AUSTRALIAN Rainforest Plants 1

Nan & Hugh Nicholson

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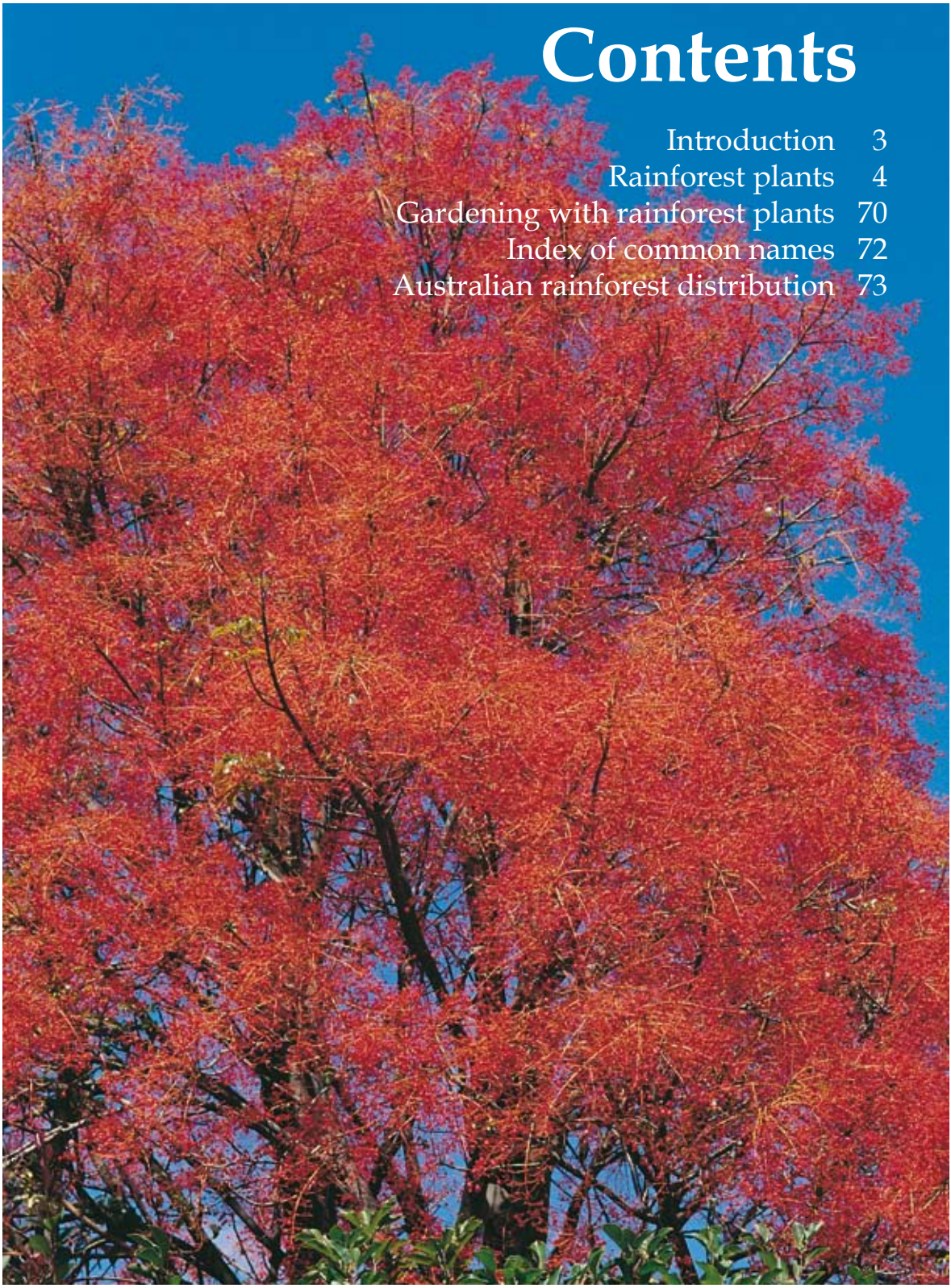

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AUSTRALIAN

Rainforest Plants 1

In the forest & In the garden

Nan & Hugh Nicholson

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A comprehensive index of scientific and common names for all books in the series is available and can be down-loaded from the website: www.rainforestpublishing.com.au

Introduction

Since 1974 we have lived at Terania Creek in northern NSW, intimately involved with a rainforest that has come to represent a significant step in Australian conservation history. Terania Creek became famous in 1979 when hundreds of demonstrators moved in to prevent logging. It then went on to be a catalyst for other direct action battles defending rainforest and old growth forest.

As a complement to our fight for the rainforest we began to grow rainforest plants for reforestation and horticulture. Little was known about how to propagate them and how they behaved in gardens but we put down what we knew in the first edition of this book, in 1985.

As we developed Terania Rainforest Nursery we grew many thousands of plants, continued learning and produced more books in the series. The nursery was sold in 1995 so that we could continue with our research and photography.

Most of the plants in this volume are commonly found in eastern Australia, between Tasmania and Cape York, with a few extending to the Northern Territory and Western Australia. Some have been in cultivation for many years, others are frequently seen in the forest but are unknown as garden plants. Knowledge about rainforest continues to evolve rapidly and few people dare to claim expertise. The main horticultural discovery is that growing rainforest plants is much easier than anyone originally thought.

Rainforest distribution in Australia has become increasingly fragmented over millennia with a gradually warming and drying climate. A burning regime imposed by native peoples and then catastrophic clearing by white settlers have further diminished the last rainforests. Less than a quarter of the rainforest existing in 1788 still stands, amounting to only 0.3% of the continent.

Some large tracts, generally mountainous and unsuitable for agriculture, can still be found, particularly in Tasmania, north-east NSW, south-east Qld and the wet tropics of north Queensland. However most rainforest now occurs in patches, many of them tiny and at great risk of further shrinkage from development and now global warming.

We hope that users of this book will appreciate the beauty and astounding complexity of Australian rainforests, and will remain vigilant in protecting what is left.

We are very grateful to many people over more than three decades for their willingness to share their observations and insight about rainforest. They include in particular Alex Floyd, Prof Len Webb, the late John Williams, the late Geoff Tracey, Tony Irvine and Harry Dick. The staff of Queensland Herbarium have been very helpful in providing updated distribution information; we have followed their general nomenclature. Special help, advice, encouragement and criticism for this edition also came from Tony Bean, Dr Elizabeth Brown, Wendy Cooper, Dr Lyn Craven, Gwen Harden, Caroline Haskard, Dr Bill McDonald, Dr Don Sands and Alan Simpson.

We would like to acknowledge and thank our daughters, Terri and Elke, who might have grown up to detest rainforest but instead still call it home and have become activists in their own right for their own causes.

strangling fig, Cooloola Section, Great Sandy National Park

Ackama paniculata
(syn. *Caldcluvia paniculosa*)

Rose-leaved Marara

For a period of 4 weeks this tree is covered with masses of diminutive white flowers, gradually turning red over a further 3–4 weeks before setting tiny red fruits lasting another month. Minute hairy seeds spill from the capsules as they dry, often germinating on the fibrous trunks of treeferns. The compound leaves have 3, 5 or 7 toothed leaflets. Their lower surface may be smooth or softly hairy, with small tufted domatia along the midrib. New growth flushes are dark red. The pale corky bark, for which it is also called Soft Corkwood, is quite distinctive. This tree is a frequent component of subtropical, warm- and cool-temperate rainforest from the Hawkesbury R. near Sydney north to Eungella near Mackay on the central Qld coast. Mature specimens may reach 40 m in height but regrowth trees of 10–20 m are much more common.

In the garden: Although a pioneer tree and a rapid grower, it is nonetheless a bit touchy about exposure or lack of water. However the attractive foliage and regular flowering and fruiting make it a good garden specimen. Seed germinates readily and should be sown sparsely.

Family: Cunoniaceae

Alectryon coriaceus

Beach Alectryon

These fruits, for which the plant is often called Beach Birdseye, not only look like birds' eyes but are dispersed by frugivorous birds which are attracted to the sweet juicy red aril. The leaves are alternate, their leaflets usually in pairs, or more rarely in 3's or 4's. The rounded or notched leaflet tip, the prominent veins and the very pale undersurface are characteristic. This is a strictly coastal shrub, ranging in height from 1 m to 5 m depending on the severity of exposure to salt winds. It occurs commonly in littoral rainforests, often right on the beach-front, from Port Stephens on the NSW central coast to Dundowran near Maryborough in south-east Qld. The similar species Grey Birdseye *Alectryon connatus* is distinguished by little points on the fruits and crinkly yellow hairs on the young leaves and stems.

In the garden: Beach Alectryon is tremendously hardy in wind, exposure and salt spray, although growth is usually better where some protection and care are provided. Surprisingly, it copes with light frost. Seed germinates readily if collected very fresh, freed from the aril and soaked before sowing.

Family: Sapindaceae

Alloxylon flammeum (syn. *Oreocallis* sp.)

Tree Waratah

This is probably the most spectacular of the Australian rainforest trees. It has been grown for many years and used to be known in the nursery trade as *Oreocallis wickhamii*. The huge clusters of brilliant red flowers crown the ends of the branches regularly each spring. A few months later slender boat-shaped woody follicles develop, containing several closely packed seeds with elongated papery wings. The leaves are up to 30 cm long, bright green and shiny. Growing to over 30 m, this was a significant commercial tree, known for its soft but durable timber with a strong silky oak pattern. It has now been largely logged out and its habitat in the rich soils of the Atherton Tableland of north Qld is mostly cleared. It is also called Queensland Waratah, Pink Silky Oak and Red Silky Oak.

In the garden: Well-known in cultivation for its reliable flower displays, it also appreciated for its easy-going nature in a variety of sites, including those with mild frosts. However, the best-looking plants have plenty of sun, water and humus. Cutting-grown plants are readily available and flower soonest. Occasional pruning retains a bushy shape; unpruned trees reach about 10 m in the open. Fresh uninfested seed, soaked overnight, germinates easily.

Family: Proteaceae

Alloxylon pinnatum
(syn. *Oreocallis pinnata*)

Dorrigo Waratah

In the wild these pink-red flowers are hard to spot since they bloom at the top of a spindly tree which can be 20 m tall. Sometimes the only signs of its presence are fallen yellow leaves. These are confusingly variable between pinnate with up to 11 leaflets, 2–5-lobed or simple. When young they are a fresh light green. The tree grows in poor soils, usually at high altitudes, in warm- and cool-temperate rainforest, and very occasionally in subtropical rainforest. Uncommon to rare, it is found only in northern NSW, near Dorrigo and on the McPherson Ra. on the Qld–NSW border. There is also a surprisingly low-altitude population near Coffs Harbour. The flower clusters last for weeks and are followed by woody beaked follicles which enclose several winged seeds.

In the garden: Good specimens are very floriferous, especially when grown in a well-lit site and kept pruned. Fresh seed germinates well but seedlings are notoriously difficult to keep alive even when well-coddled. Once they reach about 2 m they become tough. Moisture and plentiful leaf litter help greatly.

Family: Proteaceae

Alphitonia petriei

Pink Ash

The speed of growth of this pioneer tree rivals some of the faster wattles. Its open layered canopy and massed white flowers on the horizontal branches in spring make it a beautiful and distinctive tree. It is commonly seen along disturbed roadsides or in moist rainforest regrowth from the Orara R. near Coffs Harbour in north-east NSW to the McIlwraith Ra. on Cape York Peninsula. In the south it is mostly found at low altitudes but in north Qld it grows on the 1500 m summit of Mt Bellenden Ker. Its broad silver-backed leaves are rusty-hairy when young. The young shoots contain methyl salicylate and when broken smell like liniment, prompting the alternative name Sarsaparilla.

In the garden: Not fussy about soil fertility and hardy in full sun, it is an excellent regeneration nurse tree that provides shelter without excessive shade. It can grow 3 m in 12 months if given plenty of water, soil nutrients and mulch. The tiny red-brown seeds found inside the black flattened-globular fruits in autumn are as hard as sand grains and just about as difficult to germinate. They need to be boiled and soaked before sowing. Seed can be stored indefinitely.

Family: Rhamnaceae

Alpinia caerulea

Native Ginger

The blue brittle fruits contain red angular seeds surrounded by a stringy pleasant-tasting white flesh. They usually remain on the plant for months. The gingery tips of the rhizomes are also edible and the broad leaves can be used to wrap food for cooking. Aboriginal people in some areas also interlaced the leafy stems to make shelters. This is the hardiest, most common and most widespread of the Australian gingers; its open untidy clumps of 1–2 m long canes can be found in most wetter rainforest types or in damp gullies in eucalypt forest. It occurs from Gosford in NSW to the Torres Strait islands.

In the garden: Although adaptable to most areas if occasional watering is provided, it nevertheless needs some extra care to look good: a semi-shady position, added humus and periodic removal of the older canes. Small white flowers are produced but are much less impressive than the fruits. An attractive form from north Qld with dark red leaf-backs is often grown and has begun to naturalize in some southern areas. The seeds are easy to germinate, but somewhat prone to damping off if sown too thickly. The rhizomes can be divided.

Family: Zingiberaceae

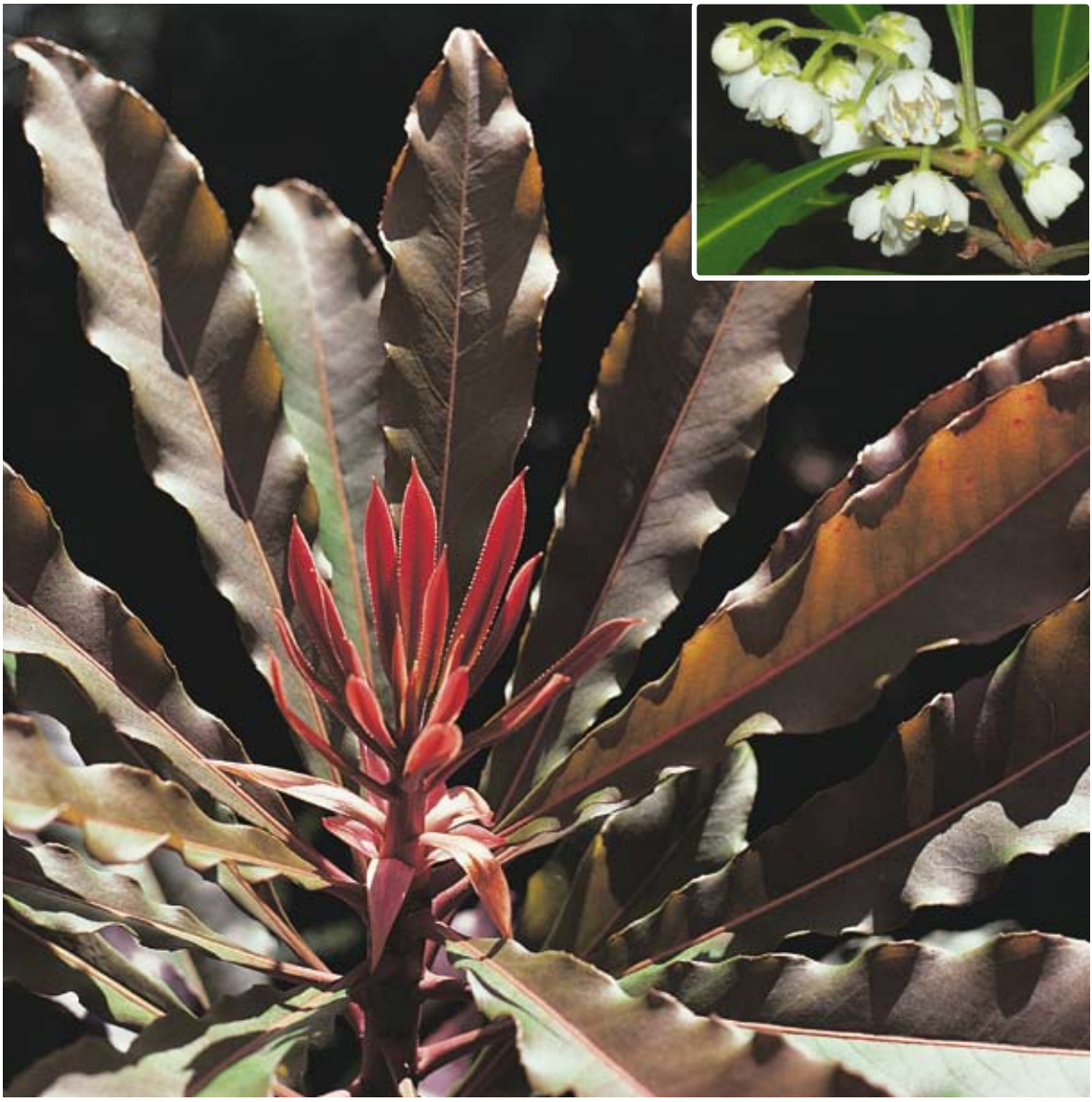
Amylotheca dictyophleba

Brush Mistletoe

Mistletoes are vital plants in many ecosystems, their flowers providing food for many birds and insects and their fruits supporting another suite of fauna. This is probably the most common rainforest mistletoe and can be found on a great many hosts. It occurs in the wetter rainforests from the Illawarra in NSW to the Torres Strait islands, and in NG, Melanesia and New Caledonia. The tough wavy-edged leaves, attached in pairs along the stem, appear pale and almost veinless from below but are darker and strongly veined above. They form an erect or pendulous bush, attached to the host by obvious runners along the branches. Brilliant red, yellow and green 6-petalled flowers are held upright in paired groups of three, with the middle flower being stalkless. (The arrangement of the flowers within the inflorescence is important for identification of mistletoes.) Fruits are red, purple or black globes with a sweet flesh and a very sticky green seed.

In the garden: This mistletoe is very decorative, brings birds to the garden, does little damage to its host and should be encouraged. Seeds can be germinated on wet tissue and placed on a likely branch.

Family: Loranthaceae



Anopterus macleayana

Macleay Laurel

Not a laurel at all in spite of its common name, this beautiful mountain plant has striking pinkish-red young leaves and stems. The cup-shaped white flowers, 2 cm across, appear in spring and summer, and by mid-winter have become slipper-shaped capsules up to 4 cm long with pointed tips and up to 16 winged seeds. From a straight single-stemmed young plant it develops into a sparsely branched slender tree of 5–10 m in height, sometimes reaching 15 m. The long, wavy, toothed leaves, clustered at the ends of the branches, are generally light green but may redden with cold. This is a lover of cool moist places, such as creek banks where it receives good light but little direct sun. Found from the Comboyne Plateau, inland from Port Macquarie in NSW, to the McPherson Ra. on the Qld border, it inhabits the understorey of subtropical, warm- and cool-temperate rainforests.

In the garden: When young this is a wonderful container plant and when planted out it remains a manageable size. In the ground it requires shelter from sun, wind and frost with no risk of drying out. Added soil nutrients are helpful but not essential. Fresh seed germinates reliably after 1–2 months.

Family: Escalloniaceae (Grossulariacaeae)

Archidendron grandiflorum

Pink Laceflower

For a brief time every few years this tree is absolutely stunning. Lightly scented pink and white fluffy flowers cover the tree like a coating of Galah feathers (see p. 68), attracting numerous butterflies and birds. Within a few weeks fleshy pods grow, split and curl back, their bright orange interior surface contrasting enticingly with the shiny black seeds. The leaves are divided twice, giving a lacy effect but they are fresh and undamaged for only a short time as black fungal spots and leaf chewers move in. In dry times they tend to be partially deciduous. This tree sometimes reaches 20 m in height but is nearly always less than 7 m. It occurs from Port Macquarie to Fraser Is. and from Proserpine to the Torres Strait islands and NG. In the south it is found mostly in moister lower altitude and littoral rainforests, but in the north it may also be in vine thickets and monsoon forests as well as at altitudes up to 1000 m.
In the garden: Despite slow growth and a general lack of vigour the extravagant flower display makes the plant worth a try. A sunny but not exposed position, moisture and mulch are important. Seeds germinate easily without treatment if collected before they fall from the pod.

Family: Mimosaceae

Archidendron muellerianum

Veiny Laceflower

Also called Small-flowered Laceflower, this tree occurs only in a restricted area of subtropical and littoral rainforest between Alstonville near Lismore in north-east NSW and Little Nerang Ck near Springbrook in south-east Qld. Although listed as rare it is surprisingly common as a regrowth tree after clearing. Usually a crooked tree of less than 5 m, it occasionally achieves 20 m. The white star-burst flowers are quite small but are followed by dramatic twisted pods with a red outer surface, an orange inner surface and glistening black seeds. The leaves are divided into 2 and then again into 2–4 dark green leaflets with noticeably pale veins; young foliage is dark red. Black fungal patches are less prevalent on this tree than on Pink Laceflower.
In the garden: It is fairly hardy under trying conditions of exposure, lack of moisture and frost, but it does prefer well-drained and relatively fertile soil. Growth can be slow but is considerably hastened with water and fertilizer. The seeds have a short viability and need to be collected fresh from the tree. They germinate readily, especially if soaked overnight to drown insect larvae.

Family: Mimosaceae

Archirhodomyrtus beckleri

Rose Myrtle

This plant was named after Dr Hermann Beckler, a botanist and medical officer who survived the Burke and Wills expedition by leaving early. It is an attractive open-branched shrub whose smooth and sweetly aromatic opposite leaves have drawn-out tips and a plain look due to the indistinct veins. It can reach a tree-sized 15 m. In well-lit situations flowers can be profuse, though well spaced. They vary from mauve to pink to white. The yellow, tangerine or red berry which follows has many small seeds embedded in the soft flesh. This is a very common plant on the edges of moist rainforest on various soil types and in adjacent wet sclerophyll forest. It is found at high and low altitudes from Barrington Tops in north-east NSW to Kin Kin in south-east Qld, and from Eungella near Mackay to Cooktown in the north.

In the garden: Though not flamboyant, it is amenable, easy to grow in warm or cool conditions and flowers when still small. It prefers light shade, if any, and plenty of moisture. Additional soil nutrients are not critical but do improve flowering. Cuttings strike quickly and seed is reliable though sometimes slow to germinate.

Family: Myrtaceae

Argyrodendron actinophyllum subsp. *actinophyllum*
(syn. *Heritiera actinophylla* subsp. *actinophylla*)

Black Booyong

This stately buttressed tree, up to 50 m tall, has a dark crown and irregularly scaly grey–black bark. The shiny leaves are held in groups of 5–9 leaflets arranged palmately, like fingers around the palm of a hand. Every few years, masses of small white bell-shaped flowers are followed by beautiful winged brown fruits called samaras. When ripe they spiral down from the canopy, travelling some distance even in the absence of wind. From Gloucester in lower north-east NSW to the Woondum Plateau near Gympie in south-east Qld it grows in cool subtropical, warm-temperate and dry rainforest, usually at higher altitudes. Until logged out it was an important commercial tree because of its strong ornamental timber.

In the garden: Though eventually too large for most gardens its unusual foliage can make it an interesting specimen if pruned occasionally. It withstands moderate frosts, but needs regular water. Additional fertilizer is often needed to encourage faster growth. Fresh seeds germinate within days of sowing.

Family: Sterculiaceae

Arytera distylis

Twin-leaved Coogera

This understorey tree is fairly nondescript much of the time. However during new growth flushes the vivid pink or light red leaflets, hanging limply in pairs, show how common it is. A few raised domatia sit along the midrib below. The flowers are small and creamy, males and females separate but on the same plant. Females develop into yellow capsules with 1–3 egg-shaped lobes. These split open and proffer to frugivorous birds the black shiny seeds partially covered by a blood red aril. The tallest tree known is 24 m, but most are only 3-5 m. It grows in fertile soils in the lowlands, generally in littoral, riverine, dry or subtropical rainforests, and is found from Woodburn in north-east NSW to the Maryborough area in south-east Qld.
In the garden: When young it is disappointingly slow, but the leaf flushes are so pretty that it is worth growing in a tub for some years before planting out. It is hardy in the ground and can withstand quite harsh conditions once it is established but it likes high levels of soil nutrients. Water helps while the plant is below 3 m. Seed removed from the capsule, soaked overnight and sown without delay, germinates in 2–3 weeks.

Family: Sapindaceae

Asplenium australasicum

Bird's Nest Fern

This magnificent fern bears fronds up to 2 m in length and often supports other epiphytic ferns amongst its leaf bases and roots. It occurs in colonies on rocks or on the branches of large trees. Many trees are felled each year just to be relieved of their load of Bird's Nest Ferns. Short parallel lines of spore-carrying sori decorate the lower leaf surface. The leaf base tapers abruptly into a very short stalk and the midrib below is strongly keeled. Typical of many epiphytes, it is adapted to periodic drying out and will recover quickly after rain even if the leaves have wilted and lost their green gloss. It grows in most rainforest types and nearby eucalypt forest, from sea-level to at least 1200 m. It is found from the far south-east of NSW to the McIlwraith Ra. on Cape York Peninsula, west to Carnarvon NP in central Qld, and also in NG and the Pacific.
In the garden: An ability to withstand considerable neglect has ensured its long-standing popularity in horticulture. It looks best though with partial shelter, free drainage, summer watering and protection from extreme cold. In a tub it lasts for years and copes with long periods indoors. It is propagated from spores.

Family: Aspleniaceae

Auranticarpa rhombifolia
(syn. *Pittosporum rhombifolium*)

Hollywood

Queensland Pittosporum, Diamond-leaved Pittosporum and White Holly are all commonly used alternative names for this attractive tree. It can reach 25 m in well-watered and high nutrient soils. Abundant white flowers in summer develop into large tight clusters of orange–yellow capsules which are visible for months from late summer to spring. Inside each are 2–3 shiny black seeds. The bright green leaves are smooth and diamond-shaped, usually with several irregular teeth. It occurs commonly in dry and subtropical rainforest from Lismore in north-east NSW to the Whitsunday Islands in Qld, and in vine thickets and woodland well to the inland, as far as Carnarvon NP.

In the garden: Hollywood is widely grown, particularly as a street tree, because it is so hardy and so reliably ornamental. In the open it remains small and develops a distinctive lollipop shape. Rich soil and plenty of water speed up early growth and ensure a dense silhouette. Light frost does not seem to be a problem. Fruits collected ripe should be dried to split the capsule and the black seed then planted without delay. Germination may take 2–3 months.

Family: Pittosporaceae

Austrosteenisia blackii var. *blackii*

Blood Vine

The sap that oozes from deep cuts in the bigger stems really does look like blood. This is a big canopy vine with a hard ropey stem that can reach 30 cm in diameter. The burgundy flowers are produced only every few years but remain on the vine for some weeks. Each develops into a flat, papery, pale gold pod with up to 5 flat seeds. The compound leaves have 5–11 more or less egg-shaped leaflets, each one often bearing a tiny stipel (a fine, hair-like appendage) at the base of its stalklet. The very similar Native Derris *Derris involuta* lacks these stipels (as does *A. blackii* var. *astipella*) and it has a narrow wing along the seed pod. Blood Vine occurs in wet and dry rainforests, and in regrowth and along streams outside rainforest, usually below 800 m in altitude, from the Hunter R. in NSW to near Cooktown in north Qld.

In the garden: As a vigorous creeper with dense foliage it needs ample room. It prefers plenty of water and added fertilizer but can be controlled to some extent by withholding them. The seeds are hard to come by, surprisingly for such a common plant, and can be germinated without treatment.

Family: Fabaceae

Backhousia myrtifolia

Grey Myrtle

The early white settlers named this scaly-barked tree Ironwood or Neverbreak, because of its extremely tough wood, and used it for tool handles, mallets and wood screws. Its simple opposite leaves, soft pink when young, are held on finely hairy branchlets. They have a delicious fruity scent that is released from the transparent oil dots when the leaf is crushed. Dense clusters of creamy flowers form in summer, maturing into starry dry fruits. This myrtle can grow to 30 m in good conditions, but is most often seen on poorer soils, often along streams, where it generally reaches about 10 m. It is widespread in subtropical, warm-temperate and dry rainforest, from Bega in south-east NSW to just south of Gladstone in south-east Qld. On the sand-masses of Fraser Is. and Cooloola, where it is called Carrol, it can be the dominant canopy tree.

In the garden: Never spectacular but always handsome, it has been known in horticulture for some time as a 3-7 m free-flowering bushy tree. Water helps maintain fresh leaf flushes, otherwise it requires little except an occasional prune. It can be propagated from cuttings or by sowing the whole dry fruits.

Family: Myrtaceae

Baloghia inophylla
(syn. *Baloghia lucida*)

Scrub Bloodwood

When cut, the bark exudes a pale sap which soon changes to blood red. A beautiful indelible paint was once collected from trees on Norfolk Is. by cutting channels in the trunk. Dark patches on the bark surface look like healing bloody wounds, and in very dry conditions trunks crack and bleed. The opposite leaves are smooth and thick, with a distinctive pinched tip and veins that are almost 90° to the midrib. Male and female flowers, on separate inflorescences on the same tree, are scented like orange blossom. The firm grooved fruits are not prolific but are clearly dispersed effectively since this is a common tree. Old trees can reach 25 m but most are considerably less. It occurs from 0–900 m altitude in most rainforests, except for cool-temperate, from Mt Dromedary in south-east NSW to the McIlwraith Ra. on Cape York Peninsula. It is also on Lord Howe Is. and Norfolk Is. and in New Caledonia.

In the garden: Despite its handsome foliage and hardiness slow growth reduces its appeal. It needs to be pushed with fertilizer. Fresh seed germinates readily but is often absent from the capsule.

Family: Euphorbiaceae

Barklya syringifolia

Barklya

Also known as Crown of Gold Tree, this plant is highly ornamental and one of the most spectacular trees of the drier rainforests. The crowded, musty-scented flower clusters are golden-orange and cover the outer branches in early summer. They are followed by flat brown pods with 1 or 2 hard seeds. The shiny heart-shaped leaves on their long stalks are also most attractive and very dense. New growth is coppery. The tree can grow to 20 m and is a common, sometimes dominant, canopy species in some scrubs. It occurs in dry rainforest and vine thickets, often along watercourses, from Boonah, south-west of Brisbane, to the Rockhampton area.

In the garden: Barklya is often seen in cultivation as a 3–5 m shrub. Though slow-growing at first it is definitely worth persevering with. Growth can be encouraged by regular fertilizing, watering and heavy mulch, but it tolerates a lack of all these things, as well as light frosts. Full sun slows growth but promotes flowering. Erinose mites disfiguring the leaves can be a problem in the Brisbane area. When grown from scarified seed it may take 10 years to flower; cuttings or air-layered plants are preferable for early flowering.

Family: Caesalpiniaceae

Brachychiton acerifolius

Flame Tree

Probably Australia's most widely known rainforest tree, the Flame Tree is also the least threatened. Its soft timber has never been in great demand and its conspicuous flowers ensured its very early introduction into horticulture. It is now grown far outside its natural range which runs from Nowra in south-east NSW to Iron Range on Cape York Peninsula. It can be found in wet and dry rainforests to 1000 m. Prior to a heavy flowering, which occurs only every few years, most leaves are dropped. The tough leathery boat-shaped follicles remain on the tree for months, exposing their yellow seeds. The large light-green glossy leaves are variously lobed or entire. This tree can reach over 30 m, its cylindrical trunk giving a characteristic hollow sound when knocked. Branches and young trunks are green.

In the garden: Extremely adaptable, especially once established, the Flame Tree can grow rapidly but only if provided with ample water and nutrients. Even if burnt by frost it will generally recover. Young plants are often repeatedly attacked by defoliating caterpillars. Soaked seed is easy to germinate, though somewhat erratic in timing.

Family: Sterculiaceae

Brachychiton discolor

Lacebark Tree

Lacebark loses its leaves completely prior to flowering in spring and early summer. The large felty pink flowers drop soon after opening and carpet the ground, but they are so profuse, particularly in dry years, that the tree is coloured for weeks. The seeds from the stiffly hairy boat-shaped follicles can be roasted and eaten. Large dark leaves, with 3–7 pointed lobes and a softly hairy pale undersurface, form a rounded and often emergent canopy. It can reach over 30 m in height. The trunk is cylindrical or slightly swollen with a hollow sound when tapped. Its fissured bark, greenish in the cracks, appears delicately lacy. This tree is seen commonly in the drier rainforests, often with Hoop Pine (*Araucaria cunninghamii*), from the Hunter Valley in NSW to near Miriam Vale in south-east Qld, west to the Bunya Mtns and also near Mackay. Natural hybrids occur with the Flame Tree *B. acerifolius* and with Brush Kurrajong *B. bidwillii*.

In the garden: Lacebark is beautiful in flower or leaf and hardy in dry and frosty conditions. However foliage looks best when plenty of water and soil nutrients are available. The seeds store well and germinate easily, especially if pre-soaked.

Family: Sterculiaceae

Brachychiton rupestris

Narrow-leaved Bottle Tree

This remarkable tree grows to 25 m in height as an emergent in inland vine thickets and brigalow woodland from the Boonah district south-west of Brisbane to the dry areas to the west of Mackay, and inland as far as Blackall. Much of its habitat has been cleared for grazing but it is often retained by graziers since the foliage and the spongy water-filled tissue of the cut trunks can be used as drought fodder. Long before white settlement Aboriginal people were using its trunk as a source of fibre, water and an edible gum, and were eating the roots of young plants and the seeds of mature ones. The slender leaves are simple and narrow on adults, but on young trees they are lobed or divided into 3–9 spidery leaflets. The bell-shaped hairy flowers often have attractive pink stripes. Leathery beaked follicles contain about 10 seeds set in highly irritant hairs.

In the garden: Often used as imposing specimens in parks or as street trees, they are tremendously hardy in hot, dry and frosty conditions. Foliage is usually deciduous before flowering in spring but is better retained where water is readily available. Soaked seed is easily germinated.

Family: Sterculiaceae

Buckinghamia celsissima

Ivory Curl Flower

A mountain dweller from north Qld, Ivory Curl Flower can be a buttressed timber tree of 30 m in moist, well-drained and fertile soils. However it also grows in drier rainforests on relatively poor granite soils and may be only 2 m on windswept heights. It is found from the Paluma Ra., north-west of Townsville, to Mt Finnigan, south of Cooktown. Its leaves are rather dull green, their undersurface paler and shortly hairy; they are simple when adult and lobed when young, with many intermediate variations. Flowering is most prolific, with a sweet scent that attracts many honey-feeders. The short semi-hard follicles contain several flat chocolate-brown winged seeds and dividers.

In the garden: For decades it has been very popular as a very hardy street tree, particularly in Brisbane. Most years the dense rounded crown turns creamy-white with flower. It rarely reaches more than 4–5 m in size and the branches can easily be pruned to maintain a ground-sweeping or a lollipop shape. Fairly slow-growing even in good conditions, it manages to maintain a neat appearance even when struggling. Seed germinates readily without treatment.

Family: Proteaceae

Callerya megasperma
(syn. *Millettia megasperma*)

Native Wisteria

This big liane is fairly common within a limited range between Wardell in north-east NSW and Fraser Is. in south-east Qld. Under the canopy of tall subtropical or littoral rainforest, little is seen of it except scattered purple and pale mauve pea-flowers, or occasional wrinkled velvety pods with several golf-ball sized seeds flattened at the ends. On forest edges though, the shiny foliage festoons or scrambles thickly. The leaves have 7–19 shiny leaflets with a drawn-out tip and gently undulate edges. Curling flakes on the stems are characteristic and help to distinguish it from Blunt Wisteria (*Callerya australis*). That climber has smaller and more rounded leaflets, paler flowers and hard burnt-orange marble-sized seeds.
In the garden: Not being deciduous, its flowering is not as impressive as the northern hemisphere *Wisteria floribunda* cultivars. However its foliage is attractive and bushy year round. If it has good soil, free drainage and plenty of water it will respond with active and almost rampant growth and ready flowering. The green seeds in their papery brown coat are very easy to germinate without treatment.

Family: Fabaceae

Callicoma serratifolia

Callicoma

Callicoma means 'beautiful hair', referring to the fluffy white flowers appearing reliably each spring/summer, usually in profusion even on small plants. Within a few weeks they develop into dry globular heads of close-packed tiny capsules. These contain even tinier splinter-like seeds which germinate on any fibrous surface, such as treefern trunks. The distinctive white-backed simple leaves with their regular serrations are held on whippy upright branches. Old trees may reach 25 m tall but most plants encountered are smaller. They are usually in stands, often coming up after disturbance and usually along watercourses. Callicoma is common in warm-temperate rainforest in poor soil at low to high altitudes, from Clyde Mtn near Batemans Bay in south-east NSW to the Blackall Ra. near Nambour in south-east Qld and also at Kroombit Tops near Gladstone.
In the garden: Needing only reliable water, it grows in low-nutrient and badly drained soil, in sun or shade, and in warm or cold conditions. Growth is quite rapid if extra care is provided. The dry fruiting heads can be crumbled up and sown sparsely; seeds germinate in a few weeks.

Family: Cunoniaceae

Castanospermum australe

Black Bean

The gaudy flowers are regularly produced on the branches each spring and summer and are a magnet for nectar-feeders. They develop into smooth woody boat-shaped pods containing several large green seeds with stiffly papery coats. The seeds were a reliable food source for Aboriginal people along the east coast but only after extensive preparation to remove toxins. Cattle and horses with access to the seeds can be poisoned, a problem which has resulted in the clearing of much of the Black Bean-dominated riverine and gallery rainforest. It occurs in subtropical and tropical rainforest and can be found from the Orara R. in north-east NSW to Iron Ra. on Cape York Peninsula, and in NG and Vanuatu. Compound leaves with up to 19 shiny leaflets form a particularly dense canopy. The largest trees are 35 m in height; their trunks are stout and their pimpled bark has a distinct cucumber smell if cut. The timber is hard, durable and beautifully figured with dark chocolate bands.

In the garden: Handsome foliage and prolific flowers make it a superb tree for large gardens. It likes warm conditions, fertile soils and no skimping on water. Seedlings sprout rapidly from the seeds and race to about 30 cm in height but then proceed slowly.

Family: Fabaceae

Cinnamomum oliveri

Oliver's Sassafras

Sassafras-scented and ripple-edged leaves are limp and pale green when young. They are usually opposite, with a pale waxy undersurface and distinct oil dots. The tree can grow to 30 m, with a characteristic bark ridged with longitudinal lines of corky bumps. The small creamy flowers are fragrant, followed by fleshy dark blue or black oval fruits seated in a little cup. Healthy fruits are often outnumbered by peculiar large round galled fruits. This laurel can be seen commonly from near Nowra in south-east NSW to Bolt Head on Cape York Peninsula. It occurs at all altitudes up to 1100 m in both moist rainforest and adjacent sclerophyll forest, often in poorer soils. In drier rainforests it is usually close to streams.

In the garden: Slender, spindly and slow-growing at first, it eventually thickens and becomes a very handsome tree, or large dense bush if pruned occasionally. It is adaptable to various soils but likes water in dry times. Seeds are hard to come by since reproduction is usually available only in 'mast' years of mass fruiting. They germinate readily but only if the flesh is peeled off prior to sowing.

Family: Lauraceae

Clematis fawcettii

Fawcett's Clematis

This delicate little climber from the buttercup family used to be considered on the verge of extinction but populations found recently have brought it back from the brink for the moment. Twining through edges or gaps in subtropical and dry rainforest, it uses its leaf stalks as tendrils. The leaves are opposite and bear 9–15 soft leaflets, arranged in triplets and often deeply lobed. Small purplish-pink flowers appear in summer. Male plants usually have purple or pink filaments on the stamens and on the petal-like staminodes. Tiny corky-edged dry fruits with long feathery tails (the dried style of the female flower) are grouped in heads. The plant is found in scattered locations from Casino and Lismore in north-east NSW to the Main Range in south-east Qld. It occurs mostly at altitudes over 500 m and may be found up to 1000 m.

In the garden: Though not known in cultivation it would probably adapt readily if provided with semi-shade and water in dry times. If left to trail on the ground it can root at the nodes so could be propagated by layering. Seed is probably easy to germinate.

Family: Ranunculaceae

Commersonia bartramia

Brown Kurrajong

The layered open foliage of this pioneer tree is a common sight along roadsides. Most individuals are 5–10 m in height though old trees may reach 25 m. The broad simple leaves are generally toothed and their undersurface is covered with pale star-hairs. Around Christmas time dense clusters of white starry flowers lie on the outer branchlets like snow. Soft hairy 5-valved capsules can be seen on the tree at almost any time. Their tiny long-lived seeds have a small yellow aril which looks unrewarding but attracts numerous birds and assures comprehensive dispersal. This very attractive tree is found from the Bellinger R. in north-east NSW to Cape York (as well as NG and Malesia) in warmer moister rainforests and their margins. In the south it stays in the lowlands but in north Qld it may be found at altitudes up to 800 m.

In the garden: Given basic care when young it is fast-growing and hardy, though rather frost-sensitive, and provides filtered shade for other plants. Seeds can be germinated by blending whole capsules, covering them with boiling water, then sowing the resultant fibrous mass; cuttings strike quickly and flower early.

Family: Byttneriaceae (Sterculiaceae)

Coprosma quadrifida

Prickly Currant-bush

Strictly a cold-country plant, this *Coprosma* is most widespread in Tasmania where it occurs at all altitudes up to about 800 m in various forest types including rainforest. It is found also in southern and eastern Vic. and eastern NSW, in moist gullies in eucalypt forest and in warm- and cool-temperate rainforest as far north as Tenterfield. An outlying population occurs at Mt Kaputar at high altitude. It grows to about 2 m tall and wide, with angular branching and foliage that is densely bushy, concealing small spines and spine-tipped branchlets. The opposite leaves are small, thin and rather dull with clearly visible veins. Tiny maroon or green flowers are sex-segregated on separate plants: males shake their pollen from dangling yellow stamens and females project large feathery stigmas to catch it. The red fruits, often prolific in summer, are sweet and juicy but rather astringent; they contain 2 seeds.

In the garden: This shrub is not spectacular but is a good low screen plant for cold areas. It is hardy in snow and exposure or heavy shade but needs reliable moisture to fruit well. Seed germinates readily and cuttings are fairly easy.

Family: Rubiaceae

Cordyline petiolaris

Broad-leaved Palm Lily

Of the eight species of palm lily in Australia, this has the largest leaves, with tips that are characteristically frayed and split. The very slender leaf stalk is nearly as long as the leaf blade and is rolled inwards, almost forming a tube. Plants reach up to 5 m in height, made up of several erect or arching branched canes with leaves clustered at the ends. Pendulous sprays of beautiful white and pink or pale mauve flowers with prominent golden T-shaped stamens are produced every year. They are followed by close-packed bunches of red fruits containing several shiny black seeds in a juicy flesh. The species occurs commonly in most rainforest types, except for the driest and coldest, from Kempsey in NSW to Cape Hillsborough near Mackay in central coastal Qld. It is also commonly found on the margins of rainforest and in nearby eucalypt forest.

In the garden: As a foliage plant it is hard to beat since it always looks elegant, if slightly dishevelled. It is very hardy and handles sun or shade. Flowering and fruiting is best if extra water and generous leaf litter are provided. Seed germinates readily if removed from the flesh.

Family: Laxmanniaceae

Cossinia australiana

Cossinia

This little-known tree is listed as endangered since it occurs in only a few scattered locations in south-east Qld, from Kingaroy and Gympie to Rockhampton. It is mostly found in red volcanic soils in or on the edges of dry rainforest or vine thickets, sometimes in remnants on roadsides. It is threatened by habitat clearing, weeds and fire, although a suckering response after light burning has been observed. Overall height of the crown rarely tops 6–7 m. The foliage is distinctive: pale mealy-looking star-hairs coat the branchlet tips and the underside of the leaflets, which are held in 3's, 5's or 7's. The leaf axis is narrowly winged, especially in juveniles, and the leaflet midrib is depressed and hairy on the upper surface. At the outer tips, tight rosettes of white flowers appear in early summer and develop into curious hairy capsules whose 3 lobes open away from a central spindle that holds the seeds.

In the garden: In cultivation it makes a neat drought-hardy specimen with very attractive foliage and flowers. Well-drained soil is important and it appreciates plenty of mulch. Seeds germinate easily without treatment.

Family: Sapindaceae

Cryptocarya laevigata

Glossy Laurel

This is one of the prettiest laurels and one of the smallest. It can grow to 7 m but is almost always seen as a 2–3 m shrub. Its shiny 3-veined leaves are very smooth, dark green above and much paler below. The little white flowers are inconspicuous; they have a strong and unusual scent, something like stale fish-and-chips, but are occasionally described as fragrant. The glossy red or yellow fruits are smooth or slightly ribbed, usually rather sparse but highly visible and produced regularly in summer. They have a slimy non-edible white flesh (which stains hands blue-black) and a hard yellowish ribbed seed. The plant occurs fairly commonly in moist and dry rainforests in two widely separated areas: from Lismore in north-east NSW to Granite Ck south-west of Gladstone in Qld; and in the wet tropics of north Qld and on Cape York Peninsula. It is also found in NG and south-east Asia.

In the garden: Glossy Laurel is ornamental and easily cultivated but is rarely seen in horticulture. It may be rather slow at first but can be grown in a variety of situations, including in tubs. It looks best if given light shade to keep the leaves dark and plenty of humus. Fresh seeds removed from the flesh germinate reliably in a few months.

Family: Lauraceae

Cupaniopsis anacardioides

Tuckeroo

This tree is often the principal canopy species in coastal rainforest and scrub, and also lives on the edges of mangroves or woodland. It occurs commonly from Port Hacking near Sydney right around the coasts of Qld, the NT and the north of WA, as well as the Torres Strait islands and southern NG. It is also found in dry rainforest inland, such as in the central highlands of Qld. Whether the crown reaches 15 m in rainforest or only 1–2 m on exposed headlands the leaves are always distinctive, with their blunt notched leaflets all pointing upwards. Clusters of small greenish-yellow flowers develop into strings of golden thick-walled capsules. These gape for weeks, displaying their black seeds partly or almost completely covered with a bright red aril.

In the garden: This is a first-rate small tree for coastal areas. Its sturdy trunk and dense shade have made it a popular street tree (though it is unpopular in Florida where it has become a noxious weed). It grows best, if rather slowly, in sandy but well-watered soils and appreciates plenty of leaf litter. Full sun or shade are both acceptable. Fresh seeds removed from the capsule germinate reliably in a few weeks.

Family: Sapindaceae

Cupaniopsis flagelliformis subsp. *australis*

Rusty Tuckeroo

Brown hairs cover the young shoots, branchlets and leaf backs, giving the handsome foliage a soft look. Adult leaves have up to 16 toothed wavy-edged leaflets with tips that are generally rounded, not drawn out into a point. Juveniles may have up to 24 leaflets. This tuckeroo can reach 20 m but it is usually only a small tree of 5–6 m with several slender stems. The little pink flowers are held in pendulous strings in spring; by summer they have become large golden-brown hairy capsules containing 3 black yellow-arilled seeds. This subspecies occurs only from the Richmond R. in far north-east NSW to the McPherson Ra. on the Qld–NSW border. It is more commonly found at mid to high altitudes, usually in well-developed subtropical rainforest on volcanic soils, but also in regrowth.

In the garden: Although a very attractive tree that is not too large, it is rarely cultivated because of a lack of propagating material. Cuttings are difficult and although fresh seed germinates quickly, few fruits are set per tree. It requires plenty of light without exposure, and in dry spells needs additional water.

Family: Sapindaceae

Cupaniopsis wadsworthii

Duckfoot

This quirky-leaved plant can grow as a tree of 12 m but is more often a shrub to about 4 m. Its dense foliage is shiny dark green, the leaves being alternately arranged and bearing 2, 4 or 6 leaflets. Each leaflet is so severely truncated that it resembles a duck's foot. Leaflets on juvenile plants even have several webbed points across the blunt end. Domatia are sometimes present, barely visible as tiny pockets against the midrib below. The little creamy flowers are hairy outside and develop into velvety green or pale yellow 2- or 3-lobed capsules with orange arils around shiny black seeds. Duckfoot occurs commonly in dry and moist rainforests in Qld, from near Maryborough to near Townsville. It generally occurs in the lowlands but its most northerly record is over 700 m.

In the garden: Although the plant is often somewhat misshapen its unusual foliage is most attractive. It is prone to damage by various invertebrates but water and fertilizer encourage frequent fresh lime-green leaf flushes. Although generally an understorey plant it can be grown in full sun and is hardy in dry conditions. Seeds germinate quickly if very fresh.

Family: Sapindaceae

Davidsonia jerseyana
(syn. *Davidsonia pruriens* var. *jerseyana*)

Davidson's Plum

The brilliant red pulp inside the mature fruits is sour but delicious as a jam or liqueur. Fine golden hairs on the blue skins and the branchlets rub or float off, irritating hands and nasal passages. The pale pink hairy flowers are held tightly against the trunks, unlike those of the north Qld species *Davidsonia pruriens* which has long drooping panicles. The southern species now occurs in the wild only as a few populations in warm subtropical and riverine rainforest in the Brunswick and Tweed R. catchments. Trees can grow to 10 m but more generally are 4–5 m, with several spindly stems and a crown of long pinnate leaves which when young are rosy red and softly hairy. The toothed leaflets lie along a central rachis which has unusual jagged wings.

In the garden: Now very common in cultivation, it is ornamental as a tub plant indoors and out, and is a striking specimen plant as well as a bush-food crop. It needs water, fertilizer and humus to overcome slow initial growth. Fruits are produced in great quantities in summer; the flattish red seeds with their ragged fringe can be germinated easily if protected from rats.

Family: Cunoniaceae (Davidsoniaceae)

Dawsonia polytrichoides

Long-cap Dawsonia

The narrow leaves of this moss give it an appealing resemblance to a miniature pine forest, especially as it occurs in dense and extensive colonies. It can be found in moist rainforests generally at low to mid altitudes. It occurs commonly from eastern Vic. to the wet tropics of north Qld. The moss genus *Dawsonia*, with three species in Australia, is distinguished by a little tuft of white hairs at the mouth of the stalked capsules on female plants. When immature, the capsules have a soft hairy cap called a calyptra. In this species the calyptra is up to 20 mm long and extends down loosely over the upper part of the stalk (pictured). The taller, bluer but very similar Giant Moss *Dawsonia superba* var. *pulchra* has a calyptra only partly covering the capsule. *Dawsonia polytrichoides* can reach 20 cm, though it is usually only half that height.

In the garden: It is very easy to grow by separating small clumps of at least 20 stems. They multiply quite quickly if kept moist and shaded, and can be planted in pots, terrariums or beside paths. Dry brown plants splashed with water imbibe quickly, expanding and becoming green in less than a minute.

Family: Polytrichaceae

Decaspermum humile
(*Decaspermum parviflorum* misapplied)

Silky Myrtle

Silky-haired pink shoots grace this little tree for much of the year. The simple opposite leaves have numerous tiny oil dots which account for their sweetly aromatic smell when crushed. The rolled-over leaf base where it joins the stalk is characteristic. Scented masses of white fluffy flowers are produced irregularly, followed by black fleshy fruits hiding about 10 seeds in a soft flesh. The fruits barely ripen before they are snaffled by birds but new ones keep forming for many weeks. Some plants reach 25 m but most are 5-8 m. This myrtle is found commonly in wet and dry rainforests at high and low altitudes, often near streams and usually away from the coast. It occurs from near Gosford in NSW to the north of Cape York Peninsula, although in the dry gap between Townsville and Gladstone it is found only at Eungella west of Mackay.

In the garden: With its dense weeping shiny foliage it is a lovely plant, even when not in flower. It handles full sun, though it looks best with some afternoon protection, and is hardy given basic care, i.e. water, some fertilizer and plenty of mulch. Seeds removed from the flesh germinate readily.

Family: Myrtaceae

Denhamia moorei

Mountain Denhamia

Restricted to just a few highland areas of the northern tablelands of NSW, this little tree lives in the understorey of cool-temperate and sometimes warm-temperate rainforest. It is found only in the Petroi Plateau, Point Lookout, Dorrigo and Mt Hyland areas, but within its range it can be quite common. It grows to 5–6 m in height but is mature at only 1–2 m. Like the other *Denhamia* species in NSW its branchlets have conspicuous longitudinal ridges. The leaves are stiff, fairly small and strongly veined; they are usually entire but sometimes have small dents along the edge. Tiny white flowers occur sporadically in the warmer months, followed by even more sporadic 3-valved yellow capsules. They are quite woody and after splitting display up to 6 black seeds partly surrounded by a red or orange aril.

In the garden: In cold wet gardens this plant would fit in easily. Its compact shape and slow growth make it low on maintenance, but it is not particularly ornamental. It is easy-going as to soil type but wants plenty of leaf litter; good light is required for flowering and fruiting. Fresh seed takes at least 3 months to germinate.

Family: Celastraceae

Diploglottis australis

Native Tamarind

This subtropical tree is unrelated to the tropical Tamarind (*Tamarindus indica*). The name derives from the tart juicy orange arils around the seeds. Children love them. When the 2–3-lobed capsules appear in spring, only a few weeks after the flowers, the trees become visitation centres for flying-foxes and birds. The tree is tall, often up to 35 m, with a straight fluted trunk and an umbrella-shaped crown. The long leaves may have up to 20 large broad leaflets. Velvety brown hairs cover the branchlets, new shoots, leaflet undersides and inflorescences. It grows very commonly in subtropical, dry and warm-temperate rainforests, and on the margins with eucalypt forest, from near Batemans Bay in south-east NSW to near Maryborough in south-east Qld, and west to the Bunya Mtns. Old trees can often be seen in pastureland in basaltic soils.

In the garden: Native Tamarind looks beautiful at all stages and is suited to tubs where its foliage can be appreciated. The fruits are a bonus. It loves full sun and plenty of water, fertilizer and compost. Seeds are quickly attacked by insect larvae; those spat out by flying-foxes germinate the best, within about 3 weeks.

Family: Sapindaceae

Diploglottis campbellii

Small-leaved Tamarind

This seriously endangered species exists in the wild only as a handful of populations, some of which consist of a single tree. They are found between Tintenbar near Broken Head in far north-east NSW and Mudgeeraba just over the Qld border, usually in degraded subtropical and riverine rainforest. Some individuals have been recorded at 25 m but most have regrown after clearing and are much smaller. They form a thick handsome canopy of shining compound leaves with up to 8 smooth wavy-edged leaflets. In summer, plump 2–3-lobed capsules ripen, their lumpy yellow seeds surrounded by huge juicy arils that are a bright transparent red. One tree is known that has yellow-arilled fruit. The fruits are apparently uninviting to native animals and birds, leaving their method of dispersal a mystery.

In the garden: The extremely sour arils can be made into jams and sauces, for which the tree is now grown extensively. Given fairly good soil and some watering when young it develops into a very good-looking small tree with a lollypop shape and dense shade. It makes an excellent street tree. Growth is slow at first. Fresh seeds removed from their arils germinate promptly in 2–3 weeks.

Family: Sapindaceae

Ehretia acuminata var. *acuminata*

Koda

These sweet-tasting yellow berries, produced in great quantities in autumn, are eaten by many rainforest-dependent birds, such as the large fruit pigeons. In spring, small sweetly scented flowers form in dense white panicles at the tips of the branchlets. At that time the fresh new leaves also start to sprout after the winter leaf loss. They are simple and finely toothed, rather thin and light green in colour. Although known to reach 30 m, most trees are under 20 m since they are usually seen in regrowth. This variety is common and can be found extensively from Bega on the southern NSW coast to Kalpowar inland from Bundaberg in south-east Qld, with a record from the Atherton Tableland. It occurs in dry to very wet rainforests, at all altitudes up to about 1100 m.

In the garden: Flowering and fruiting do not occur annually and the foliage is not particularly handsome or colourful. However Koda is fast-growing and hardy and its winter leaflessness can be useful. It likes water in the early stages and some plant food in spring. The hard hemispherical seeds, two in each fruit, germinate quickly.

Family: Boraginaceae

Elaeocarpus reticulatus

Blueberry Ash

Although usually not far from rainforest this small tree is rarely seen right under the canopy. It lives on the margins of subtropical, warm-temperate and littoral rainforest and is common and widespread from Flinders Is. in Bass Strait to Fraser Is. in southern Qld, with additional records at Kroombit Tops, Blackdown Tablelands and Shoalwater Bay. Most are 3–8 m in height but there is one freakish 30 m record. The usual habit is slender with a sparse crown of narrow leaves, but some plants, particularly in the south, are broad-leaved and dense. These are also more likely to have pink flowers than the more usual white. Small blue fruits with a hard stone are frequently seen, despite being a favourite of currawongs and bowerbirds.

In the garden: Incredibly tough, it copes with frost, salt air, poor soil, wind, full sun and periodic dryness, though ample moisture is important when the plant is young. Cutting-grown heavy-flowering plants are now commonly available. The pink-flowered form 'Prima Donna' is outstanding with its compact shape and leaf edges frosted with white. Seed is very slow to germinate and is best left in dryish compost for 2 years or more.

Family: Elaeocarpaceae

Elatostema reticulatum

Rainforest Spinach

This soft juicy-leaved herb is also called Soft Nettle as it belongs to the nettle family but it bears little resemblance to the Stinging Nettle *Urtica incisa* and has no stinging hairs. The leaves and fleshy stems are edible and can be used as spinach. A marked lack of symmetry in the leaf bases is emphasized by a strong lobe which hides the leaf-stalk. In the leaf axils are compact clusters of white or yellowish flowers, the male heads on long stalks and the female heads stalkless. The fruits are tiny green nuts which simply drop from the plant. The sprawling stems, about 1 m in length, are a common feature along creeks or on dripping rock faces at high and low altitudes in the wettest rainforests and in adjacent sclerophyll forest. Frequently reduced to pulp by floods, it simply resprouts. It is found from near Batemans Bay in south-east NSW to Mt Lewis, inland from Mossman in north Qld.
In the garden: With unrestricted water it can be grown in any shady garden or indoors. Despite its lush tropical look it can withstand cold conditions. Propagation from pieces is easy since roots frequently form at the nodes and seedlings can usually be found near parent plants.

Family: Urticaceae

Elattostachys nervosa

Beetroot

New leaf shoots of a peculiar brilliance are characteristic of this small tree. It is also called Green Tamarind. The 3–8 narrow leaflets are entire or irregularly toothed and held alternately on thickened stalklets along a zigzag rachis. Tiny hairy flowers hang in dense sprays but only a few fruits ever develop; the woody 3- or 4-valved capsules, pink inside at first, remain open on the tree long after the black seeds have dropped. The tree can grow over 25 m in height but is generally under 10 m, with a rather scrappy appearance due to leaf-eating insects. Neither common nor rare, it is found in subtropical, dry and warm-temperate rainforest from Paterson near Newcastle to Mt Morgan south-west of Rockhampton in central Qld.
In the garden: Fruits with seeds are very hard to find so this tree is rarely grown. It prefers free-draining soil. Young plants, whose larger and more strongly toothed leaves are very pretty, can be kept in tubs. Frequent leaf flushes are encouraged by plenty of water, compost and soil nutrients. Planted out in a well-lit position, Beetroot forms a dense crown of shiny foliage. Seeds germinate within a fortnight if very fresh.

Family: Sapindaceae

Elattostachys xylocarpa
(includes *Elattostachys bidwillii*)

White Tamarind

One of the most common trees in dry rainforest, vine thickets and their regrowth, White Tamarind can be found from the Orara R. near Coffs Harbour in north-east NSW to the Bowen area in central coastal Qld and west to Springsure. It is a chunky tree of 8–10 m, though known to reach 25 m on occasion. The 2–6 leaflets are rather stiff, with large and usually tufted domatia in the vein axils. Plants south of Gympie and in the west generally have toothed leaflets with hairy undersides; those to the north, usually with entire hairless leaflets, were previously called *Elattostachys bidwillii.* Little white or reddish flowers open in compact rounded clusters. The furry woody capsules, pink and silky-hairy inside when first open, remain for months on the tree. Fruiting can be prolific but the shiny black seeds only rarely develop.
In the garden: Attractive in form, foliage and fruit, it could be grown in a lot more gardens if propagation were easier. It is very hardy in exposed and dry conditions and all soil types except those with impeded drainage. Seed germinates quickly if very fresh.

Family: Sapindaceae

Endiandra pubens

Hairy Walnut

Apple-sized red or orange summer fruits can be found only every few years, when all trees in a locality reproduce together. The firm sweet-smelling flesh loosely surrounds a large seed that appeals to forest rodents. Tiny greenish hairy flowers never open fully but have a pleasant aniseed-like scent. The tree is up to 25 m tall in the forest, but in the open it is much lower, with horizontal branching and ground-sweeping foliage. Rusty hairs cover the new shoots and the backs of the simple alternate leaves. Depressed veins give the leaves a quilted appearance. It prefers the best sites in lowland subtropical rainforest, often on rich alluvial soils and up to about 500 m in altitude. It is found fairly commonly from the Bellinger R. in north-east NSW to Bulburin south of Gladstone in Qld.
In the garden: With its shiny foliage and coppery new growth it looks handsome right from the start but is a slow grower. Without warm, moist, fertile conditions it will barely move at all. Fresh seed removed from the flesh should be planted directly into a large pot to accommodate the huge initial root system which establishes itself before a shoot appears.

Family: Lauraceae

Eupomatia bennettii

Small Bolwarra

After throwing off its cap, this strongly scented flower blooms for less than one day in the low light of the rainforest floor. In that time it needs to be pollinated by small weevils if it is to set seed. Each flower produces one cup-shaped domed green fruit with dozens of black seeds embedded in soft flesh. Mature plants usually have only 1 or 2 skinny zigzagged stems up to 2 m tall. Their leaves are soft and thin with ridges on the leaf-stalk running down the stems. This bolwarra is found generally in subtropical, warm-temperate or dry rainforest, often in very dark conditions. From the Nambucca R. in north-east NSW to the Mary R. and Bulburin in south-east Qld it occurs at altitudes up to about 600 m.

In the garden: It is unimpressive as a garden specimen but that does not stop it being sought after for its lovely and very primitive flower. When young it sometimes appears to die back but shoots again in spring from the tuberous root. It needs moisture, shelter and plenty of leaf litter. Fruits are hard to find as the plant is uncommon and seed germinates very slowly.

Family: Eupomatiaceae

Ficus fraseri

Sandpaper Fig

Weakly sandpapery leaves with conspicuous yellow veins are clumped at the ends of the branchlets, forming a spreading rounded crown. However dry times in spring or cold spells in winter can induce semi-deciduous leaf-fall. This is a non-strangling fig, up to 35 m in height, that occurs from Gosford in central coastal NSW to the Torres Strait islands as well as northern NT and some Pacific islands. It inhabits warmer moist and dry rainforests below 800 m in altitude, most commonly near the coast, although it is also found at Carnarvon NP in central Qld. The small rough oval fruits, held in pairs, are yellow, red or black, ripening at different stages and providing reliable food over an extended period for flying-foxes and many fruit-eating birds. Mature fruits are squashy and can be quite palatable but are taken early by wildlife.

In the garden: This is a fast-growing shade tree given adequate water and some soil nutrients. It looks best in full sun, where its height will generally not exceed 15 m. Fresh fruits can be rubbed with sand before sowing to avoid overcrowding and fungal attack on the tiny seedlings. The leaves of young plants are variously lobed.

Family: Moraceae

Ficus macrophylla

Moreton Bay Fig

The smooth rusty undersides of the leaves readily distinguish this enormous tree, especially in windy conditions. Its fruits are round, purplish with pale spots and about 2 cm across. It is found in warmer rainforests on rich soil from the Shoalhaven R. in south-east NSW to Kalpowar near Bundaberg. Like other strangling figs it startsbegins as a tiny seed on the branches of another tree. After years as an epiphyte living on leaf debris it manages to send fine roots down to the ground. These then thicken and enable rapid growth of a large canopy and underground root masses. The aboveground roots continue to consolidate a powerful latticework and develop massive buttresses. The host tree eventually dies from a combination of stresses, leaving a cylindrical fig trunk which can often be climbed from within.
In the garden: Since early settlement it has been used as a magnificent spreading shade tree for farms and large gardens. Stock soon clean up fallen leaves. It is very hardy and needs little care beyond water when very young. Seed germinates quickly and the precocious seedlings soon show grasping root behaviour.

Family: Moraceae

Flagellaria indica

Supplejack

Also called Whip Vine, it resembles a scrambling bamboo and can frequently be seen emerging from the top of rainforest canopies. It uses its stiff coiled leaf tip as a grappling tool. At ground level the extensive smooth black canes can make walking difficult. Where light is available, beautiful white-branched inflorescences of scented flowers appear at the shoot tips in almost any month. Large clusters of snowy or reddish single-seeded fruits then develop and are eaten by many birds. It is widely distributed in the warmer rainforests, and nearby open forests, of northern Australia, extending from just south of Sydney to the Torres Strait islands and across the NT to northern WA. Found also in other tropical areas of the world, except for the Americas, it has long served for many medicinal and practical purposes. The stems can be used for baskets, fish-traps and ropes, and sections of old hard canes make fine whip handles.
In the garden: Although large and active, it can be encouraged to climb established trees and need not take up a lot of ground space. It needs minimal attention apart from warmth and water when very young. Seeds germinate readily.

Family: Flagellariaceae

Geissois benthamii

Red Carabeen

Opposite leaves with three toothed leaflets, large curved stipules at the base of the leaf-stalk and brilliant red new growth make Red Carabeen distinctive. The flowers are pale yellow, in long finger-like inflorescences, occurring most years in summer. They are followed by small pointed capsules which split longitudinally and spill red-brown splinter-like seeds. These can sometimes be found germinating on treefern trunks. The tree is impressive, up to 35 m tall, with large buttresses. It prefers mountain situations in subtropical and warm-temperate rainforest and is found commonly from Camden Haven on the mid-north coast of NSW to Mt Mee, just north of Brisbane.

In the garden: It becomes a good regeneration tree but is often slow to start and can be affected by borers in the stems. Once established it is a splendid park tree, with frequent colourful leaf flushes. It withstands cold conditions and is happy in full sun. As a tub plant its growth flushes can be appreciated if it is tip-pruned regularly. Seed is shed and lost over a few days so capsules need to be watched for approaching maturity. Germination occurs in a few weeks; the first narrow shoots need to be protected from slugs.

Family: Cunoniaceae

Glochidion ferdinandi

Cheese Tree

This tree is named for the inflated red or yellow fruits which resemble round cheeses. The capsules often peel off, leaving behind orange–red wedge-shaped seeds. More often though the fruits are attacked by insects and never open. The flowers are tiny and yellow-green. It grows in and near most types of rainforest except for the coldest, and is a common regrowth tree, especially along creeks, at altitudes up to 1000 m. It occurs from near Moruya in south-east NSW to near Cooktown in north Qld, inland as far as Mt Kaputar NP and Carnarvon Gorge, and also in northern NT and WA. A densely crowned tree of 10–12 m in the open, it reaches 30 m in the forest. Its simple alternate leaves can be smooth or hairy, and often turn red before falling.

In the garden: Healthy specimens are very attractive shade trees, but leaf-miners and webbing insects can be quite damaging. Although very hardy and adaptable it looks best if given plenty of soil nutrients to help replace the leaves lost. The seeds are easy to germinate; only those left on the tree after the capsules have split are worth collecting. Fortunately cuttings are easy to strike.

Family: Phyllanthaceae (Euphorbiaceae)

Grevillea robusta

Silky Oak

In spring Silky Oaks drop most of their leaves and erupt with golden spider flowers, whose nectar attracts numerous honey-feeders and insectivores. Before the flowers finish the ferny dissected foliage has started to reappear, fresh and softly hairy. The dark brown beaked follicles, after splitting and shedding two flat winged seeds, stay on the tree until the next flowering. The tree can reach 30 m in height and is a common component of riverine, subtropical and dry rainforests from the Orara R. in north-east NSW to Gunalda near Gympie in south-east Qld. It is grown as a garden and street tree over a much wider area, including outside Australia, and in north Qld it has become naturalized. The finely fissured straight trunk produces an ornamental timber with the shining flecks typical of its genus.

In the garden: Young trees are beautiful but they often become ratty with age. Copious leaf drop can be a bonus or a disadvantage. This tree is hardy in hot, cold or dry conditions, in fact it often looks best in tough sites. It is used as the root-stock for grafted grevilleas. Seed can be stored for years and when sown sprouts in a few weeks.

Family: Proteaceae

Harpullia alata

Wing-leaved Tulip

The unusual ragged wing on the rachis of the compound leaf makes this plant easy to identify. The species description is derived from *ala*, the Latin for 'wing'. It usually consists of just 1 or 2 crooked leaning stems topped by a few long leaves with 6–10 glossy toothed leaflets. Propped up it can reach 7 m in height. Sparse sprays of pearly white flowers with strongly curled-back petals appear at the top of the crown; if female they develop into eye-catching yellow capsules offering their orange aril to potential dispersers of the seed. It occurs only in the understorey of subtropical rainforest mainly from the Clarence R. on the north coast of NSW to the McPherson Ra., in which area it is fairly common at higher altitudes. It has been recorded once at Bulahdelah and also on Fraser Is.

In the garden: It makes an unusual slow-growing shrub for shady moist places with high soil fertility. It does not like exposure. Kept in a tub its preferred conditions can be provided and its interesting leaves easily seen. New growth is a beautiful metallic purple or blue-black. Several plants are needed if fruit is hoped for. Fresh seed germinates quickly.

Family: Sapindaceae

Harpullia hillii

Blunt-leaved Tulip

Masses of inflated 2- or 3-lobed capsules are often produced in summer but most are seedless. The red arils almost completely enclose the seeds or sometimes protrude beyond. Loose open sprays of white-petalled flowers precede them in spring. The 5–16 smooth or hairy leaflets are oblong and arch back in a distinctive way, their tips usually notched or blunt. Very young leaves are sometimes a lustrous blue-black and may have a narrow wing along the rachis. The foliage forms a dense crown whose top can reach 20 m, though most are much smaller particularly when growing as regrowth in paddocks. This tulip occurs in subtropical, dry, littoral and gallery rainforest on the more fertile soils, from the Macleay R. in north-east NSW to Magnetic Is. near Townsville. It generally prefers the lowlands but has been found at 600 m at Bulburin and Kingaroy.

In the garden: This is a very attractive shade tree with a neat outline and decorative fruits. It prefers a well-drained, frost-free and sunny position and some water in the early stages. Seeds germinate readily but are rarely available and cuttings are difficult.

Family: Sapindaceae

Harpullia pendula

Tulipwood

This tree may reach 25 m in height and has an attractive grey scaly bark on a lumpy buttressed trunk. Its durable timber is highly figured with dark and pale yellow bands, for which it is often called Black Tulip. The crown is large and rounded, its foliage a light green. Leaflets are smooth and rather thin. The little green starry flowers are scented, appearing each year in some profusion. They produce masses of brittle reddish-orange capsules on the female trees in summer. The seeds are shiny black but many of the fruits contain only air. This species occurs naturally in dry, subtropical and littoral rainforest from the Bellinger R. in north-east NSW to near Coen on Cape York Peninsula.

In the garden: Tulipwood is extensively grown in gardens and as a street tree, especially in Brisbane where it has proved exceptionally hardy surrounded by pavement. It is also grown in cold areas with equal success. Although it prefers water and fertile soil, their lack simply keeps the overall height down to about 5 m without affecting appearance. Fresh seeds, soaked to drown insect larvae, germinate in a few weeks.

Family: Sapindaceae

Helicia glabriflora

Smooth Helicia

Nondescript and fairly small leaves make this plant hard to place in a family when it is not in reproductive condition. They are simple, alternate, rather smooth and glossy, and may be variously toothed or entire. However the flowers with their long protuberant pollen presenters, are clearly in the Proteaceae family. They are usually pale yellow but may be a beautiful pink and white. Where the plant is in strong light they can be prolific, though tucked away in the foliage, and are followed by short strings of sweetish blue-purple juicy fruits with a single seed. The tree may be up to 15 m in height, and can reach this even in the open where its foliage becomes very dense. It occurs in riverine and littoral rainforest and also in subtropical, warm- and cool-temperate rainforest from Robertson in south-east NSW to Mt Elliott near Townsville in Qld. Although common it is often overlooked.

In the garden: Smooth Helicia could be grown more often, especially in cool areas, since it is undemanding as long as water is available. Best sites are very sunny without being exposed to strong winds. Peeled fresh seed germinates in a few months.

Family: Proteaceae

Helmholtzia glaberrima

Stream Lily

One of only two species in the genus, this lily-like plant occurs only around the Mt Warning caldera, whose northern rim forms the border of NSW and Qld. It lives in populous colonies in the creeks and poorly drained areas of the wettest rainforests, occurring at altitudes of 100–1000 m in the Nightcap and McPherson Ranges and the Springbrook area. The dark green strappy leaves form bulky clumps up to 2 m in height and spread (see p. 71), with tall feathery white or pale pink inflorescences appearing in summer. Each flower becomes an egg-shaped papery brown capsule packed with many fine splinter-like seeds. Young plants start life on wet rocks and quickly gain sufficient foothold to hold fast during frequent flash floods.

In the garden: This is an excellent landscaping plant for shady areas as it grows rapidly and flowers regularly. As a rockery or container plant it does equally well. However it has an insatiable need for water and cannot withstand any exposure. It can be propagated by dividing small clumps or from seed, which needs to be collected just as the capsules are opening in summer and sown without delay.

Family: Philydraceae

Hicksbeachia pinnatifolia

Red Bopple Nut

Metre-long leaves with irregular jagged flanges on the rachis and up to 30 prickly-toothed lobes or leaflets make this tree unmistakeable. Each plant is a collection of slender stems of various heights up to 12 m with a crown of leaves at the summit and a pile of dead yellow leaves at the base. New growth is deep shiny red. Long pendulous racemes of maroon and cream flowers with a warm honey scent are present most of the year and sometimes go on to produce strings of brilliant red semi-woody oval fruits. The kernel is edible but not tasty. This *Hicksbeachia* is found only in subtropical rainforest and its regrowth in farmland around the remnants of the Mt Warning caldera, and also in the upper Nambucca and Bellingen valleys. The only other species in the genus is *Hicksbeachia pilosa* in north Qld.

In the garden: It is very striking at all stages and is easy to grow in a variety of situations, including full sun or shade. The catch is the difficulty of raising seedlings which germinate rapidly then die within months. Seed is best planted directly where it is to grow and supplied with copious leaf litter as well as some soil from the base of a parent *Hicksbeachia*.

Family: Proteaceae

Homalanthus populifolius (syn. *Omalanthus populifolius, Homalanthus nutans, Omalanthus nutans*)

Bleeding Heart

This attractive but short-lived pioneer tree is adept at rapidly filling gaps in rainforest or recolonizing cleared land. It is probably the most common regeneration species, occurring from sea-level to at least 1000 m in most rainforest types. The extensive distribution, from Bairnsdale in eastern Victoria to Dunk Is. in north Qld and west to Mt Kaputar NP, attests to the tree's adapatability. It is also on Lord Howe and Norfolk Islands and in Melanesia. Young trees have huge heart-shaped leaves up to 30 cm across, three times the size of those on older trees. A few bright red dying leaves are always present. In summer, Brown Pigeons and many other birds flock to the dull purple fruits whose hard seeds are coated with an oily yellow paste-like aril.

In the garden: Within its natural range it often pops up unbidden in gardens. Although only a shrub or small tree up to a height of 6 m, it can grow 3 m in the first year with optimum moisture, soil drainage and nutrient levels. Frost will burn the tips of small plants but they recover in spring. It makes a good tub plant but quickly outgrows its container if not pruned regularly. Propagation is easy from cuttings or from seed which ripens in late summer and must be sown fresh.

Family: Euphorbiaceae

Hovea longipes

Brush Hovea

Widespread and common throughout Qld and northern NSW in open forests and woodland, it also occurs in and near 'brush', in this case dry rainforest, vine scrubs and monsoon forest. It can be found from the Scone area in NSW to northern Cape York Peninsula, at altitudes up to 900 m. It is a heavily branched shrub or tree, sometimes reaching 5 m but more often 2–3 m. The branchlets, the leaf backs and the midrib of the upper leaf surface are all downy with dull gold hairs lying flat, giving a most appealing appearance and texture. On the upper surface the oblique side veins can be seen looping at the margin; on the lower surface only the strong midvein is visible, usually projecting beyond the notched or pointed leaf tip. Indigo pea flowers ageing to white bring the bush alive, usually in early spring. Smooth rounded little pods with a long stalk and 1 or 2 seeds follow in a few weeks.

In the garden: Brush Hovea should be popular in cultivation but is not often seen. It needs perfect drainage but is otherwise hardy and can be grown in sun or semi-shade. The seeds germinate best if pre-soaked in hot water.

Family: Fabaceae

Hymenosporum flavum

Native Frangipani

Despite the strong frangipani scent, this plant is unrelated to the exotic Frangipani (*Plumeria rubra*). The creamy young flowers become golden with age, giving the mixed spring inflorescences a joyful look for some weeks. Their fruits are the shape of goat testicles, each lobe stacked with flat chestnut seeds surrounded by a wing. The plant itself is rather scrappy, a shrub or tree up to 8 m (though 22 m is recorded), with a narrow open crown. Its soft leaves are broadest towards the tip and quite glossy. It is found in warmer, wetter rainforests up to 1000 m altitude from the Grose Valley in the Blue Mtns near Sydney to near Cooktown in north-east Qld, and is also in NG. It can be very common along creeks in cleared pasture.

In the garden: This tree has been successful in gardens throughout Australia, occasionally naturalizing. It withstands frost and sun; in fact it looks best in tough sites where it is forced to stay small and bushy, usually flowering more profusely. Growth is rapid with ample moisture and fertilizer, and pruning may be needed to maintain a compact shape. Seed is available in late summer and germinates in a few weeks.

Family: Pittosporaceae

Jagera pseudorhus var. *pseudorhus*

Foambark

The bark contains a high concentration of saponin, a frothing compound, and was used by various Aboriginal groups as a fish poison. All parts of the tree produce foam if agitated in water. The umbrella-shaped crown with its ferny weeping foliage is very beautiful and easily recognized. The fine leaflets are toothed, unlike those of var. *integerrima*. When immature the fruits are a bright maroon, changing to golden-brown with age, and are covered with fine penetrating hairs that make handling unpleasant. Inside the 3-lobed capsule are 3 black seeds with small yellow arils. The tree is found in warmer lowland coastal rainforests on better soils, very often as regrowth, and can also be seen well out into adjacent open forest. It occurs from Seal Rocks on the mid-north coast of NSW to Cape York and nearby NG. Heights of 30 m are known but most trees are less than 10 m.

In the garden: This is an ideal small shade tree that is easy to grow with some basic care. Water and fertilizer make a dramatic difference to early growth rates. It should never be planted near swimming pools since fallen fruits cause foaming of the water even without agitation. The seed must be very fresh, but waiting till the capsules dry and open makes extraction easier; germination occurs in 2 weeks.

Family: Sapindaceae

Lenwebbia prominens
(syn. *Austromyrtus* sp. aff. *lasioclada*)

Velvet Myrtle

This genus was named in 2003 after the Australian rainforest ecologist Len Webb. Velvet Myrtle inhabits the subtropical and warm-temperate rainforests of the Nightcap, Tweed and McPherson Ranges near the NSW–Qld border. Within that small area it is quite common, mostly at higher altitudes. It is a scaly-barked shrub or tree up to 8–9 m, often seen leaning over streams where extra light is available. The leaves are simple and opposite, the lower surface paler, with rolled over edges. Strongly raised, fawn-hairy veins below help distinguish this from the other two *Lenwebbia* species in south-east Qld. Oil dots are obvious when viewed with a lens. Scattered white flowers, fluffy with stamens and held on long hairy stems, appear in summer. By winter they have become black globular fruits with 3–5 gravel-like seeds in a soft black insipid flesh.

In the garden: Not colourful at any stage it nevertheless makes a very appealing screen plant that can easily be kept bushy. It likes plenty of water in the early stages and prefers periodic boosts of leaf litter. Seeds germinate in a few weeks.

Family: Myrtaceae

Lepidozamia peroffskyana

Shining Burrawang

This massive palm-like cycad can be over 5 m across, with long fronds of 200 or more smooth glossy leaflets. Old plants form a trunk up to 5 m tall, which may be festooned with ferns nestled in the old leaf bases. It can be found in little colonies in moist open forest and subtropical and warm-temperate rainforest margins from sea-level up to about 1000 m. It occurs sporadically from the Manning R. in north-east NSW to the Blackall Ra. near Nambour in south-east Qld. Well adapted to fire, it sprouts a beautiful crown of hairy new leaves if the old ones are damaged. The huge barrel-shaped cones, borne on female plants in summer, contain over 100 oblong orange-coated seeds. Aboriginal people ate the seeds after elaborate processing to remove toxins.

In the garden: This slow-growing plant makes a regal specimen. It can be kept in a large tub almost indefinitely and lasts well indoors. It looks best with protection from full sun and from frost but will survive both. Soil fertility does not need to be high, but good drainage and moisture are important. Seeds germinate very slowly; to save space they can be kept in a bag in a moist dark place for a year prior to sowing.

Family: Zamiaceae

Macadamia tetraphylla

Macadamia Nut

Rarely seen in the wild, this tree and its close relative *Macadamia integrifolia* are grown in extensive plantations for their delicious kernels. They are the only Australian plants grown extensively as a food crop internationally; hybrids and many cultivars have been developed. *Macadamia tetraphylla*, also called Rough-shelled Bush Nut, occurs naturally only from Rous near Lismore to Mt Tamborine south of Brisbane, in lowland subtropical rainforest. The stiff leaves are arranged in whorls of four, young leaves being very prickly. New growth is dark red. Crowds of racemes with honey-scented pink or cream flower racemes hang in early spring. Only some of these set fruit: green globular follicles containing a very hard, bumpy-shelled seed with an oily kernel.

In the garden: This macadamia grows moderately fast into a bushy ornamental tree up to about 10 m in height. If its preference for deep rich soils, heavy mulch and plenty of summer moisture are indulged it will respond by providing large quantities of nuts for many years. Seeds germinate quickly but grafted or cutting-grown plants are preferable for reliable nut production.

Family: Proteaceae

Macaranga tanarius

Macaranga

The light green leaf blades are held vertically with their long pink stalks attached near the middle. They form a hemispherical crown on a tree 6–8 m tall. The soft glaucous branchlets when broken exude a sticky clear or reddish gel. Curious flowers with green bracts like Venus Flytraps are separated by sex on different trees. Female trees develop green capsules that are tacky when handled; they are covered in soft prickles like feelers and contain 1–4 bird-attractive black seeds. Macaranga is a very common tree in rainforest regrowth in warm moist regions, especially on the coast. It occurs from the Richmond R. in north-east NSW to Cape York and the northern NT. It is also widespread in Asia, Melanesia and the Pacific and has long been used for various medicinal purposes.

In the garden: An excellent regeneration tree for frost-free areas, it quickly forms a weed-suppressing canopy if given plenty of water and some fertilizer. However it suckers with energy and some gardeners might regard it as a weed itself. The autumn seed germinates quickly but seedlings must be kept warm during their first winter; summer cuttings strike well.

Family: Euphorbiaceae

Mackinlaya macrosciadea

Green Mackinlaya

A star-burst head of little white flowers lasts for two months before developing into an open cluster of long-lived blue-grey fruits, for which the plant is sometimes called Blue Umbrella. The slightly flattened round fruits look remarkably like engorged ticks and even contain a dark blood-coloured watery flesh. The large leaves have a long stalk that clasps the stem and 3–7 soft palmate leaflets that can be entire, slightly toothed or lobed. A sprawling weak-stemmed plant of the understorey, it grows to about 4 m in length or height. It occurs fairly commonly in a variety of soils in warm and usually coastal areas of riverine rainforest from near Maryborough in south-east Qld to Rossville near Cooktown in north-east Qld and also in north-west NT. In tropical Qld it can be found up to 1100 m in altitude.
In the garden: It is not widely grown but makes an interesting foliage plant for shady places in warm climates. Plenty of humus and water are preferred but it is not demanding of high fertility. Seeds germinate slowly but reliably and in fact may start to germinate too readily under the parent. It should be grown only in its natural area.

Family: Apiaceae

Mallotus discolor

Yellow Kamala

Although technically the fruits are called capsules they are soft-skinned and watery, looking more like berries. Fruit production is usually prolific but occurs only every few years, when flying-foxes and many birds feast on the sweet flesh. Yellow powdery glands cover the fruit surface and have been used in making a golden dye. The same glands also dot the pale downy underside of the long-stalked leaves, and two larger brown glands sit at the base of the leaf blade. Tiny flowers, insignificant to human eyes, are on separate male and female trees. This is a very attractive tree with neat foliage, usually less than 10 m tall when seen in regrowth but sometimes up to 30 m in forest. It can be found commonly in warm lowland subtropical, littoral and dry rainforests, from Coramba near Coffs Harbour in north-east NSW to Bowen in central coastal Qld.
In the garden: Colourful fruits that help feed the local fauna make it worth growing as a specimen, although fruit production is somewhat erratic. It can grow quickly but needs plenty of water and fertilizer. The little round seeds often fail to germinate even when very fresh; sometimes the older drier seeds succeed.

Family: Euphorbiaceae

Mallotus philippensis

Orange Kamala

In India all parts of this tree are used for a huge variety of practical, medicinal and veterinary purposes, but its uses are little known elsewhere. A red-gold dye for silk and wool can be made from the red glands dusting the fruit. The capsules are semi-hard and each lobe holds one round black seed. Red glands also cover the lower leaf surface and can be seen with a lens. The simple leaves are distinctively 3-veined and hang in an odd drooping manner which makes the tree look unwell. It is widespread in Asia and Malesia. In Australia it is a common regrowth tree up to 25 m tall. It can be seen in the warmer lowland moist and dry rainforests mainly from the Hunter R. in NSW to the Torres Strait islands and the northern coast of NT. In north Qld it can be found up to 1000 m.
In the garden: Not particularly ornamental, it is more useful as a very hardy regeneration tree in hot and quite cold areas. Although happy in full sun it needs plenty of fertiliser and water to maintain green foliage. Seed is surprisingly hard to germinate and contrary to normal practice, seems best left to dry in leaf litter for some weeks before sowing.

Family: Euphorbiaceae

Meiogyne stenopetala
(syn. *Ancana stenopetala, Fissistigma stenopetala*)

Fissistigma

Known commonly by an earlier scientific name, Fissistigma is an understorey shrub found fairly frequently in lowland subtropical and littoral rainforest between Iluka on the Clarence R. in north-east NSW and Beenleigh south of Brisbane. It grows to 5 m on spindly stems with slender hairless zigzag branchlets holding their leaves all in one plane. The leaves are dark and shiny, paler and more veiny below, and have undulating margins. The fragrant flowers appear to be little more than six long petals. Each flower produces a cluster of long yellow berries containing several tablet-like seeds. The endangered Shiny-leaved Ebony *Diospyros ellipticifolia* var. *ebenus* which occurs from the Tweed Valley to Gympie, has very similar leaves but they are borne on finely hairy branchlets.
In the garden: It could be grown more often to brighten otherwise dank shady corners with its interesting flowers and fruits. Humus-rich soil and water are needed. In well-lit sites suckers can thicken overall growth. Fresh seeds germinate easily but are hard to come by.

Family: Annonaceae

Melia azedarach

White Cedar

White Cedar is now so widely planted that it may not be recognized as a rainforest tree. In Australia it occurs naturally in nearly all rainforest types below 900 m, particularly in drier areas, from Milton in south-east NSW to Cape York and in northern NT and WA. Very widespread in Asia and Malesia, it has been employed extensively for fodder, medicines, pesticides and timber. The lacy foliage is very beautiful and turns yellow before falling in autumn. Masses of chocolate-scented purple flowers occur with great regularity and are followed by yellow fleshy fruits which hang on for most of winter when the tree is leafless. It has a finely fissured straight trunk.
In the garden: Exceptionally tough in hot, cold, wet or dry conditions it will handle most soils and exposures. Given basic water and nutrients it is an excellent regeneration tree, quickly providing fruits for rainforest pigeons which disperse other seeds as well. In the garden its drawbacks are fruits that are toxic to mammals and, in warm moist areas, early defoliation in autumn due to caterpillar attack. Seed germinates a few months after the ridged stone inside the fruit is sown.

Family: Meliaceae

Melicope elleryana
(syn. *Euodia elleryana*)

Pink Euodia

Birds and butterflies visit this tree for the masses of pink flowers in summer. Its leaves are food for the larvae of the splendid blue Ulysses Swallowtail (*Papilio ulysses*). Already common in warm lowland rainforest and swamp forest, this tree is becoming more so as garden plants naturalize away from the coast. Birds visit the green fruit capsules to eat the thin black covering on the seeds. The tree occurs naturally from Yamba on the NSW north coast to Cape York and throughout much of northern NT where fresh water is available. It is also widespread further north in Malesia. The top of the spreading light green crown can be 35 m tall, the trunk straight, pale and corky. The leaves are opposite and have three large smooth leaflets with small but distinct oil dots.
In the garden: It is a very co-operative tree being hardy, fast-growing, early-flowering and adaptable to such unfavourable sites as carparks. The main requirement is plenty of water. Flowering is best in full sun and with occasional pruning. The seeds, whether fresh or not, germinate very erratically, in a few weeks or more than a year or not at all.

Family: Rutaceae

Myrsine richmondensis
(syn. *Rapanea* sp. 'Richmond River')

Ripple-leaved Muttonwood

Originally known to occur between Coraki and Mt Warning in north-east NSW, it was then believed extinct until rediscovered 20 years ago. It is still endangered due to its extremely small population size. It is a bushy shrub up to 5 m tall, found in rich soils in subtropical rainforest and adjacent wet sclerophyll forest at Mallanganee NP, and at Boatharbour near Lismore. The extravagantly wavy leaves are most attractive, particularly because they are so dense. When leaf blades are held to the light, numerous clear round or elongated dots can be seen. Some dots may be red. Like most species of *Myrsine*, its flowers are small, white and held in little bundles against the branchlets. The purple-blue summer fruits, each with a single round seed, are produced only occasionally, but in great abundance for some weeks.
In the garden: It is not cultivated because seed is unavailable but it is likely to prove amenable in well-drained soils with plenty of moisture. Good light is important for heavy flowering and fruiting, and male and female trees are needed. Peeled fresh seeds germinate in 3 weeks.

Family: Myrsinaceae

Nauclea orientalis

Leichhardt Tree

Golfball-sized fragrant flower heads are scattered through the foliage in summer on this strictly tropical tree. Brown irregularly globular fruits follow, their many tiny flat seeds buried in an edible but hardly delectable flesh. The stout slightly buttressed trunk, corky bark, horizontal branches and spreading crown are all distinctive. It has been called Canary Wood or Yellow Cheesewood for its soft golden heartwood. The huge yellow-veined leaves are opposite and between the newest pair are two large leaf-like stipules. The tree occurs commonly along streams in lowland rainforest, swamp forest and in woodland right across northern Australia, from near Miriam Vale in south-east Qld to Iron Ra. on Cape York Peninsula and west across northern NT to the Kimberley in WA. It is also widespread in Asia and Malesia. Various parts have been used for internal and external medicine.
In the garden: Generally this fast-growing semi-deciduous tree is too large (to 30 m) for most gardens but it is very beautiful and has a tolerance of poor drainage. It does not cope with frost. Seed germinates readily.

Family: Rubiaceae

Neoastelia spectabilis

Silver Sword Lily

Lacking a scientific status until 1987, this beautiful lily was formally described and named by the respected botanist John B. Williams. It is a handsome clumping plant with long dark-green keeled leaves whose undersides are silvered with thread-like scales. Long elegant sprays of the soft snowy flowers appear in summer. The fruits are green grooved globes on long stalks, with many little black teardrop seeds embedded just inside the periphery. It is listed as vulnerable and can be found only in a few locations over 900 m altitude in the cool-temperate rainforest of New England National Park, always in saturated sites near waterfalls or seeping rock crevices.

In the garden: The plant is not propagated though it would probably not be difficult from either seed or division. It is likely to be increasingly threatened in a generally drying and warming climate and should be cultivated as an insurance against extinction. However, if it is grown more widely and becomes popular the wild populations then become vulnerable to depredation by collectors. All threatened species face this dilemma.

Family: Asteliaceae/Liliaceae

Orites excelsa

Prickly Ash

Generally a highland plant, Prickly Ash is often called Mountain Silky Oak and its genus name comes from the Greek *oreites* meaning 'mountaineer'. It occurs in two widely separated areas: in subtropical, warm- and cool-temperate rainforest from Barrington Tops in north-east NSW to the Main Ra. in south-east Qld; and in the cool upland rainforest over 1000 m of the wet tropics of north Qld, from Mt Bartle Frere to Thornton Peak. Where it grows at lower altitudes it is generally on poorer soils. Crowds of sweet-smelling flower spikes whiten the pointed tree crown in spring. They are followed by flattened boat-shaped follicles which usually split on their upper side, requiring a strong wind to dislodge and disperse the winged seeds. The tree can reach 30 m but at the highest altitudes does not grow more than 1–2 m. The leaves are dark green or coppery above, very pale below and new growth is a handsome shiny dark red. Adult trees have simple and entire leaves; juveniles are usually strongly lobed and toothed.

In the garden: Heavy-flowering while still a bush, it is an excellent garden plant. Despite its common name it is not at all prickly. It handles full sun, and poor cold soil but likes plenty of water. The seeds germinate quickly if fresh.

Family: Proteaceae

Orthosiphon aristatus

Cat's Whiskers

Four long stamens and the style, all about twice as long as the petals, form the whiskers. The flowers can occur in shades of pale pink and lavender as well as white, and all are butterfly-attractive. It is a soft herb, less than a metre tall, with square hairy stems and opposite toothed or entire leaves. The leaf surfaces are finely hairy and dotted with minute raised glands. The fruit is a little nut enclosed in the remains of the flower calyx. It occurs in lowland north Qld, from Babinda to the Torres Strait islands, usually in semi-deciduous vine forest near streams. A population near Gosford in NSW is thought to be an escape. This plant is also widespread in Asia, Malesia and the Pacific and is often included in medicinal teas. It has been investigated for use in the treatment of hypertension and diabetes.

In the garden: Cat's Whiskers, sometimes also called Cat's Moustache, is very ornamental and fast-growing. It is easy to cultivate in semi-shaded warm sites, given some water and well-drained soil, but is frost-sensitive. Regular pruning is necessary to keep it relatively tidy. New plants can be propagated quickly from cuttings.

Family: Lamiaceae

Pandorea jasminoides

Bower of Beauty

Showy white or pink bell flowers bloom for weeks on this beautiful vine. Their dark red throats have long transparent hairs. They have only a weak scent and are not as jasmine-like as their name suggests. As the elongated fruit capsules split away from the central partition into two canoe-like halves they release many flat heart-shaped seeds surrounded by a transparent wing. This is a large tangly smooth-stemmed vine with opposite or whorled pinnate leaves of 3–9 leaflets. These are dark and glossy above, paler and almost veinless below. It grows in moist or dry rainforests, from 0–1200 m, and on soils from sand to volcanic loam. It is found from the Hastings R. on the central north coast of NSW to the Conway Ra. near Proserpine in north Qld.

In the garden: Long valued as a hardy, reliable and free-flowering specimen plant, it can be trained as a bushy screen or left to wander. It flowers best in full sun and although it prefers rich soil and plenty of water it will settle for a lot less and still look good. Many cultivars have been developed with long-lasting pink, white or yellow flowers. It can be propagated easily from seed or cutting.

Family: Bignoniaceae

Pararchidendron pruinosum

Snowwood

This lovely little tree is sometimes given the unflattering name Stinkwood due to the strong, distinctive but undescribable smell that emanates from cut timber. It grows to about 15 m with a crown of lacy light green foliage. In spring the fragrant pompom flower heads go through colour changes from greenish-white to golden as they age. The fruits are stiffly papery pods that are flattened and curled, containing several black shiny seeds. The tree occurs from Nowra in south-east NSW to Mt Webb near Cooktown in north Qld, in moist or dry rainforests and usually on better soils. In the south it favours areas below 400 m but in the north it may go to 1000 m. It is also found in Malesia.

In the garden: Snowwood is a delightful garden plant at any age, especially if planted in full sun and pruned to maintain a bushy shape and strong flowering. It loves rich soil and prefers plenty of water; if water-stressed in spring it may be deciduous. However it is surprisingly hardy in very cold conditions. The germination of fresh seeds can be hastened by nicking with secateurs and soaking prior to sowing. Seedlings have the same odd smell as the wood.

Family: Mimosaceae

Pararistolochia laheyana
(syn. *Aristolochia deltantha* var. *laheyana*)

Mountain Aristolochia

This vine plays an important part in the survival of the magnificent Richmond Birdwing butterfly (*Ornithoptera richmondia*). The larvae feed on the fresh new leaves of this highland plant and also the lowland relative *Pararistolochia praevenosa*. Mountain Aristolochia is found commonly but only in a small area of cool subtropical and cool-temperate rainforest on the NSW–Qld border: from the Nightcap Ra. to Lamington and Springbrook. It is a slender vine that becomes bushy where well-lit. Its elongated leaves are stiff and shiny with raised veins. The peculiar trumpet-like flowers are pollinated by male non-biting midges who are lured in by sexual promises. The fleshy yellow fruits are capsule-like but do not open. They contain numerous flattened triangular seeds which are dispersed mainly by Brush Turkeys.

In the garden: Though not highly ornamental it is worth growing in its natural range area just to help the Birdwing. It needs plenty of humus and soil moisture but does not mind frost. Seeds and semi-hard cuttings can both be propagated easily.

Family: Aristolochiaceae

Pittosporum undulatum

Sweet Pittosporum

This beautiful tree perfumes the immediate vicinity with its white flowers in spring. For that reason it is sometimes called Native Daphne although it is not related to the exotic *Daphne odora*. The long-lasting orange capsules contain sticky dark red seeds that adhere to birds' bills and become widely dispersed. The shiny undulate leaves are clustered at the branchlet ends, almost in whorls, and have a characteristic aromatic smell when crushed. It can grow to 20 m or more but is most often seen as a regrowth shrub or small tree up to 10 m. In some areas, particularly near Sydney, its ability to invade unburnt sclerophyll areas has turned it into a weed. Natural distribution includes all rainforest types and stretches from East Gippsland in Vic. to near Gladstone in south-east Qld and west to Mt Kaputar and Carnarvon NP.

In the garden: Almost too easy to grow, it handles cold, heat and periodic water deprivation. It looks best if planted in full sun and not fed too well, thereby being forced to stay bushy. Black scale and stem borers can sometimes be a problem. The seeds can be separated by rubbing in sand prior to sowing; cuttings strike well.

Family: Pittosporaceae

Podocarpus elatus

Plum Pine

Although the swollen black stalks of the fruit are sweetish and edible they are somewhat slimy. They are dropped in multitudes below the female trees in autumn. The narrow stiff leaves are very noticeable when young, ranging from pinkish red to bright lime green. The dark adult foliage is particularly dense, forming a narrow tight crown on a tree sometimes reaching 40 m in height. The trunk is straight and fluted with attractive, finely fissured scaly bark. Although it has a great range, from Jervis Bay in south-east NSW to the McIlwraith Ra. on Cape York Peninsula, this tree is never common. This may reflect its value as a tough timber especially useful in marine situations. It occurs in very wet and quite dry rainforests, on the coast and the mountains, and in all types of soil.

In the garden: Regular flushes of new leaves make it a beautiful hedge plant that can be kept bushy. Uncut and encouraged to grow with fertilizers and water, it becomes a handsome clean-stemmed park tree. Male and female trees are needed if fruit is desired. The hard black seeds need no treatment and germinate in about 4 weeks.

Family: Podocarpaceae

Polyosma rhytophloia

Wrinkle-bark Polyosma

Unusual greenish-grey bark with prominent longitudinal wrinkles give this little tree both its common name and its specific name (from the Greek *rhytis* 'wrinkle' and *phloios* 'bark'). It can be seen mainly in very wet rainforest in north Qld, often on poorer soils, from Eungella west of Mackay to Mt Hartley near Cooktown. Generally it occurs in the uplands at 500–1300 m, but it has also been recorded near Mission Beach. Although it can reach 10 m in height it is more often a shrub, commonly found growing on the well-lit edges of disturbed rainforest. Its leaves are simple and opposite, with conspicuous looping veins that are depressed on the upper surface and strongly raised below. Several short soft spines edge the upper part of the leaf blade. The scented stalkless flowers can be green, white, pale yellow or purplish; they appear on the tips of the branchlets in spring and within a few months become blue-black single-seeded fruits.

In the garden: A pretty shrub that handles cool conditions, it deserves more popularity. It likes ample water and leaf litter or mulch. Peeled fresh seed germinates readily.

Family: Escalloniaceae (Grossulariaceae)

Polyscias elegans

Celerywood

The bark, leaves and branchlets all smell like celery, hence the common name. It is an elegant tree with a long straight trunk and an umbrella-shaped crown which tends to branch in threes. The very long leaves, twice-divided into many small shiny leaflets, are bunched at the ends of the limbs, as are the huge clusters of maroon flowers in autumn. The small black compressed fruits have 2 sickle-shaped seeds set in a soft sparse flesh which is highly attractive to numerous birds, probably because it is reliably available in winter and spring, an otherwise lean time. This is a common pioneer tree, occurring in all coastal and inland rainforest types, except the very coldest, from Jervis Bay in south-east NSW to the Torres Strait islands and NG. Although able to reach 30 m in height, it is much less in exposed or high altitude sites.

In the garden: It is fast-growing, hardy, beautiful and bird-attractive: an ideal garden and regeneration tree. As a tub plant, regularly tip-pruned, it is also very pretty. Water, soil nutrients and good drainage are its most pressing needs. Seeds germinate most reliably when collected from bird droppings or casts.

Family: Araliaceae

Psychotria loniceroides

Hairy Psychotria

This is one of the most widespread and common rainforest plants at altitudes up to 1000 m but it is often overlooked. It is found from near Batemans Bay in south-east NSW to the Torres Strait islands, in and on the edges of most rainforest types, except for cool-temperate, and often in open woodland as well. It also occurs in west Arnhem Land in the NT. As a bush of 5 m it can be quite dense, especially where growing on forest edges. All non-woody parts of the plant are silvery or rusty-hairy, with new shoots and leaves being furry. The simple opposite leaves are variable in shape, with a tip that can be pointed or rounded, but all the stems have the typical Rubiaceae scar where the pairs of leaf stalks join the stem. Flowers are starry white and stalkless, held in tight little clusters, followed by equally tight bunches of lemon-yellow fruits containing one ribbed seed. The flesh is juicy and sweet-tasting, though meagre, and is sought out by many birds.

In the garden: Overlooked in gardens also, it is an unspectacular but rewarding shrub for shade or sun. Flowers and fruit are more productive if water and nutrients are provided. Peeled fresh seed takes a few months to germinate.

Family: Rubiaceae

Ptychosperma elegans

Solitaire Palm

An exceptionally slender trunk and a self-cleaning crown give it the elegant appearance of its name. It can be 15 m tall. The short fronds tend to be held upright rather than drooping. The leaflet tips all appear to have been torn off and the last two are fused like a fishtail. Flower clusters are multi-branched and fragrant, followed by compact bunches of red fruits which are food for many airborne animals. Usually the palm is decorated by several mixed bunches at once. In Qld it occurs from Great Keppel Is. to Cape York, generally in colonies in riverine rainforest, and near coastal swamps or mangroves but it can also occur up to 600 m in gullies or even on ridges in the wettest areas. It is also found uncommonly in eastern NT.

In the garden: Now widespread outside Australia, it has become a very fashionable palm. In Florida it has escaped and become an invasive plant. It is cultivated frequently in northern Australia and looks superb in humid tropical areas. In colder or drier areas, however, it quickly deteriorates. Water, mulch, and regular fertilizing are needed as well as protection from hot blasting winds. The ribbed seeds germinate reliably in a few months.

Family: Arecaceae

Quintinia verdoni

Grey Possumwood

This grey-barked tree grows to about 20 m in height. It is common in cooler subtropical and warm-temperate rainforests, and occasional in cool-temperate rainforest, from Gloucester on the mid-north coast of NSW to the Blackall Ra. inland from Nambour in south-east Qld. Although generally occurring over 600 m it may go down to 200 m along creeks, where the air is always cooler. Its branchlets are dotted with pale lenticels and on the lower leaf surface many minute clear glands can be seen with a lens. The spring flowers are held in long possumtail inflorescences in the axils of the outer leaves. The fruits are tiny dry 3–5-celled cups spilling minuscule seeds that often germinate on treefern trunks. The very similar Red Possumwood *Quintinia sieberi* has red-brown bark, dark red glands on the lower midrib, and flowers in branching inflorescences at the ends of the branchlets.

In the garden: It is a lovely tree that flowers regularly if in a well-lit position and can be kept quite small. It needs water and humus-rich soil. The seeds are available in summer; they germinate prolifically and need to be sown sparsely on the surface of a peaty mix.

Family: Quintiniaceae (Grossulariaceae)

Rubus moluccanus var. *trilobus*
(syn. *Rubus hillii*)

Molucca Bramble

This prickly rambler is common on disturbed edges of rainforest, but often only a few tough stems are seen ascending into the canopy. It is very widespread in subtropical, warm- and cool-temperate rainforest, dry rainforest and vine thickets, occurring from Orbost in eastern Vic. to Mt Lewis in the wet tropics of north Qld. In the north it can occur at high altitudes over 1200 m. The leaves are clearly 3-lobed, with sparse hairs lying flat on the leaf stalks. The flowers are usually pale pink. Var. *moluccanus,* which occurs over many of the same areas in Qld and in south-east Asia and Malesia, has barely lobed or entire leaves, densely hairy leaf-stalks and white flowers. Both varieties have juicy delicious fruit. The common name has been applied to both vars, although var. *trilobus* does not occur in the Moluccas.
In the garden: Although fairly unfriendly in most gardens if left to climb, it can be pruned and kept bushy, and encouraged to flower with extra water and soil nutrients. Seeds germinate easily if separated from the pulp, cuttings can be struck and underground suckers can be separated from the parent stem.

Family: Rosaceae

Sarcomelicope simplicifolia
subsp. *simplicifolia*

Yellow Aspen

The genus name reflects its differentiation from *Melicope*. The fruits of *Sarcomelicope* are fleshy (*sarcos* means 'flesh' in Greek) although in this species the flesh is actually very firm. The foliage is glossy dark green, with an aromatic smell and small oil dots. Leaves are simple although the pronounced joint at the top of the whitish leaf stalk indicates evolution from a compound leaf. Tiny white flowers, males and females on separate trees, have vestiges of the structures of the opposite sex. Some trees reach 18 m but most are half that. A common and widespread tree, it is often not noticed due to its lack of bright colours. It occurs on Norfolk and Lord Howe Islands and from near Bega in south-east NSW to Green Is. near Cairns in north Qld, mostly in dry rainforest, and particularly near the coast.
In the garden: Its dense rounded canopy is most attractive and it can easily be grown in a variety of sites. However, it may be slow-growing unless prodded with water and fertilizers. Fruit is best softened by soaking for 2–3 weeks before the seed is separated for sowing. Germination is erratic, occurring within days or months.

Family: Rutaceae

Schizomeria ovata

Crabapple

Crabapple is one of the big trees of the wetter rainforests at high and low altitudes. Its grey fissured trunk can be seen commonly in three areas: from Bega in south-east NSW to Fraser Is. in south-east Qld; at Eungella west of Mackay; and in the north-east from Paluma to near Ravenshoe. It is a regular companion of Coachwood (*Ceratopetalum apetalum*) in warm-temperate rainforest in NSW, and can be confused with it. The simple opposite leaves have a long leaf stalk with a swelling at the base (Coachwood stalks are swollen at the top as well) and smooth teeth that point towards the leaf tip (or are occasionally absent). New growth is pink, apricot or pale purple. Masses of white flowers appear in late spring at the ends of the branchlets, followed by white egg-shaped fruits with a hard 2-celled stone and a sour edible flesh. It is sought by many fruit-eaters and few intact fruits can be found on the ground.

In the garden: It is a dense, good-looking and often colourful tree and, if helped with water and extra nutrients in the early stages, is hardy and fairly fast-growing. Trees in the open are usually less than 10 m tall. Unfortunately seed germination is erratic and can take up to 9 years. Cuttings are probably the easiest method.

Family: Cunoniaceae

Scolopia braunii

Flintwood

Rainforest trees of little use to the first white settlers were often named for the problems they presented in being removed. Flintwood is a small tree up to 25 m though often only 5–8 m. Its shiny and often oddly angled or diamond-shaped leaves are red-russet when new. Sharp spines on young plants are hidden in the foliage at the base of a leaf and sometimes are retained on the older woody stems. Scented white or yellow flowers, their many stamens on pink or white filaments, project in short clusters along the branchlets. Fruits are pointed-globular, in multi-coloured red, yellow, purple and black bunches. They sometimes contain 1–6 pale angular seeds but are often seedless. The tree grows in many moist and dry rainforests at altitudes up to 1000 m, from Jervis Bay in south-east NSW to Cape York, including many offshore islands.

In the garden: Despite the occasional thorn it is a very pretty garden plant for sun or shade. If fed and watered it produces flushes of new growth, but is still a slow grower. The fruits attract numerous birds. Seed is hard to find and to germinate; cuttings are more reliable.

Family: Flacourtiaceae

Sloanea australis var. *australis*

Maiden's Blush

This tree was named by timberworkers for the colour of its heartwood. It is noticeable for its vigorous coppicing habit, the main trunk being almost hidden by new stems. The toothed leaves are simple and alternate, with small distinct lobes at the base. Young growth is a beautiful rosy pink, another possible reason for the name. White flowers spangle the heavy crown and form decorative woody capsules covered in close-packed upright bristles that can be rubbed off. Red arils cover the seeds, one in each of the 3–5 wide-gaping valves. Maiden's Blush loves water and can grow into a large buttressed tree up to 30 m near creeks. It is common in subtropical rainforest, less so in warm-temperate rainforest, and occurs from near Nowra in south-east NSW to Kin Kin in south-east Qld.

In the garden: Although very slow-growing and not hardy in hot dry sites, it can be pushed into becoming an ornamental small tree. Grown in a tub and tip-pruned, it will live for years as a neat bush. Fresh seed, collected in late summer, germinates within a few weeks. Cuttings and even woody branches send out roots readily.

Family: Elaeocarpaceae

Solanum corifolium

Straggling Nightshade

Worldwide the huge *Solanum* genus contains many edible, toxic or useful species. There are over 100 species in Australia, many of them in rainforest. One of the most common is Straggling Nightshade which is found in Qld from the NSW border to the Callide Valley south-west of Gladstone, as well as near Proserpine and Kuranda. There is an old record for the Richmond R. in NSW. It occurs mostly in subtropical and dry rainforest, and on the disturbed edges, often in hilly or mountainous situations and often on basaltic soil. Most plants are less than a metre tall with a few sparse lax branches. Slender spines, sparse or dense, appear along the stems and on the leaves. The leaves may be shallowly lobed, their upper surface dark green and more or less hairless, and the underside pale fawn and densely felted with tiny star-hairs. The smooth-stalked flowers are white or mauve and the mature fruits are bright red.

In the garden: It is rarely cultivated but could be grown in well-lit situations in good soil. Occasional pruning encourages bushiness but the plant is not long-lived. Seeds can be rotted in the flesh for a few weeks before sowing.

Family: Solanaceae

Solanum stelligerum

Star Nightshade

This prickly-stemmed erect shrub is also called Devil's Needles though its spines are less prolific than on some other *Solanum* species and are usually absent from the leaves. It grows to about 2 m, rather twiggy in appearance but occasionally quite bushy. It may have a few suckers at the base. The leaf veins are deeply depressed on the upper surface; the lower surface has a dense cover of pale gold star-hairs. These hairs also cover the new shoots and branchlets, and they line the veins of the upper leaf surface. Juvenile leaves can be slightly lobed. Flowers are white to purple, held on hairy stalks. The little fruits are red when ripe and were reputedly eaten by east coast Aboriginal peoples. It is widespread and often locally common from Bermagui on the south coast of NSW to Rockhampton, occurring mostly in the warmer types of rainforest and adjacent eucalypt forest.

In the garden: Although in cultivation in England before 1800 it is rarely grown at home. With water, nutrients and good light it can be very ornamental, flowering for much of the year and attracting birds to its fruit. Seed germinates well if fruits are rotted for a few weeks.

Family: Solanaceae

Stenocarpus salignus

Scrub Beefwood

This *Stenocarpus* can reach 30 m, with a large buttressed trunk, whose dark red timber provides the common name. However it is more frequently seen as a shrub or small tree. It is common in subtropical, warm-temperate and dry rainforest and often on the edges with sclerophyll forest, occurring from Durras Lake near Batemans Bay on the southern NSW coast to Biggenden in south-east Qld and inland as far as Springsure and the Blackdown Tableland. The smooth simple leaves are 3-veined, glossy above and paler and duller below. When young and fresh they have a characteristic bronze-red outer end. Juvenile leaves can be attractively lobed. The foliage has a slightly pendulous habit but is hardly willow-like as the specific name suggests (from the Latin *salix* 'willow'). The classic wheel-shaped flower head of the genus is in this case snowy white. Long stiff follicles that follow in autumn are packed with membranous-winged seeds.
In the garden: It is somewhat straggly unless grown in strong light, plied with food and water, and occasionally pruned. Then it can look very ornamental and flower well. Fresh seeds germinate easily.

Family: Proteaceae

Stenocarpus sinuatus

Firewheel Tree

The crimson flower heads of this well-known tree bloom inside the outer foliage, giving it a spectacular glowing appearance in late summer. It has a dense columnar silhouette and very dark glossy leaves with broadly wavy edges. Foliage on juvenile trees is deeply lobed. Flattened follicles open wide at maturity, displaying 2 rows of neatly overlapping winged seeds. Firewheels can be seen commonly in the wetter rainforests in three areas: from the Nambucca R. in north-east NSW to Maryborough; at Eungella west of Mackay, and in the wet tropics from Cardwell to the Daintree area. In the north it is often associated with Kauri Pine (*Agathis robusta*) and can occur at altitudes up to 1200 m. It is also in NG.
In the garden: Deservedly a popular tree that is often used in streetscaping, it flowers most years in great abundance. Plenty of water in summer and extra fertilizer will produce quite rapid growth, contrary to its unfortunate reputation. Protection from frost and wind exposure is worthwhile in the early stages below 2 m, but sun forces a dense outline. The seeds germinate in about 3 weeks and can be cold-stored for some time.

Family: Proteaceae

Syzygium cormiflorum

Bumpy Satinash

Flowers and fruit sprout from ground level on this remarkable north Qld lilly pilly. It occurs in wet tropical rainforest from the Ingham area to Iron Ra. on Cape York Peninsula. The ramiflorous form, flowering mainly on the branches, is a large tree usually found in lowland areas, reaching 30 m in height. The cauliflorous form (pictured), flowering mainly on its lumpy trunk, is smaller and more common in the highlands, occurring up to about 1200 m. It can often be seen as a paddock tree on the Atherton Tableland. Specialised ants (*Iridomyrmex gilberti*) live within the trunk bumps. Profuse white flowers on both forms can occur in almost any month. They are popular with lorikeets and blossom bats, and the large white or blush-pink fruits are eaten by Cassowaries. New growth is a beautiful pink or purple.

In the garden: Both forms develop into a dense tree of about 10 m in the open. It is fairly fast-growing if given well-drained and fertilised soil and plenty of summer water. Shelter from frost is important for small plants. Like all lilly pillies, this one makes a handsome tub plant when young. Seeds germinate quickly if fresh.

Family: Myrtaceae

Syzygium hodgkinsoniae

Red Lilly Pilly

Due to widespread destruction of subtropical riverine rainforest, this tree is now vulnerable in its natural habitat between the Richmond R. in north-east NSW and Kin Kin in south-east Qld. The large cream honey-scented flowers can be very profuse when they bloom in autumn. The bold red fruits are heavy enough to weigh down the branchlets; their floury flesh smells like cigarette butts and seems to have a purgative effect when eaten. The tree can reach 11 m in height, usually slender under canopy, but is smaller and very bushy in the open, often coppicing. The opposite leaves are glossy above, paler below.

In the garden: It is a handsome shrub if given some shelter and a fairly rich soil. It is very slow-growing at first. On seedlings less than 0.5 m, shoots often stop growing and clump tightly into a peculiar red 'witch's broom'. The plant needs to be pushed through this phase with plenty of water and fertilizer. Sooty mould can sometimes be a problem. Fruits can be collected at various times, the peeled seeds germinating easily within a couple of months and often as multiple shoots from one seed.

Family: Myrtaceae

Syzygium luehmannii

Riberry

Riberry is an outstandingly beautiful plant, either as a 30 m forest tree or as a 3 m shrub in cultivation. Its extremely dense foliage flushes several times a year in shades of pale to brilliant pink, forming a weeping crown that sweeps to the ground. The leaves are small, opposite and markedly drawn out at the tip. Numerous white fluffy flowers develop into prodigious bunches of red edible fruits. It grows in littoral and lowland subtropical rainforest from the Macleay R. to Fraser Is. and also in wet rainforest up to 1500 m in north Qld, from Paluma to Silver Plains on Cape York Peninsula.
In the garden: This plant has been deservedly popular for many years. It is now grown for the bush food industry as the fruit is used in sauces and jams. It can be grown in sun or shade and is hardy almost anywhere except for very cold or dry areas. However, it looks far superior when treated well. It makes a superb tub plant that can be brought inside for short periods when the leaves are at their brightest. Sooty mould can be a problem in some areas but new leaves quickly outgrow it. Fresh peeled seed germinates reliably in 3–4 weeks but many fruits are seedless; seedless cultivars grown by cutting are in fact often planted for preference.

Family: Myrtaceae

Syzygium moorei

Durobby

Early settlers called this the Watermelon Tree for the colour of the flowers, borne inside the crown on every available branch. On some trees they are red. The large white fruits are crisp but only barely edible and usually infested with grubs. Also called Coolamon and Rose Apple, it has a stout trunk and branches, with attractive flaky bark, and a solid imposing outline. Its large leathery leaves have distinctive red stalks. This tree is now vulnerable, occurring only between the Richmond R. valley in north-east NSW and Mudgeeraba south of Brisbane. It is generally found in pitifully small subtropical rainforest remnants, always in the lowlands and often on poorer soils.
In the garden: Plenty of humus, water and high-nitrogen manures are needed to maintain dark green leaf colour and steady growth. Flowering may not begin for 10 years and even then is intermittent. Sooty mould on the leaves and pimpling caused by psyllid insects are unsightly in young plants but despite all that it is a superb specimen or shade tree. Fruits are best collected just before maturity and the seeds soaked before sowing. They germinate in a few weeks.

Family: Myrtaceae

Syzygium smithii narrow-leaved form (syn. *Acmena smithii* rheophytic race)

Creek Lilly Pilly

Fierce flooding batters this under-sized stream-side form of the more widespread common Lilly Pilly *Syzygium smithii*. Creek Lilly Pilly's leaves are finer and its massed fruits are usually smaller in size. They range from white to pale pink to deep mauve, and are rarely left unattacked by insects. The white fluffy flowers are small and short-lived but the fruits hang on for months, often pulling the branch tips down into the water. Propped vertically this tree might be 6–7 m tall. Dense leaning groves can be found along creeks in subtropical, warm-temperate and dry rainforest from Sydney to near Maryborough in south-east Qld.
In the garden: A wonderfully malleable plant, it can be trained into a low spreading umbrella-shaped shade tree or kept short and bushy as a hedge. It is hardy in most sites, including frosty ones, but looks best with plenty of water and fertilizer to promote the rich dark red new growth. Although slow and spindly for the first few years it eventually becomes very dense. Fresh unpeeled fruits germinate quickly and reliably, whether infested or not. Cuttings are also fairly easy.

Family: Myrtaceae

Syzygium wilsonii subsp. *wilsonii*

Powderpuff Lilly Pilly

In the low light of the tropical rainforest understorey this lilly pilly is a slender crooked shrub up to about 6 m in height. It occurs in north Qld from Hinchinbrook Is. to Mossman, always in very wet rainforest, usually below 800 m in altitude. The branches and foliage are weeping in habit with frequent limp flushes of bright apricot, pink or red new growth; the leaves are dull with a strongly raised midrib. Close-packed globular clusters of white fleshy fruits follow the huge pendulous pompoms of pink, crimson or purple flowers.

In the garden: Outside the forest it behaves differently and is now well known as a horticultural gem. Lightly pruned to keep it below 2 m, it becomes dense and spreading and flowers heavily. While continuing to produce leaf colour for much of the year it is slow-growing. It needs a warm, well-lit site not exposed to wind, and it prefers regular water and mulch. Although unhappy in full sun and frost it can cope with both if not too severe. Sooty mould can be a problem. Fresh seed germinates within a few weeks; cuttings are somewhat slow to strike but produce early-flowering plants.

Family: Myrtaceae

Tabernaemontana pandacaqui
(syn. *Ervatamia angustisepala*)

Banana Bush

These pretty yellow fruits vaguely resemble bananas but they are not edible and belong to a family which has many poisonous members. The seeds are embedded in a fleshy red aril. Unusual windmill-shaped flowers with frilly white folded-back petals precede the fruits, filling the air with a sweet pervasive scent. Copious sticky white sap pours from any wound. When growing in the understorey it is dark-leaved and open-branched, and may grow to 4 m in height; in regrowth after clearing it is shorter and denser with yellow leaves. It is very widespread and common in warmer moister rainforests in two widely separated areas: from the Manning R. in north-east NSW to Bulburin near Miriam Vale, and in the north from Cardwell to near Cooktown. It is also in Malesia and south-east Asia where it has many traditional medicinal uses.

In the garden: Healthy specimens grown in good light but without direct sun can look very attractive when in flower or fruit. Unfortunately the plant is often defoliated by caterpillars down to the last leaf. New plants can be propagated easily from fresh seed or cuttings.

Family: Apocynaceae

Thaleropia queenslandica (syn. *Metrosideros queenslandica*)

Queensland Golden Myrtle

Spectacular golden flowers, dense foliage and coppery-red new growth have made this one of the most beautiful of the rainforest plants. It can grow to almost 30 m, with a sharply buttressed trunk, attractive flaky bark and a rounded compact canopy. The simple opposite leaves are very wavy and have many oil dots that are obvious through a lens. The flowers appear in summer and last for some weeks, eventually forming small dry capsules containing tiny seeds. Distribution occurs over a narrow band of upland rainforest in the wet tropics in north Qld, from the Cardwell Ra. to the Tinaroo Ra. On the Atherton Tableland it can be seen as a handsome paddock tree.

In the garden: In the open this plant often reaches only 8 m and as a garden shrub is more often 3–4 m. The foliage is rarely without its bright tips even in winter. Full sun is required for best flowering as even the shady side of the tree will flower less well. Good drainage, plenty of moisture in the early stages and regular fertilizing are important otherwise it will grow slowly. Cool conditions are not a problem. Cuttings strike easily and the fine seed can be germinated in fibrous peaty material.

Family: Myrtaceae

Toona ciliata
(syn. *Toona australis*)

Red Cedar

Renowned for its soft, durable, scented timber and the speed with which the larger trees disappeared after the coming of the Europeans, Red Cedar is also well known as a beautiful spreading tree on farms. The flaky bark and narrow buttresses are distinctive. Huge old forest trees of over 40 m are rarely seen now. The long pinnate leaves have up to 20 dark green leaflets, each with an asymmetric base and small hairy domatia along the midrib below. In winter the foliage yellows and falls but within a few weeks new pink shoots appear. Long sprays of white flowers in summer are quickly followed by teardrop-shaped capsules which split star-wise, releasing many winged seeds. The tree is common in moist rainforests on better soils from Milton in south-east NSW to Iron Ra. on Cape York Peninsula, occurring at altitudes up to 1000 m in the north. It is also in Malesia and Asia.
In the garden: With ample water and soil boosting it can be pushed through the almost inevitable attacks by the Red Cedar Tip Moth *Hypsipyla robusta*. Healthy seeds, collected in summer when the capsules start to burst, germinate in days.

Family: Meliaceae

Tripladenia cunninghamii
(syn. *Kreysigia multiflora*)

Bush Lily

This lovely little herb specializes in edges, being nearly always found in the ecotone between wet sclerophyll forest and subtropical or warm-temperate rainforest. It occurs from Myall Lakes on the mid-north coast of NSW to Mt Glorious north-west of Brisbane, and inland to Mt Boss. Though never common it is usually quite gregarious. Its wiry zigzag stems, clasped by glossy heart-shaped leaves, form loose open clumps of less than 1 m in spread. Suckers form around the base from the underground rhizome but do not expand very far. Pale pink or mauve flowers form at every leaf base, followed by wrinkled 3-lobed capsules containing many rounded-angular seeds.
In the garden: Bush Lily is exceptionally well suited to cultivation but is rarely seen. In a well-lit position and plied with copious leaf litter it becomes very compact and is ornamented with flowers for long periods. Cool conditions are acceptable if heavy frost is avoided. It makes a superb tub specimen that maintains its appearance and even keeps flowering when inside. It can be propagated from seed which can be hard to come across; division is easier.

Family: Colchicaceae

Tristaniopsis laurina

Water Gum

Magnificently gnarled and channelled old specimens, veterans of many floods, can be found along creeks in warm-temperate and subtropical rainforest, and in open forest, from Bairnsdale in Vic. (where it is known as Kanooka) to Bundaberg in south-east Qld. Although generally at lower altitudes the species can go to 900 m. Straight-trunked trees may occasionally reach 35 m in height. The bark is fawn, flaking off in attractive patterns. The simple leaves are broader towards the tip, dark above and palely hairy below; when young they are maroon, as are the branchlets, and in cold weather the whole tree may redden. Oil dots in the leaves give them a pleasant aromatic smell when crushed. In summer, small clusters of brilliant yellow flowers erupt and by winter have turned into little woody 3-valved capsules. Seeds with hard wings spill out over the ensuing months, their angular shape wedging them into crevices.

In the garden: Fast-growing, dense and cold tolerant, it makes a good shade tree where water is abundant and is excellent for holding stream-banks. It can cope with slightly impeded drainage. The seeds germinate readily though rather slowly.

Family: Myrtaceae

Triunia youngiana

Spice Bush

Also called Honeysuckle Bush, this little shrub has exceptionally sweetly scented flowers on upright inflorescences in early summer. They are usually sparse on shrubs in the understorey, and very few actually set fruit. The red or russet soft fruits have single seeds that are extremely poisonous to humans, and probably mammals in general, and the flesh itself may also be dangerous. This is an open shrub up to 4 m in height, growing in sub-tropical and warm-temperate rainforest. It can be found commonly at low and high altitudes in the area between the Bellinger R. in north-east NSW and the McPherson Ra. Its toothed or entire leaves, arranged in whorls of three or four, have a quilted appearance from the sunken veins. New tips are a beautiful coppery pink and covered in silver hairs.

In the garden: In well-lit sites, protected from frost and wind, this becomes a lovely free-flowering shrub. It may be pruned to keep it bushy. However despite its attractiveness it should not be planted where children might be tempted to eat the fruit. Fresh peeled seed, usually available in winter, germinates within a few months and cuttings strike fairly easily.

Family: Proteaceae

Trochocarpa laurina

Tree Heath

In the broad ecotone where rainforest and eucalypt forest meet this little tree is very common, occurring up to about 800 m in altitude. It can be found on the edges of subtropical, warm-temperate and littoral rainforest from near Wollongong (with a record near Bega as well) to Fraser Is. Usually only 3–4 m in height, it can sometimes reach 13 m. The fissured corky bark provides an ideal base for epiphytic ferns and orchids. Its simple leaves have distinct parallel veins; when new they are pink-red and hang limply and very decoratively. Short spikes of white honey-scented bell flowers occur in almost any month, likewise the globular navy-blue fruits. The flesh is sweet but scanty and astringent; the inner stone separates into 8–11 wedge-shaped segments.

In the garden: Foliage is always dense and attractive. Hardy in full sun or part shade, it tolerates cool conditions and poor soil. However it can be very slow, and regular additions of mulch and fertilizer encourage overall growth and frequent flushes of colourful new tips. It looks good as a container plant. The seeds are readily available but can take years to germinate if at all. Cuttings are also difficult.

Family: Ericaceae (Epacridaceae)

Viola banksii

Banks' Violet

More familiar now in cultivation than the Sweet Violet (*Viola odorata*), this little violet has been valued for many years. It forms large tangled patches, its distinctive bright green leaves almost circular except for the excised wedge where the stalk joins. The edible flowers are strongly marked in pure white and intense violet. They are followed by a small 3-valved capsule containing glossy purple-black seeds. This violet is found in moist soils in or near most lowland rainforest types as well as in more open vegetation types. It occurs naturally from Batemans Bay in south-east NSW to near Brisbane, and may also have naturalized in other areas. Until recently it was known as *Viola hederacea*, but that plant has proved to be quite different: smaller and with dull semi-circular leaves and pale flowers.

In the garden: It adapts easily to many different soil types if some shade and moderate amounts of water are provided. Successful recovery is made even after severe stress such as frostbite or drying-out. In hanging baskets, festoons of flowering plantlets droop 1 m or more. Extra plants can easily be obtained by separating young rooted plantlets.

Family: Violaceae

Gardening with rainforest plants

Why grow rainforest plants? Rainforest species display a staggering diversity of shape, colour, size and appearance. Their attractiveness is due not only to their flowers, spectacular as some of these are, but to the plant forms, leaf shapes, colourful new growth or bright fruits which are often just as interesting. Unlike many plants from the drier parts of Australia, the seeds of most rainforest plants are distributed by birds or flying-foxes rather than the wind. The fruits need to appeal to dispersers and often develop brilliant colours and juicy or sweet flesh. Young leaf growth can be very striking and sometimes even more impressive than the flowers.

Rainforest plants are remarkably hardy and adaptable. Whilst rainforest ecosystems are fragile and can be damaged or destroyed by heavy-handed or prolonged interference, individual plants in gardens have proved able to survive anywhere that conventional exotics are grown. The huge latitudinal and altitudinal range of some species gives them an ability to grow almost anywhere if provided with basic care.

Fire-retardant qualities are exhibited by most rainforest species, including those from naturally dry areas. They can be planted to form a 'green fire-break' that, although it may not stop a fire, will reduce its speed and intensity, especially when compared with fire-promoting vegetation such as eucalypts and most wattles. Although most rainforest plants are severely damaged by fire and their intolerance is a defining characteristic, many can in fact recover from an occasional burn.

Many Australian rainforest plants are grown specifically for their ability to attract birds and butterflies. Lorikeets, rosellas, honey-eaters, bower birds, native pigeons and many others are enticed by the flowers or fruits. Figs, laurels and members of the Sapindaceae family are particularly useful to birds and should be planted where space permits. Host plants for butterfly larvae or food plants for adults are always worth planting for the added interest that they bring to gardens.

Some rainforest plants are increasingly grown as commercial or home-garden bush food, particularly now that high levels of antioxidant phytochemicals have been found in several species. Many gardeners who restrict themselves to growing only 'edible-or-local' plants find that some rainforest species, such as Brush Cherry *Syzygium australe,* fit both requirements.

How rainforest plants behave. In gardens, plants may appear dramatically different from their forest-grown counterparts. Shrubs or trees often grow tall, slender or straggling under a heavy forest canopy, where restricted root-space and light force growth upward. In the open they develop a shorter, denser and more rounded appearance. As a general rule, a tree grown in the open will be one third the size of the same species in the rainforest.

Some rainforest plants grow very rapidly: pioneer species can put on 3 m or more each year where high levels of soil nutrients are available. Others may be extremely unhurried. An impression of rainforest plants as slow growers has arisen from the ability of many species to wait indefinitely for a space. A closed canopy restricts active growth so severely that a small tree of 2–3 m may be many years old. When a large tree falls and rifts the canopy, formerly dormant saplings grow quickly in the improved light. The fastest sapling fills the space, consigning the others to more years of waiting.

Most of the shrubs and trees are very long-lived and will not need to be replaced. Even the so-called 'short-lived' pioneers last at least twenty years.

Natural growing conditions for different species can vary greatly, ranging from exposure to sun and salt winds on coastal headlands to perpetually wet and cool mountain gullies, and from pure sand to boggy clays. In addition, some species are adapted to recolonising disturbed areas after natural catastrophes such as isolated tree-falls, cyclones or landslips. Most of the so-called climax species, which develop in the initial shelter of the pioneer trees and which are considered to be sensitive, are well-adapted to full sun on their crowns, low humidity and a broad range of temperatures. A tolerance of shade does not imply a requirement for it.

Many of the most successful garden plants originated in tropical, subtropical or temperate rainforest in other countries. Selected for the best forms, grown in open garden conditions, and given water and fertilizer, they are deservedly popular. Australian rainforest plants are often more attractive in the garden than exotic species but they are little known as yet and have not undergone extensive breeding and development.

The ornamental Pink Laceflower Archidendron grandifolium (see p. 9) *attracts Richmond Birdwing butterflies when in flower.*

Neither a large garden nor years of gardening expertise are required to grow rainforest plants at home. Australian rainforest plants can be grown in most gardens provided they are protected from extremes of heat, cold and exposure. Depending on the space available, they can be used to

underplant an existing garden with extra species, or to form shrubberies either on their own or in combination with other natives or exotics. They can also be used as specimen shrubs or trees in prominent positions or as small rainforest communities with trees, shrubs, groundcovers, vines and ferns.

Planning. Species should be selected that are suitable for the site's latitude, altitude, soil type and degree of exposure. Preference should be given to local species that grow within about 30 km of the site. Plants from other areas may not perform as well or, conversely, may become weedy and threaten the local bushland (see also 'The right rainforest' in *Australian Rainforest Plants VI*).

If possible, planting sites should be chosen which are sheltered at least to some extent by existing trees, buildings or fences. Most rainforest plants will tolerate strong sunlight if desiccating winds are minimised and frost damage lessened by the proximity of other trees. In new or sparsely-planted gardens there is little choice, so hardy sun-loving plants should be used. Rapid cover can be provided by many of the pioneer plants such as Brown Kurrajong, Pink Ash, Macaranga or Bleeding Heart. Well-drained soil is preferable though there are various species which can tolerate poor drainage.

Spacing depends entirely on the desired shape of the plants. If grown singly, most rainforest trees and shrubs form a very rounded, bushy outline. Group plantings can be spaced at roughly 3 m intervals to allow some room for development but many gardeners prefer closer planting to give quick cover. Dense planting results in taller more spindly trees.

Mulching. Heavy mulching is important in providing humus to support a healthy population of soil organisms and to keep the root zone cool, which is of more concern to these plants than overhead shade. Within two or three years, the combination of mulching and dense foliage can almost completely eliminate weeds. Most garden refuse, lawn clippings, leaves and even branches can be used to build up humus. Once a canopy is established, conditions at ground level will remain moist, helping to break down the organic matter rapidly. If mulch cannot be provided in the first few years, competition from weeds and grass must be kept down by other means, such as weed-mat or cardboard, or as an absolutely last resort, the occasional use of low-toxicity herbicide.

Watering. Water is an important factor in keeping rainforest plants healthy, although they do not need more water than is received by the average garden of conventional exotics. Crucial times for water needs are the first three months after planting and during hot dry windy summers such as Melbourne experiences. A good soak once a week during dry spells may be necessary for young plants, but established ones are remarkably resistant, especially if mulched well.

As many Australian cities become thirstier due to climate change, it will become increasingly important to grow species that can cope with less watering, less rainfall, more direct sunlight and higher temperatures. Some rainforest species from the vine scrubs and monsoon forests are well adapted to dry conditions. On the other hand some areas such as the far north-east may become wetter and will also need careful selection of species.

Fertilizing. Clearly, deep rich soil is the ideal. However, most gardeners work with something less. In rainforests, soil nutrients are recycled rapidly as fallen leaves decompose and are again made available to the roots. To hasten the establishment of this natural cycle, fertilizers can be used in the early years, helping the plants to grow quickly and begin producing leaf litter for their own use. Compost and old manure are the best natural fertilizers but if these are not available then a handful of slow release chemical fertilizer twice a year, or a high nitrogen quick-release fertilizer such as chook manure three or four times during spring, summer and autumn, will give encouraging results. All artificial fertilizers should be well watered in and covered with mulch. Lime or dolomite should be applied with caution as acidic soils are normal for most rainforest plants.

Pruning. Most rainforest plants respond well to pruning, usually developing a very bushy crown of new growth. Pruning can be carried out at any time of year but the bare appearance will be covered soonest if done in the warmer months. Water and fertilizer should be provided to encourage fresh new growth. Pinching out the tips of young plants to encourage low branching is preferable to savage pruning later. Alternatively, low branches can be removed to induce an open park-like appearance.

Growing rainforest plants in tubs. Many rainforest plants are very handsome in containers. Their unusual foliage and bright growth tips are the main attraction but some species, particularly when cutting-grown, will produce flowers and fruits while still small. Some can also be used as indoor plants, varying only in the length of time they continue to look attractive. That may range from two weeks to two years. If grown in portable tubs they can be kept outside and moved inside when in flower or new leaf. Growing in tubs may also be a good way of growing species that do not like local soil conditions or cannot take droughts.

In natural conditions, water and soil nutrients are usually available at the higher soil levels so a deep penetrating tap root is not required and in fact often dies after a few years and is replaced by a mass of lateral roots. If root-space is restricted the plant simply reduces its growth rate. For these reasons healthy container-grown rainforest plants can last for some years, growing quite slowly, and can then be planted out without the problems of a curled tap root.

These plants can be grown as single specimens, or planted closely in groups. In large containers a mixed planting gives an interesting and original effect. When grown for use on patios or verandahs they look splendid in bright light with some protection from wind and hot sun. However species can be chosen which will cope with a perpetually shady south-wall position or with full-sun on the northern side.

Cultivation requirements for tubbed plants are similar to those for garden-grown plants, with the exception of the soil mix. A plant growing well in garden soil will not thrive if that same soil is used in a tub, as drainage will almost certainly be inadequate. The potting medium must be at least one third sand or aggregate and the rest should be highly fibrous water-holding material, such as good quality compost, with a small amount of soil. Frequent light pruning, coupled with the use of slow-release fertilizer, will produce shapely plants with dense foliage. Water needs obviously depend on the soil mix, the season, the plant and the position. However, it is best to err on the side of under-watering because wilting due to dryness can be easily rectified whilst wilting from root fungal attack cannot. Rainforest plants are very resistant to soil fungi but consistent over-watering usually causes root problems.

Repotting should not be undertaken too frequently nor into too large a container as this can induce very rapid leggy growth. Occasionally it can cause the death of the plant if large amounts of fertilizer become available to a very small root mass.

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Stream Lily *Helmholtzia glaberrima* (p. 37), Binna Burra, Lamington National

Index of common names

* indicates an introduced plant

Bold entries indicate a plant described in this book.

Un-bold entries indicate plants that are mentioned but not described.

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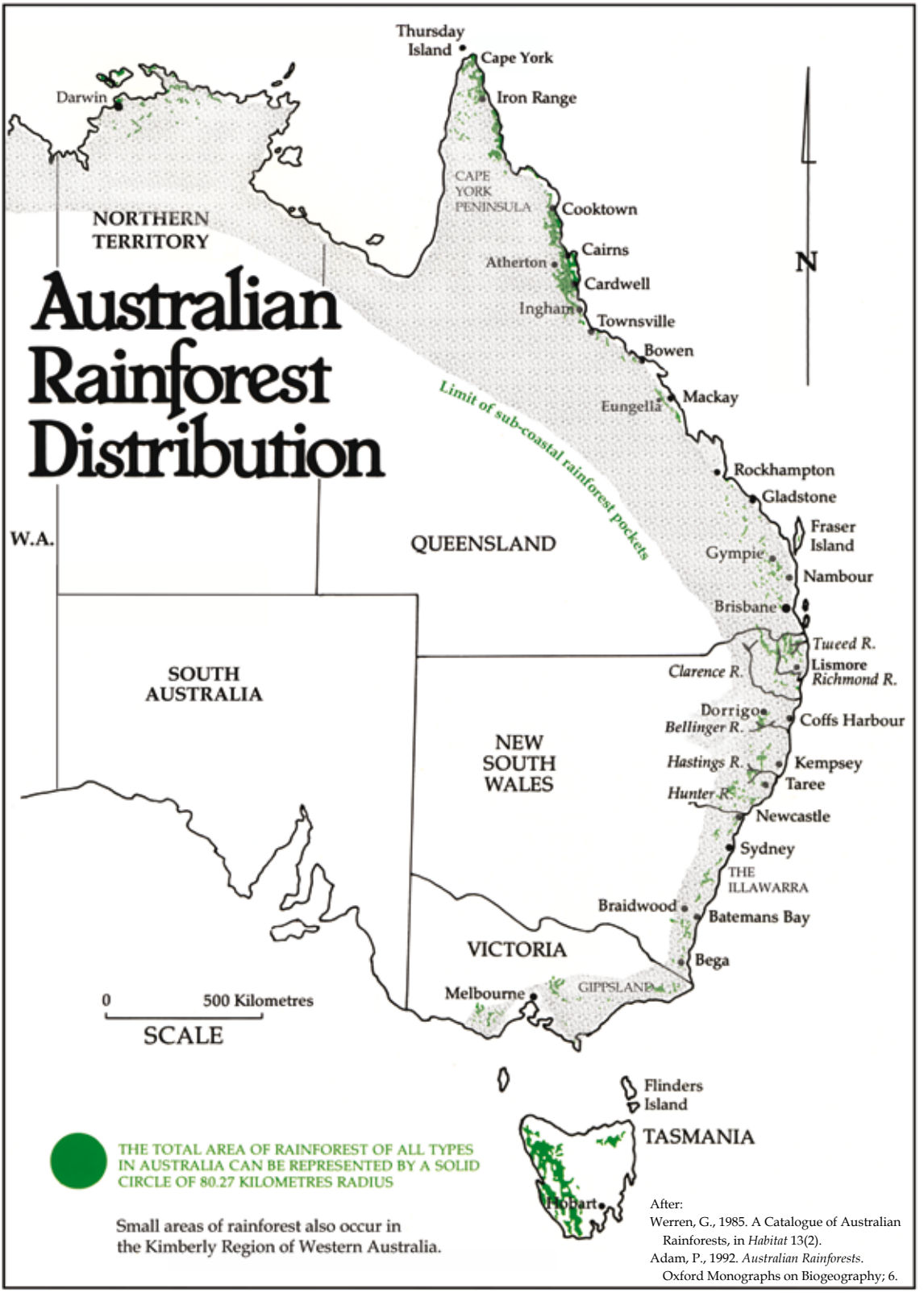

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Hugh is a well-known photographer of rainforest in all its aspects. Nan has written numerous papers and articles on rainforest conservation and horticulture. Together they have gathered extensive knowledge of some of Australia's most beautiful plants.

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