

Subtropical Landscape Plants for South East Queensland Exuberant and Sustainable ?

Alan Chenoweth

Chenoweth Environmental Planning & Landscape Architecture, Brisbane

Arno King

Arno King Landscape Architects/Deicke Richards, Brisbane

Annette Irish

Annette's Irish Management Services, Horticultural Consultancy, Whiteside

Key Words: Subtropical, Plants, Character, Comparative Assessment.

Introduction

Plants, sunshine, outdoor living, balmy nights and more plants the word 'subtropical' conjures images of luxuriant foliage, exotic shapes, enticing textures and bold colours. However the climatic zone covers a range of conditions, from fertile valleys and moist gullies to dry hillslopes and exposed coasts. In South east Queensland (SEQ) and throughout the world, these conditions support a wide diversity of natural vegetation, and also allow a wide range of plants to be grown in subtropical parks and gardens. We are fortunate in this climate to have an extensive palette of plant material, and with skilled plant selection can create almost any desired character, from tropical rainforest to cottage gardens.

Nevertheless a truly distinctive Brisbane character is best expressed through the traditional subtropical garden, with a rich diversity of plants in multiple layers, and an emphasis on their architectural form and foliage. This model offers the greatest opportunities for a sense of place which is both instantly recognisable and part of our landscape heritage. However this design style is challenged by the need for environmental sustainability and more compact urban areas, and by the current water crisis, especially if plant selections are inappropriate.

At the time of writing, SEQ is in the grip of a severe drought, and some moisture-loving plants are showing their vulnerability. However our environment is influenced by El Nino cycles with long periods of drought followed by wet years, when dryland plants may suffer. Landscape is dynamic, both in its natural state and in designed urban environments. Plants grow and change over time, often faster in subtropical than in temperate climates, and with greater variation here than in the temperate latitudes. Plants with proven long-term reliability are those selected for local conditions. Some widely used plants may look great for a few years then decline or become unmanageably larger than expected.

In addition to these natural cycles, plants come and go in fashion. The garden plants and parkland trees introduced in colonial times, when 'acclimatisation' was popular, have given way to periods of preference for sclerophyllous native plants, interspersed with bouts of enthusiasm for cottage gardens, South-east Asian garden influences and stylish minimalism. However the current emphasis on environmentally responsible design is a long-term imperative, as is the trend to higher densities of residential development in urban areas. These changes may spell the end of large backyards, tall spreading trees and heavily-watered gardens, but our cities need 'greening' more than ever. Dense built form and impermeable paving increase urban heat loads, wind and runoff, but relief and comfort can be found in parks and smaller shady 'oases' of intensive planting with soft porous surfaces. An added bonus is that, even in small spaces, constructed landscapes can still capture the sensual essence of the subtropics .

The challenges facing landscape architects and designers in SEQ today is to develop an environmentally-sustainable approach, using plants which:

- perform reliably and consistently in the long term in our local climate (through both dry and wet times), and in the exposed conditions and highly modified soils of development sites;
- provide a distinctive subtropical and South-east Queensland character, but are also compatible with current architectural styles;
- deliver the 'liveability' outcomes expected of residential and suburban landscapes (such as shade, privacy, visual interest and softening the built form) within a dense urban environment, where landscape space is often confined.

This paper assesses the environmental implications of some popular and reliable plants which are distinctively subtropical in character, markedly different from temperate zone plants and from dry eucalypt or heath vegetation. An indicative sample of 'common' plants is provided in the Attachment to illustrate a rational approach to plant selection, but these do not purport to be a definitive list for landscape design, nor is this paper intended to promote the many exciting plants which can and should be used to design a high-quality landscape. Many other plants are also suitable for and characteristic of SEQ, with similarly desirable environmental attributes. Given the wide range of available plants, each expert will have a different list of favourites, but the plants chosen for illustration all convey a strong subtropical sense of place. Regard our list as only a starting point, and consult a horticulturist to expand your planting palette.

Character

Plants express subtropical character more than any other element in the urban environment. Palms, epiphytes and tropical foliage convey an instant impression that our place is different and exotic. Distinctive design attributes include:

- Plants rule ! ... with a density, diversity and informality of placement, apparently-casual groupings and rampant growth;
- Year-round consistency, dominated by evergreen or 'raingreen' trees and perennials, rather than seasonal changes and massed flowering annuals;
- Layers of planting, comprising shade trees and taller emergents, subcanopy palms and shrubs, vines, orchids and other epiphytes, ferns and other ground covers;
- The architectural or sculptural forms of plants in each layer, including vertical palms and buttressed tree trunks, large or dissected leaves and pinnate fronds with strong textural qualities, tufted borders and bold flower shapes;
- Mass-flowering trees and less profusely flowering shrubs (often with a limited number of large or brightly-coloured flowers), rather than ground-level displays of mass-flowering shrubs and herbaceous plants;
- Bright foliage colours such as dark greens, purples and reds, often with contrasting patches or stripes, rather than the sclerophyllous grey-greens which typify drier parts of the Australian bush; and
- Shade and dappled light, moisture and semi-enclosed spaces, rather than open sunny vistas.

These attributes are usually associated with a moist sunny climate. The long growing season and absence of frost (usually) ensures continuous growth, the strong sunshine highlights bold colours, and the high rainfall fosters competition for sunlight (strong vertical growth) rather than competition for water and nutrients, while shade-loving large-leafed understory plants thrive beneath the tree canopy. Notwithstanding these 'hothouse' conditions, many 'lush' subtropical plants have consistently performed well in the more demanding urban environment and variable rainfall of SEQ. Not surprisingly, the most adaptable species are

those originating in dry vineforests and rainforest margins, rather than those from wet tropical rainforests.

Many of the plants with the above characteristics have been widely used in Brisbane for over 150 years, with proven reliability. Flowering trees are distinctively subtropical, having mostly originated in similar climates, for example Poinciana (*Delonix regia*) from Madagascar and Jacaranda (*J. mimosifolia*) from Brazil.

Slender-trunked palms, such as the Piccabeen/Alexandra group (*Archontophoenix* spp.) are also distinctively subtropical (Queensland alone has more than 20 palm species). Tall slender palm trees are particularly well-suited to the gaps created by multi-storeyed buildings with articulated facades. Their shallow fibrous root system allows planting adjacent to structures, and if planted in mixed groups, their attractive fronds provide a subtropical ambience visible from windows at all levels.

Other examples of traditional subtropical plants in SEQ include:

- Large Fig trees (*Ficus* spp) and Hoop Pines (*Araucaria cunningghamiae*),
- Fruiting trees such as Mango (*Mangifera indica*), Bananas (*Musa* spp.) and Pawpaw (*Carica papaya*),
- Clumping palms (eg. *Dyopsis lutescens*), Cycads and Tree Ferns (*Cyathea* spp),
- Epiphytic orchids, Staghorn ferns (*Platynerium* spp.) and ferns in hanging baskets (such as *Drynaria* and *Nephrolepis* spp.),
- Erect plants with lance-like, spoon-shaped or drooping leaves such as Palm Lilies (*Cordyline* spp.), Ginger and its allies, *Canna* lilies and *Calathea*,
- Sprawling large-leaved plants such as *Monstera* and *Philodendron*,
- Shrubs with coloured foliage such as Crotons (*Codiaeum* spp.) and Acalyphas, and
- Flowering vines and scramblers such as *Bougainvillea*, *Allamanda* and Clerodendrum (*C. splendens*).

These provide a rich tradition of subtropical parks and gardens which now form part of our heritage and character. However some of these 'old favourites' are not suitable for small spaces, while others may have become invasive weeds or require high levels of watering or fertiliser. Some plants were historically popular mainly because of ease of propagation, and better alternatives are now widely available. There is a need to re-evaluate these traditional subtropical plants, without irrationally rejecting all exotic species as unsuitable or unsustainable.

Fortunately there are many characteristic subtropical plants which are suitable for small spaces, and which have proven to be non-invasive and reliable under SEQ conditions, provided appropriate species and cultivars are selected. In this context it should be noted that the nursery industry is constantly developing new varieties and cultivars, many of which are tougher, smaller and/or more colourful than their parent species. This process is relatively recent for subtropical plants (and even younger for Australian native plants) compared to 'Old World' garden plants which have been bred and selected over hundreds of years.

Sample Subtropical Plant Assessment

The attached Sample Subtropical Plant Assessment evaluates several plants suitable for each of the layers of a distinctively subtropical garden focusing on those suitable for small spaces in compact urban development. Those listed have been selected from well known and reliable plants which have been used in SEQ for over 50 years. It must be emphasised that this is only a sample, rather than an exhaustive nor even an indicative list, and excludes larger trees suitable for parks. The purpose of the table is to initiate a rational assessment of some of the traditional subtropical plants which characterise Brisbane and SEQ, and hopefully influence some local governments which stigmatise all exotic plants as unsuitable.

Assessment criteria used in the attached table include the character contribution, reliability and environmental impacts of plants which have proven to be reasonably 'tame' in urban environments. Plants which quickly become unmanageable have been excluded, although it could be argued that weekend trips to the rubbish tip with a trailer-load of prunings are part of our subtropical gardening heritage!

Although many of the exotic species listed in the attached table appear to have no detrimental environmental impacts, there are many situations where the sensitive local ecology or design preference restrict plant selection to native species, locally-indigenous material or plants of local genetic provenance. For these situations, the attached table also lists reliable local SEQ native species as substitutes for exotic species.

However it should be noted that simply selecting a native plant which has similar form and size to a listed non-native does not provide assurance of similar suitability or reliability. It is not valid to assume, for example, that the native Palm Lily (*Doryanthes palmeri*) is a suitable substitute for the New Zealand Flax (*Phormium tenax*) under all circumstances, because in some cases the exotic plant tolerates a wider range of conditions. Some native plants may be 'tougher' and more reliable than the equivalent exotic species, but this assumption should be questioned in each case. Several comparative evaluations in urban landscapes have indicated that many exotic plants are less prone to attack from native insects and diseases than native plants, as may be expected from their ecological role in local food chains. The current drought has shown a few surprises with respect to plant survivals, and some supposedly-tolerant species (both native and exotic) have suffered, while some plants which appear moisture-dependent have coped well so far.

A better approach is to select native plant substitutes according to their mature size and suitability for site conditions and the available space, rather than other design similarities such as shape, leaf form or flowering season.

The attached Assessment Table is not intended to deal authoritatively with the vexed issue of environmental weeds. Although any list of invasive weeds in Australia will spark debate, almost all known problem invaders of bushland are either exotic species or non-local natives, and should not be specified or planted (Groves et al 2005). The corollary is however not true – most exotic species and non-local natives are not invasive, although there are situations (eg. near environmentally-sensitive bushland) where a precautionary approach is warranted. Plants which have been grown in parks and gardens for over 50 years without becoming invasive may generally be regarded as 'benign', although caution may still be appropriate if considering their suitability in other regions.

Consideration of the environmental 'credentials' of individual plants is only part of a sustainable approach to landscape design. Other factors include mulching and increasing soil organic matter, use of hard materials (their source, manufacture and recycling), maintenance requirements (watering, energy & chemicals). The size, planting density and growth rate of specified plant material also have environmental implications. The widespread use of transplanted mature trees achieves instant landscapes which celebrate the beauty and contribution of large specimens, but the associated transport and maintenance have environmental costs. If the expense of installing and caring for transplanted mature trees does not absorb all of the available landscape budget, the landscape design can balance them with other plantings to provide variety and the slow pleasure of watching a landscape grow.

The desire for short-term landscape impact through overplanting and fast growing species also needs to be balanced against longer term suitability and maintenance. In our subtropical climate, many fast growing plants quickly become problems, and dense plantings can become spindly and unstable unless thinned. Where space is at a premium, the importance of

selecting plants of appropriate size at maturity cannot be over-emphasised. Trees and tall shrubs which appear to be in scale with their setting after only two or three years growth rarely remain at that size, and often a slower-growing plant is more appropriate.

Diversity

Sustainable landscape design requires diversity rather than large areas of mono-specific planting, which create conditions conducive to the spread of pests and diseases. A change in environmental conditions, such as a frost, overwatering or a drought, can lead to sudden death or decline of an entire layer of the landscape. These potential problems are exacerbated by dense over-planting of a single species, and there are many recorded instances where pests and diseases have spread from monocultures to other susceptible species.

The environmental benefits of mixed plantings can enhance biodiversity in the urban environment in several ways:

- Structural diversity (multiple layers of trees, shrubs and groundcovers) provides a range of micro-habitats for native fauna adapted to cities, and facilitates their movements;
- Floristic diversity provides a range of resources for fauna, including flowers and fruit to supplement those in nearby natural areas; and
- Inclusion of rare or threatened plants can help maintain local populations or world-wide genetic diversity, or at least increase awareness of the need for their conservation in the wild.

A wide range of plant material is also a characteristic of sub-tropical parks and gardens, with a rich mixture of layers, shapes and species. Broad areas of lawn, avenues of identical trees, sweeps of flowering bulbs and formal borders are more typically associated with temperate-zone and northern hemisphere landscapes. Although courtyards and other small spaces often require restraint in planting design, careful selection can incorporate a variety of plants.

Arguably the greatest threat to botanical diversity arises when landscapes are designed to complement the architectural form of 'show-case' buildings. Many architects prefer the landscape immediately adjacent to new buildings to be 'crisp', uniform and subordinate to the built form. Again, skilful landscape design and plant selection are needed to balance these requirements with the desire to create a distinctively SEQ subtropical character, and to increase diversity wherever possible.

An increasing emphasis on the environmental performance of new buildings, through various green rating systems, provides an opportunity to incorporate diversity at the design stage. Unfortunately, several of these ESD 'scorecard' systems offer only a superficial approach to the surrounding landscape, with points awarded for the use of native plants (eg. thousands of *Lomandra*) with no consideration of the environmental benefits of diversity.

Conclusions

A sustainable and distinctive city is one where the built form and its associated landscape respond to the climate and sense of place, as well as reducing the ecological footprint and energy needs of its residents. The role of landscape is central, especially in a subtropical city with an outdoor lifestyle and a highly marketable tourist image. As residential development becomes denser and the spaces available for gardens and landscaped spaces become smaller, it is increasingly important to use every available opportunity to 'green' the city and reinforce its character. Plants not only provide welcome visual relief from the built form, but they also help ameliorate the environmental impacts and human discomfort associated with cities.

Brisbane's traditional subtropical garden , with its inviting 'oasis' of greenery formed by strong architectural plants in multiple layers, is a distinctive and appropriate model for landscape design. Although other combinations of plants are equally suitable for our conditions, for example coastal heath plantings, cottage gardens or artistic bands of identical species, they do not express the exotic and sensual essence of 'subtropicality'.

The wide variety of plants available for landscape design in our climate include many which are suitable for small spaces, and which convey a subtropical SEQ character distinctly different from that of temperate zones or the dry Australian bush. Most of these have no adverse environmental impacts such as invasiveness, high water or maintenance requirements, and many are local native species.

It is time to re-assess the plants which have traditionally been used in parks and gardens of Brisbane and SEQ, especially the flowering trees and palms which have proven reliable in our variable climate, to rationally examine which exotic species are environmentally-benign in an urban environment.

Diversity is an important part of creating a sustainable and distinctively subtropical landscape at all scales. A wide variety of plant species, sizes, shapes, textures and colours not only creates a visually-rich environment, but also has ecological benefits for urban biodiversity. Even in small areas, combinations of appropriate plants will create a sense of place, but expert advice is needed to select species and cultivars suited to the conditions, design intentions and available space.

Celebrate the subtropical - consult your horticulturist today !

References

Bowden, J (1999) Living with the Environment in Pine Rivers Shire. Pine Rivers Shire Council

Groves, R.H, R. Boden and W.M. Lonsdale (2005) Jumping the Garden Fence. CSIRO for WWF Australia

Oakman H (1981): Tropical and Subtropical Gardening (2nd Ed) Jacaranda

Riffle, R.L (1998) The Tropical Look. Thames & Hudson

Subtropicalia Media Pty Ltd. (2006) Subtropical Gardening and Landscaping in Warm Climates (Journal)

Walker J (1992) The Subtropical Garden. Timber Press, Oregon

Warren, W (1997) Tropical Garden Plants. Thames & Hudson

Attachment: Sample Subtropical Plant Assessment

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
A. Flowering Street Trees				
Tabebuia impetiginosa	Pink Trumpet Tree (Brazil)	Non-invasive	Hardy and drought tolerant	Lush and leafy, flowers sporadically thru the year
Xanthostemon chrysanthus	'Expo Gold' (N Qld)	QLD Native	Reasonably hardy to drought.	Slow growing and compact
Bauhinia blakeana	Hong Kong Orchid Tree (Hong Kong)	Extinct in wild, Non-invasive	Tough and reliable Great small street tree	Winter flowering, more colourful than B. variegata. Sterile – no seeds
Colvillea racemosa	Colville's Glory Tree (Madagascar)	Endangered, Non-invasive	Hardy long lived tree,	Slow growing, slow to flower, compact
Brachychiton discolor	Lace Bark (S E Qld)	SE QLD	Tough and drought tolerant	Great street tree. Showy in flower
Buckinghamia celcissima	Ivory Curl (N Qld)	QLD Native	Unreliable. Prefers deep soil and moisture to perform	Planted as a street tree under power lines. As trees get taller need maintenance
B. Spreading Shade Trees				
Delonix regia	Poinciana (Madagascar)	Extinct in the wild, world campaign to replant, Non-invasive	Tough and drought tolerant.	Low canopy suited to planting under overhead lines. Tends to deteriorate after around 60 years
Peltophorum dubium	Brazilian Yellow Poinciana (South America)	Non-invasive	Reliable and drought tolerant	Effective substitute for Peltophorum pterocarpum (Yellow Poinciana, wrongly regarded as native, shatters in high wind)
Caesalpinia ferrea	Leopard Tree (Brazil)	Non-invasive	Reliable street tree, tolerates pollution	Can grow very large in certain conditions
Chorisia speciosa	Floss Silk Tree (South America)	Non-invasive	Tough and drought tolerant	Spineless forms available for public spaces. Popular street tree overseas
C. Small Trees				
Barklya syringifolia	Barklya (Central Qld)	QLD Native		Spectacular slow growing tree
Cupaniopsis anacardioides	Tuckeroo (SE Qld)	SE QLD	Very tough drought tolerant tree	Slow growing
Plumeria rubra var acutifolia cvs	Frangipani (Mexico, Caribbean)	Non-invasive	Very tough drought tolerant tree	Popular small tree. Used as a street tree in Brisbane
Syzygium leuhmannii	Small-leaved Lilly Pilly (SE Qld)	SE QLD	Tough drought hardy withstands	Best light prune each year to encourage new coloured leaf

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
			cool spells	growth
Waterhousia floribunda	Creek Lillypilly (S E Qld)	SE QLD	Very tough drought hardy tree	Attractive weeping habit and lush form
Pittosporum rhombifolium	Diamond Leaf Laurel (S E Qld)	SE QLD	Tough, drought hardy	Attractive orange berries hang on tree. Effective substitute for Harpullia pendula
Brachychiton rupestre	Bottle tree (Central / SW Qld)	QLD Native	Very tough drought hardy tree	Architectural form with inflated trunk. Suitable under power lines
Lagerstroemia indica 'Eave's Hybrids'	Crepe Myrtle (India)	Non-invasive	Very tough and drought hardy	world famous hybrids from Brisbane Spectacular flowering and autumn leaf tree. Suitable under power lines
Leptospermum madidum v sativum	Weeping Tea Tree (Northern Territory)	Australian Native, Non-invasive	Very tough and drought hardy	Very attractive small weeping tree
Randia fitzalani	Native Gardenia (N Qld)	QLD Native	Very tough and drought hardy	Lush dense small tree. Perfumed flowers
Tristania laurina	Water Gum (SE Qld)	SE QLD	Tough and drought hardy	Beautiful bark and masses of flowers
D. Tall Palms & Other Architectural Forms				
Wodyetia bifurcata	Foxtail Palm (N Qld)	Listed species – vulnerable	Very tough and drought hardy	Effective substitute for Cuban Royal Palm
Chamberonya macrantha	(New Caledonia)	Non-invasive	Very tough and drought hardy	Spectacular new bronze leaf growth
Hyophorbe verschafeltii	Spindle Palm (Mascarene Islands)	Endangered in wild, Non-invasive	Very tough and drought hardy	Interesting spindle shaped growth of trunk
Dypsis decaryi	Triangle Palm	Endangered in wild, Non-invasive	Very tough and drought hardy	Triangle form. Grey foliage
Livistona decipiens	Shiny Fan Palm (Central Qld)	QLD Native	Very tough and drought hardy	Not self cleaning so best to use in more informal areas
Carpentaria acuminata	Darwin palm (Northern Territory)	Australian Native, Non-invasive	Tough and drought hardy	Quick growing, thin trunked, small headed palm best in groves watch for can beetle attack

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
Archontophoenix alexandrae	Alexandra Palm (N Qld)	QLD Native	Tough and drought hardy	More drought tolerant than A. cunninghamii (Piccabeen/Bangalow)
Dypsis lucubensis	Lucubu Palm (Madagascar)	Extinct in wild, Non-invasive	Tough and drought hardy	Elegant clustering palm
E. Medium Palms/clumping palms & palm-like plants				
Hyophorbe lagenicaulis	Bottle Palm (Mascarene Islands)	Endangered in wild, Non-invasive	Tough and drought hardy.	Won't tolerate frost, Great Low growing palm.
Pandanus tectorius	Beach Screw Pine (S E Qld)	SE QLD	Tough and drought hardy	Many variegated cvs
Dypsis lutescens	Golden Cane Palm (Comoro Islands)	Habitat in wild under threat, Non-invasive	Very tough and drought hardy	Adapts to most growing conditions
Ptychosperma macarthurii	Macarthur Palm (N Qld)	QLD Native	Tough and drought hardy	Possible substitute for <i>Dypsis lutescens</i> Dense and more upright
Chamaedorea metallica	Metal Palm (Mexico)	Vulnerable in wild	Tough and drought hardy	Great affect as medium height ground cover when mass planted, no pests
Rhapis excelsa	Lady Palm (China)	Non-invasive	Very tough and drought hardy.	Prefers shade/semishade ,Always looks fresh and presentable
Chamaedorea cataractarum	Fountain palm	Non-invasive	Very tough and drought hardy	Synon C atrovirens; Tolerates sun exposure. Good low growing palm
Strelitzia nicolai	Giant Bird-of-Paradise (Sth Africa)	Non-invasive	Very tough and drought hardy.	Slow growing, Effective substitute for Travellers Palm (<i>Ravenela madagascarensis</i>)
F. Subcanopy Palms & Other Smaller Architectural Forms				
Strelitzia reginae	Bird of Paradise (Sth Africa)	Non-invasive	Very tough and drought hardy.	Slow growing
Dichorisandra thyrsiflora	Blue Ginger	Non-invasive	Tough and drought hardy once established	Flowers readily and easy to maintain
Lepidozamia peroffskyana	Burrawong (S E Qld)	SE QLD	Very tough and drought hardy.	Prefers shade/semishade
Zamia furfuracea	Cardboard Palm (Mexico)	Endangered in wild, Non-	Very tough and drought hardy.	Plant in groups for spectacular higher hedging affect

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
		invasive		
Dioon spinulosum	Mexican Cycad (Mexico)	Vulnerable in wild, Non-invasive	Very tough and drought hardy.	Long lived, Interesting form and shape as specimens
Cordyline fruticosa	Ti Plant (N Qld, Pacific Is)	Non-invasive	Some cvs tough and drought hardy.	Need to select appropriate cvs
Curcuma australasica	Cape York Lily (NQld)	QLD Native	Tough and drought hardy	Effective substitute for Crinum pedunculatum. Deciduous for part of the year.
Heliconia angusta 'Red Xmas'	Red Xmas Crab Claw (Brazil)	Non-invasive	Tough hardy plant	Does not require constant maintenance of other sp
Leea indica	Bandicoot Berry (NQld)	QLD Native	Hardy plant	Adds glossy green leaves to plantings,
Agave attenuata	Soft leaved Century Plant (Mexico)	Vulnerable in wild, Non-invasive	Very tough and drought hardy.	Tried and true plant
Alpinia zerumbet 'Variegata'	Variegated Shell Ginger (China, Thai)	Non-invasive	Tough and drought hardy	Hardier than native sp.
Alpinia mutica	Cardomon Scented Ginger (Thail, India)	Non-invasive	Tough and drought hardy	Hardier than native sp.
Doryanthes palmeri	Qld Spear Lily (SEQld)	SE QLD	Very tough and drought hardy.	Remove flower spike after flowering for best new growth
Dracaena fragrans 'Massangeana'	Corn Plant (E Africa)	Non-invasive	Very tough and drought hardy.	Prune regularly for thick growth habit
Macrozamia communis	Zamia Palm (SE Qld)	SE QLD	Very tough and drought hardy.	Interesting form and shape as specimens
G. Foliage Shrubs				
Codiaeum variegatum	Croton (Indonesia)	Non-invasive	Very tough and drought hardy.	various colour & leaf forms, easy maintenance
Acalypha wilkesiana cultivars	Fijian Fireplant (Vanuatu)	Non-invasive	Very tough and drought hardy.	various colour & leaf forms easy maintenance, withstands hard pruning
Sanchezia speciosa	Colombian Flag (Colombia)	Non-invasive	Very tough and drought hardy.	

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
Dracaena reflexa '	Song of India (India)	Non-invasive	Very tough and drought hardy.	Great accent plant golden foliage
Polyscias spp	Aralia (New Caledonia)	Non-invasive	Very tough and drought hardy.	Hedging plants, easy growing foliage specimens in close areas, some have very fine leaves which can be used for 'cottage garden affect'
Breynia sp. 'Iron Range'	Red Breynia (N Qld)	QLD Native	Very tough and drought hardy	Red leaves and markings
H. Flowering Shrubs				
Euphorbia pulcherrima	Poinsettia (Mexico)	Non-invasive	Very tough and drought hardy.	Brisbane's floral emblem
Megaskepasma erythrocalymus	Brazilian Flag (Colombia)	Non-invasive	Very tough and drought hardy.	Prune flowering wood regularly
Allamanda schottii (neriifolia)	Bush Allamanda (Brazil)	Non-invasive	Very tough and drought hardy.	Tipe prune after flowering for full growth
Ixora sp 'Nora Grant'	Pink Malay Ixora (Malaysia)	Non-invasive	Very tough and drought hardy.	Hardier than Prince of Orange
Holmskoldia sanguinea	Red Chinese Hat Bush (Himalayas)	Non-invasive	Very tough and drought hardy.	Can be grown into spectacular umbrella like growth habit
Graptophyllum excelsum	Queensland Fuchsia (Central Qld)	QLD Native	Tough and resilient after dry	Tip prune for new growth
Eranthemum pulchellum (nervosum)	Blue Sage	Non-invasive	Very tough and drought hardy.	
Gardenia jasminoides 'Grandiflora Star'	Gardenia (China)	Non-invasive	Tough and resilient after dry	Tip prune after flowering for new growth, heavy feeders
Gardenia subtilis	(Qld)	QLD Native	Tough and resilient after dry	Tip prune after flowering for new growth, heavy feeders
I. Hedges				
Ixora coccinea	Hedging Ixora (Malaysia)	Non-invasive	Very tough and drought hardy.	Prune readily for new flowering growth
Serissa foetida	Serissa (China)	Non-invasive	Tough low hedge	No pests known
Dodonaea viscosa	Hopbush (SE Qld)	SE QLD	Tough plant	Light open hedge
Gigantichloa "Malay Dwarf Variegated"	Malay Dwarf Bamboo (Malaysia)	Non-invasive	Very tough and drought hardy	Non-invasive clumping bamboo

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
Ehretia acuminata	(N Qld)	QLD Native		
Backhousia anisata	Aniseed Myrtle (SE Qld)	SE QLD	Very tough and drought hardy	Leaves have lovely aniseed perfume when crushed, tip prune after flowering
Austromyrtus 'Blushing Beauty'	Blushing Beauty (Qld)	QLD Native	Tough and drought tolerant	Tip prune after flowering and to produce lovely new pink leaf growth
Hibiscus rosa-sinensis 'Andersonii'	Anderson's Hibiscus (China)	Non-invasive	Tough and drought tolerant	Can be pruned hard, smaller leaf and flower form, white or pink variations
Lawsonia inermis	Henna Plant (India)	Non-invasive	Tough and drought tolerant	
Malpighia coccigera	Singapore Holly (W Indies)	Non-invasive	Tough and resilient after dry	Prune after flowering for new growth
Pavetta natalensis	Bridal Bush (Sth Africa)	Non-invasive	Very tough and drought hardy.	
Syzygium paniculata cultivars	Lillypilly (S E Qld)	SE QLD	Tough and resilient	Hedging, shaping, wind break
J. Ground Covers-Shade				
Trachelospermum jasminoides 'Pink Tips'	Pink Tipped Star Jasmine (China)	Non-invasive	Very tough and drought hardy.	Tip prune leggy growth to force new pink growth
Aglaeonema 'Pseudobracteum'	Chinese Evergreen (Philippines)	Non-invasive	Tough and resilient	Plant in groups for best effects
Ctenanthe setosa	Hairy prayer plant (Brazil)	Non-invasive	Tough and resilient	Lance bi-coloured leaves, Grub out old canes
Piper sarmentosa	Betel Leaf (India, Thail)	Non-invasive	Very tough and drought hardy.	Edible leaves used in Thai cuisine
Aspidistra elatior	Cast Iron Plant (China)	Non-invasive	Indestructible	Variegated and plain forms best in afternoon shade
Clivea miniata	Kaffir Lily (Sth Africa)	Non-invasive	Very tough and drought hardy.	Remove spent flower stalks regularly
Caladium bicolor	Caladium (Caribbean)	Non-invasive	Persistent deciduous corm	Ensure bulbs protected from damage when deciduous
Proiphys cunninghamiana	Brisbane Lily (SE Qld)	SE QLD	Very tough and drought hardy.	Attractive leaves when not in flower
Billbergia pyramidalis	Pineapple Lily (Brazil)	Non-invasive	Very tough and drought hardy.	Bromeliad form and flowers of interest
Aechmea gamosepala	Matchstick Cactus (Brazil)	Non-invasive	Very tough and drought hardy.	

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
				Readily propagated from offsets
K. Ground Covers- Sun				
Ophiopogon japonicus	Mondo Grass (Japan)	Non-invasive	Very tough and drought hardy.	Ensure raking out of old growth each year to avoid buildup of thatch
Acalypha reptans var pygmaea	Summer Love (Hispaniola)	Non-invasive	Very tough and drought hardy.	Tip prune old flower heads
Gardenia sp "Glennies River"	Glennies River Gardenia (N Qld)	QLD Native	Tough and resilient	Tip prune old flower heads
Aviera cordifolia	Purple Princess Iresine (Ecuador)	Non-invasive	Tough and resilient	Prune to produce new growth
Epidendrum 'Obrienianum'	Crucifix Orchid (Brazil)	Non-invasive	Very tough and drought hardy.	Tip prune old flower heads
Bulbine frutescens	Cats' Tail lily (Sth Africa)	Non-invasive	Very tough and drought hardy.	
Tradescantia spathacea 'Hawaiian Dwarf'	Dwarf Moses in a Cradle (Mexico)	Non-invasive	Very tough and drought hardy.	Easy to propagate, thin out for best results
Plectranthus neochilus	Dogbane (Africa)	Non-invasive	Very tough and drought hardy.	
Justicia brandejeana (formerly Beloperone)	Shrimp plant (Mexico)	Non-invasive	Very tough and drought hardy.	Tip prune old flower heads
Kalanchoe blossfeldiana Red	Winter Wonder (Madagascar)	Non-invasive	Very tough and drought hardy.	Tip prune old flower heads
Plectranthus argentatus	Silver Plectranthus	Non-invasive	Tough and resilient	Provides interesting leaf colour accents
L. Ferns				
Drynaria rigidula	Basket Fern (S E Qld)	SE QLD	Very tough and drought hardy.	Plant in afternoon shade ONLY, mulch well
Asplenium australasicum	Birdnest Fern	SE QLD	Tough and resilient after dry	Plant in afternoon shade ONLY, mulch well
Rumohra adiantiformis	Leather Fern (S E Qld, Pantropical)	QLD Native	Very tough and drought hardy.	Plant in afternoon shade ONLY
Microsorium punctatum	Creeping birdnest Fern (S E Qld)	SE QLD	Very tough and drought hardy.	Plant in afternoon shade ONLY
Microsorium pustulatum	Kangaroo Fern (S E Qld)	SE QLD	Very tough and drought hardy.	

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
(diversifolium)				Plant in afternoon shade ONLY
Bowenia serrulata	Byfield Fern (Central Qld)	QLD Native	Resilient epicormic root regrowth	Provides soft taller groundcover if planted in groups
Adiantum aethiopicum	Maidenhair Fern (S E Qld)	SE QLD	Very tough and drought hardy.	If drought affected readily regrows after trimming
M. Vines / Climbers / Scramblers				
Tecomanthe hillii	Hill's Trumpet Vine(S E Qld)	SE QLD	Tough virulent flowering native	Trim to neaten only
Allamanda cathartica 'Hendersonii'	Brown bud Allamanda (Colombia)	Non-invasive	Very tough and drought hardy.	Invasiveness incorrectly recorded. Prune to produce new wood and stop leafless stems becoming unsightly
Bougainvillea hybrids	Bougainvillea (Carribbean)	Non-invasive	Very tough and drought hardy.	Requires strong support, prune regularly to produce new flowering wood . New cvs have smaller thorns
Ipomoea horsfalliae	Creeper (Brazil)	Non-invasive	Resilient after dry	Effective substitute for Pyrostegia
Petrea volubilis	Sandpaper Vine (Brazil)	Non-invasive	Very tough and drought hardy.	Requires strong support, prune for new flowering wood
Stephanotis floribunda	Madagascar Jasmine (Madagascar)	Non-invasive	Very tough and drought hardy.	Needs light support, slow to establish flowers when young
Tecomanthe 'Roaring Meg'	Fraser Island Creeper (SE Qld)	SE QLD	Resilient after dry	Prune to produce new flowering wood
Pandorea jasminoides	Trumpet Creeper (SEQld)	SE QLD	Very tough and drought hardy	Effective substitute for P. pandorana (Wonga Vine)
Faradaya splendida	Buku Vine (N Qld)	QLD Native		Stunning flowers
Hoya australis	Australia	QLD Native	Very tough and drought hardy.	Beautiful flower, thrives in shade, smaller climber
N. Tufting Plants				
Nandina domestica 'Pygmaea'	Dwarf Heavenly Bamboo (China)	Non-invasive	Very tough and drought hardy.	Tip prune regularly to produce new coloured leaf growth
Hymenocallis sp 'Cayman Giant' (speciosus)	Giant Spider Lily (Carribbean)	Extinct in wild	Very tough and drought hardy.	Best results lift and separate every 3 years
Vetivera zinzanioides 'Monto'	Sterile Vetifer Grass (India)	Non-invasive	Very tough and drought hardy.	Excellent erosion control
Pogonatherum puniceum 'Baby Panda'	Baby Panda Grass (Qld, S E Asia)	Non-invasive	Very tough and drought hardy.	Taller species version tougher than newly released cv

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
Dianella caerulea cvs	Dianella QLD	QLD Native	Tough but semi-hardy to drought	Avoid southern cultivars and species ensure local material
Zoysia tenuifolia	Temple Grass (Japan)	Non-invasive	Very tough and drought hardy.	Slow to establish then form thick carpet for semi shade or full sun
Pitcarnea xanthocalyx / panigularia	Pitcarnea – Sth Americas	Non-invasive	Very tough and drought hardy	A thornless bromeliad with flowers lasting up to 3 months
O. Container Plants				
Philodendron lacinatum		Non-invasive	Very tough and drought hardy.	No pests, repot regularly
Hoya australis	Native Hoya (S E Qld)	SE QLD	Very tough and drought hardy.	Flowers are beautiful with slight perfume
Cycas revoluta	Japanese Sago Palm (Japan)	Non-invasive	Very tough and drought hardy.	Male and female forms have interesting flowers
Anthurium cubense	Birdnest Anthurium (Cuba)	Non-invasive	Resilient tough aroid	Interesting form adds interest to shaded areas
P. Epiphytes				
Platycerium bifurcatum	Staghorn Fern (S E Qld)	SE QLD	Few problems except native beetle	Can withstand extremes of conditions
Tillandsia stricta	Air plants (S America)	Non-invasive	Grow in most conditions	Number of species have perfumed flowers
Aechmea nudicaulis	Folded Aechmea (Brazil)	Non-invasive	Very tough and drought hardy.	Accent plant
Dendrobium speciosum	Rock Lily Orchid (S E Qld)	SE QLD	Withstands dry winters	Flowers readily, even in low maintenance areas
Epiphyllum oxypetalum	Queen of the night (Brazil)	Non-invasive	Very tough and drought hardy.	Flower perfume exotic
Platycerium superbum	Elkhorn Fern (S E Qld)	SE QLD	Few problems except native beetle	Can withstand extremes of conditions
Oncidium varicosum	Spanish Dancer Orchid (Brazil)	Non-invasive	Tough to kill	Flowers readily even in low maintenance areas
P. Edible Ornamentals				
Capsicum frutescens 'Thai'	Thai Red Pepper Bush (Central America)	Non-invasive	Tough perennial species	Can be deciduous, Tip prune for new growth in spring
Chrysophyllum cainito	Star Apple	Non-invasive	Tough easily grown species	
Eugenia brasiliensis	Grumichama (Brazil)	Non-invasive	Very tough and resilient after drought	Fruits are interesting for desserts and preserves
Ipomoea batatas 'Aurea'	Ipomoea batatas 'Aurea' (S American Andes)	Non-invasive	Resilient in drought	Sweet Potato of non-invasive growth habit

LIFE FORM & LANDSCAPE ROLE	COMMON NAME & (ORIGIN)	ECOLOGICAL	RELIABILITY	OTHER COMMENTS
Ananas cosmosus 'Smooth Cayenne	Smooth Pineapple (Brazil)	Non-invasive	Slow growth ensures tough hardy plant	Interesting foliage and fruit
Macadamia tetraphylla	Macadamia nut tree (S E Qld)	Endangered	Slow but tough	No known pests
Mangifera indica	Mango Tree (India)	Non-invasive	Very tough and drought hardy.	Dwarf varieties useful
Manihot esculenta	Cassava Plant	Non-invasive	Deciduous in dry, resilient	Variegated Leaf, edible root, prune for new growth each year
Monstera deliciosa	Fruit Salad Plant (Mexico)	Non-invasive	Very tough and drought hardy.	Manage root zone, fruits are delicious
Cymbopogon citratus	Lemon Grass (India)	Extinct in wild, Non-invasive	Grows in all soil types	Divide clump 3 years, use as low hedge, Staple Asian spice
Alpinia galanga	Galangal Ginger (Thailand, Malaysia)	Extinct in wild, Non-invasive	Very tough and drought hardy.	Lift roots and divide for new growth
Talinum triangulare	Surinam Spinach (Surinam)	Non-invasive		
Canna australis	Wild Arrowroot QLD	QLD Native	Very tough and drought hardy	Indigenous root food baked rhizomes