queensland Bottle Tree).



4 *Diospyros fasciculosa* (Grey Ebony)

Ebenaceae

> 30 m

- several ebonies found in Qld, mostly slow growing tall shrubs suited to gardens, parks and screening
- this one has potential to grow taller
- hardy & adaptable with dark green leaves & dark grey trunk
- small whitish flowers
- edible yellow to red berries, attractive to birds
- related to Persimmons [*Diospyros kaki*].

Other options: *D. australis* (Black Plum) with small black berry-like fruits, to 20 m; *D. pentamera* with dark rough bark and small edible fruit, 20 m.



5 *Dysoxylum fraserianum* (Rosewood)

Meliaceae

> 30 m

- naturally found from southern NSW to lower central Qld
- one of Australia's true Mahoganies, long lived, known for quality & colours of timber
- seedlings are readily available
- Rosewood produces a pleasing canopy and good shade, with lovely dark green leaves
- scented white to pinkish flowers in autumn
- cream to tan coloured seed capsule spring to summer.
- adapts well to drier condition

Other options: *D. gaudichaudianum* (Ivory Mahogany), *D. molliseum/muellerii* (Red Bean), & *D. rufum* (Hairy Rosewood).



6 **Elaeocarpus eumundi** (Eumundi Quandong) Elaeocarpaceae > 25 m

- found in central eastern Qld to north, rarer in northern NSW
- medium to large tree with attractive leaves
- leaves start as salmon colour → reddish bronze → v. dark green
- flowers are fringed, small white bells

***Other options:* E. obovatus** (Hard Quandong), **E. bancroftii** (Ebony Heart), **E. williamsianus** (Hairy Quandong), **Sloanea australis** (Maidens Blush) & **Sloanea woollsii** (Grey or Yellow Carabeen).



7 *Elattostachys xylocarpa* (Scrub Tamarind) Sapindaceae > 25 m

- grows naturally in northern NSW to central Qld
- also known as Short Leaved Beetroot, due to attractive red colour of fresh young leaves
- a very hardy, adaptable and attractive dry rainforest and remnant tree
- leaves are medium/dark green with wavy & toothed edges
- small red flowers (mid/late summer) followed by seamed capsules, often seedless in autumn

Other options: Elattostachys nervosa (Green Tamarind or Beetroot)

Issue: lack of seed production due to no suitable local pollinators



8 *Flindersia maculosa* (Desert Ash/Leopardwood) Rutaceae 15 m

- attractive weeping tree from harsh, dry, poor conditions in central west Qld, NSW
- young plant is thorny, native citrus-like
- mature plant develops trunk patches
- drooping leaves are thin, medium green
- flowers are white/creamy
- fruits are small green & open in F. star-shaped form
- seeds – winged for wind dispersal

Other options: *F. australis* (Crows Ash), *F. xanthoxyla* (Yellow Ash), *F. pimentaliana* (Maple Silkwood) & *F. oppositifolia* (Mountain Silkwood)



9 *Harpullia hillii* (Blunt Leaved Tulip) Sapindaceae > 20 m

- hardy dry rainforest tree from northern Qld to northern NSW
- dense canopy
- leaves are dark green
- white flowers, bright orange fruit capsules, glossy black seeds
- easy to propagate after removal of thin black protective skin, then fleshy green seed can be placed correctly for straight roots

Other options: *H. alata* (Winged Tulip), *H. arborea* (Tulip Wood Tree), *H. ramiflora* (Claudie Tuckeroo), *H. pendula* (Tulipwood)



10 *Hernandia bivalvis* (Grease Nut)

Hernandiaceae > 20 m

- near threatened, endemic to central/southern Qld
- unique & attractive colours in life cycle
- fleshy root system
- shiny, fleshy lime coloured leaves
- Attractive white flowers
- smallish dark nut with thinnish black membrane; has 2-part 'skirt' changing from lime green to orange to red
- the name is from the nut oil content formerly used to lubricate wooden brake blocks of old German wagons



11 **Melicope elleryana** (Pink Euodia) Rutaceae > 25 m

- endemic to northern Australia & adapted to southern regions
- open structure with lime leaves (darker green & denser with more water & nutrients)
- masses of pale pink flowers attract lorikeets, honeyeaters, butterflies & other pollinators
- Small green fruits, each with one seed which germinates readily

Other options: M. micrococca (White Euodia) & ***M. rubra*** (Little Euodia – large bush). Other Rutaceae include ***Geijera sp.*** (Wilgas).



12 *Planchonella australis* (Black Apple)

Sapotaceae > 30 m

- found in central Qld dry rainforests to southern NSW coastal forests, adapts well
- premier Bush Tucker tree with edible fruit
- good potential for street trees with shiny broad, thick leaves, paler underneath
- edible purple/black fruits (late spring & early summer)

Other options: *P. eerwah* (Shiny Leaved Coondoo), *P. chartaceae* (Thin Leaved Coondoo), *P. pohlmaniana* (Yellow Boxwood). All have edible fruit.

Photo credit: Michael Walker



13 *Scolopia braunii* (Flintwood) Flacourtiaceae > 25 m

- from Cape York (Qld) to southern NSW
- young diamond leaves are red, turn dark green
- scented creamy white flowers
- green berries turn yellow, red, deep red, black
- germination is erratic (presoak in soapy water)
- slow growing, may multi trunk

Other options: consider *Denhamia* sp., incl. *D. pittosporoides* & *D. celastroides*



14 *Syzygium luehmannii* (Small Leaved Lillypilly) Myrtaceae > 30 m

- adapts well to dry conditions
- dense crown, street use Brisbane
- ornamental with young light pink leaves, then intense magenta, deep maroon, dark green
- white 'fluffy' flowers
- small red edible fruits (eat raw, jams)

Other options: many *S. sp.* ***S. paniculatum*** (Magenta Cherry), ***S. australe*** (Bush Cherry), ***S. francisii*** (Rose Satinash), ***S. smithii*** (Lillipilli), ***S. cormiflorum*** (Bumpy Satinash), ***S. crebrenerve*** (Purple Cherry), ***S. moorei*** (Coolamon), ***S. floribundum*** (Weeping Lillypilly)



15 *Toechima tenax* (Steelwood) Sapindaceae > 18 m

- in drier rainforests in central & southern Qld; rarer in northern NSW
- adaptable to hard conditions
- medium green wavy edged shiny leaves
- small white cream flowers
- fleshy yellow/orange inedible fruits with black seeds

Other options: *T. dasyrrhache* (Blunt Leaved Steelwood), *Siphonodon australis* (Ivorywood)



Others

- **Cupaniopsis** Tuckeroo species: **C. anacardioides** (Tuckeroo), **C. parvifolia** (Small Leaved Tuckeroo), and **C. tomentella** (Boonah Tuckeroo)
- **Xanthostemon chrysanthus** (Golden Penda)
with bright, golden flowers



Images from Mirisa Dry Rainforest





and still planting ...