

## Small Trees for Miami-Dade Landscapes

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The current trend toward smaller yards (e.g., zero lot lines) signifies the need for adjustments in the way we use and landscape our yards. For nonpermanent items such as flowering annuals and vegetables this could mean greater use of raised beds (e.g., French intensive or square foot for vegetables), containers and decorative stone planters. The latter are especially useful for many perennial plants. When it comes to choosing shrubs and especially trees, greater care needs to be exercised in the items selected and where they are placed. What seemed to be an ideal choice in the nursery may quickly grow and become out of scale for a small yard, if not an expensive liability. One solution is to choose those shrubs and small trees (including fruit trees) that can be grown in large tubs, and this is an option especially suited to houses with large patios. Indeed given the alkaline nature of much of Miami-Dade's soil, this is a useful alternative for plants such as camellias and dwarf magnolias (e.g., 'Little Gem') irrespective of yard size.

It is possible however, to include trees as part of your permanent in-ground landscaping even where there is limited space for planting. There are many different types of trees that can be safely planted in a small yard and provide shade and/or ornamental appeal. In addition a number of shrubs, such as hibiscus and oleander, are available as standards (usually grafted and grown with a single approximately 5' bare trunk), and these can substitute for a small tree. Some of the plants discussed below are prone to develop multiple trunks and become shrubby, and these will require periodic formative pruning in order to develop a more tree-like growth habit. In performing such pruning be careful not to develop a canopy that is top heavy, which can render the plant more liable to windthrow. All of the trees selected for this publication range in height from 8-20' – some could grow larger, but can be maintained locally within this range.

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Make an informed decision by assessing any future effect your choice will have on the landscape. Shade from a tree with an open canopy may be minimal, however even a small tree with a dense canopy could cause shaded turf to thin, or compromise a raised bed that had been set aside as a vegetable garden. Also consider water requirements and soil drainage – if the tree isn't drought-tolerant, is it in an area that can be easily watered? Can you place the tree in a section of the yard with other plants that have similar needs for supplemental water? Does water drain away freely after heavy rain? Many trees will not survive if the ground is inundated with water for more than 24 hours.

In choosing a tree, use the sizes given in Table 1 as a guide when assessing which trees will fit in the space available – as a rough estimate assume a canopy spread that will be at least equal to the final height. You can then review which features are important to you: shade for a patio, attractive foliage, showy flowers, edible fruit or ease of maintenance. Realize that some trees may not suit your particular situation: they may be more prone to drop leaves, produce potentially messy fruit or have spines or poisonous leaves, seeds etc. Having drawn up a list of trees with desirable features, you can then determine which would best suit the potential sites within your landscape. The tree should be placed 6-15' away from building foundations, patios, underground utilities and sewer lines, depending on its' ultimate spread. Information on how to select and establish trees in the landscape is available from your local UF-IFAS/County Extension Service, or go "on-line" <http://edis.ifas.ufl.edu/LandscapeSelector/index.html>.

In general once a tree is established it is not necessary to apply fertilizer unless otherwise indicated in the footnotes below. Fertilizer nitrogen can reduce the amount of bloom produced by trees grown for their flowers, especially those found naturally on poor, infertile soils. Flowering trees that bloom in late winter through spring often do so more profusely after an extended dry period. It is best not to water such trees at all during the dry season.

The remainder of this circular will list some of the trees you might consider for a small yard in Miami-Dade. Table 1 provides the basic characteristics of each plant selected with additional comments in the footnotes that follow. Some of the trees are quite familiar, and widely available, while others are more likely to be available from local specialist growers (e.g., flowering trees, fruit trees, Florida natives). Local plant society sales/auctions are a good source for many of the less common items. For those with patience, seeds are often available, either commercially or through seed exchange groups. Obliging friends/neighbors may offer you cuttings. Information is provided in Table 1 under "Traits" indicating the method(s) commonly used for propagating each listed plant.

The term "local" will be found under some of the tree heights given in Table 1 for trees that (a) normally grow to a larger size but can be maintained at

the size shown, (b) grow larger but this is the maximum height that can be expected in Miami-Dade. If you are uncertain of a tree's scientific name go to Table 2, at the end of the publication, where you will find a list of common names.

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**Key for Table 1 (Traits)**

1 – Edible or decorative fruit

2 – Provides some shade

3 – Form: attractive canopy, unusual branching, colorful or strikingly patterned bark.

4a – Flowers provide visual appeal, 4b – Flowers with pleasing fragrance.

5 – Foliage colorful, and/or leaves having an attractive shape and texture.

E – Evergreen; (E) – Nominally evergreen but leaves may drop during winter in response to a lack of soil moisture or cold weather; D – deciduous; (D) – Briefly deciduous, often immediately prior to flowering

N: Native to habitats within South Florida

Propagation: S – seed; C/A – cuttings and/or air layers; G/B – usually budded or grafted. If more than one method is indicated those shown in parentheses are used less often.

Table 1. A Selection of Small Trees for Miami-Dade Landscapes

<b>Scientific Name (Common Name)</b>	<b>Size (Growth)</b>	<b>Growing Conditions</b>	<b>Traits (refer to key)</b>	<b>Comments [Letters in parentheses ( ) refer to footnotes]</b>
<b><i>Acacia spp.</i></b> (Sweet acacia, Pineland Acacia, Cinecord, etc.)	10 – 20'  (Moderate)	Full sun, free draining soil; salt and drought tolerant.	3,4a/b, 5 E S N	Grown for the attractive foliage and fragrant, yellow, pompom like flowers. (A)
<b><i>Annona squamosa</i></b> (Sugar Apple, Anon)  <b><i>Annona muricata</i></b> (Soursop, Guanabana)	15'  (Moderate)	Full sun; sugar apple in particular adapts well to limestone soil; both exhibit poor salt tolerance. Maintain soil moisture when bearing fruit.	1 (E)  G/B (S)	<i>A. squamosa</i> is a small spreading tree of limited visual appeal. <i>A. muricata</i> is more upright and more cold sensitive. Both grown for their superior fruit. Hand pollination increases fruit set. Protect from seed borer. (B)
<b><i>Averrhoa carambola</i></b> (Carambola)	10-15'  (Moderate)	Full sun, but protect from wind; moist soils especially when bearing fruit; should be mulched. Can be grown in a large container.	1,2,4a,5 E  G/B	Delicate foliage; attractive, small, pink, flowers. Grown for edible, distinctively ribbed fruit. Need to correct for trace element deficiencies on alkaline soil. Pick fruit when no longer green.
<b><i>Barringtonia spp.</i></b> (Fountain Tree, Fish Poison Tree)	15-20' [Local]  (Moderate)	Partial shade to full sun in moist soil. Tolerant of salt spray and brackish water	2,4a/b,5 E  S C/A	Unusual flowering trees with large, impressive inflorescence. Irrigate in hot dry weather if grown in full sun. (C)
<b><i>Bauhinia spp.</i></b> (Orchid Trees)	10-20'  (Moderate – Fast)	Full sun; free draining soil. Poor tolerance of salt	2,4a/b E  S/C	Showy white, yellow or pinkish flowers. Often messy (leaves/fruit) and weak-wooded. Prone to developing K and Fe deficiency symptoms. (D)
<b><i>Bixa orellana</i></b> (Anatto)	12-15'  (Moderate)	Full sun; moist, acidic enriched soil. Not salt or drought tolerant. Amenable to container culture.	1,4a E  S (C/A)	Attractive pink flowers produced sporadically late summer/fall; red, bristly ornamental fruit. Source of food color used for Spanish rice. Locally prone to powdery mildew and trace element deficiencies.
<b><i>Bolusanthus speciosus</i></b> (Tree Wisteria)	9-18'  (Slow, but faster with adequate water and good soil)	Full sun; adaptable as to soil but it must drain freely. Excellent for use in a container as a patio tree.	3,4a (D)  S	Showy sprays of purple blossom whilst the tree is briefly leafless in spring. Attractively fissured bark.

<b><i>Brugmansia x candida</i></b> <i>B. aurea x B. versicolor</i> (Angels Trumpet)	10-15' (Fast)	Full sun with part afternoon shade. Moist soil. Not salt or drought tolerant.	4a/b E S, C/A	Large pendent, trumpet shaped flowers are usually white and fragrant. Many cultivars. Poisonous (E)
<b><i>Brunfelsia lactea</i></b> (Jasmin del Monte)	10-20' (Slow to Moderate)	Some early morning sun otherwise partial shade (bright light); enriched moist but free draining soil.	4a/b,5 E S, C/A	A larger, tree-like relative of the more familiar lady of the night. Green leathery leaves, very fragrant white to cream trumpet shaped flowers.
<b><i>Brya ebenus</i></b> (Jamaica Raintree)	20' [Local] Moderate	Full sun; widely adaptable to soil type but must drain freely. Drought tolerant.	3,4a E S	An open tree with small leaves; many orangey yellow flowers appear following heavy rainfall. (F)
<b><i>Byrsonima lucida</i></b> (Locustberry)	15-20' (Moderate)	Full sun; free draining soil. Tolerant of drought, intolerant of salt.	2,4a,5 E S N	A very attractive drought-tolerant plant native to South Florida (G).
<b><i>Caesalpinia spp</i></b> (Dwarf Poinciana etc.)	10-15' (Moderate – Fast)	Full sun; well adapted to poor soil and highly drought tolerant.	3,4a/b,5 E S (C/A)	A group of mainly small trees or shrubs with attractive lacy foliage and showy flowers. (H)
<b><i>Callistemon spp.</i></b> (Bottlebrush Trees)	15-20' (Moderate)	Full sun. Flowering is best if soil is moist. Free draining site.	3,4a E S, C/A	Many species and cultivars; both small flowering trees and shrubs. (I)
<b><i>Cananga odorata cv 'Fruticosa'</i></b> (Ylang-ylang tree)	8-10' (Moderate)	Full sun; moist soil for extended flowering. 'Fruticosa' can be grown in a large container.	4a/b E C/A	The ylang-ylang tree is renowned for the intense fragrance of its flowers. 'Fruticosa' is a dwarf selection. (J)
<b><i>Canella winterana</i></b> (Cinnamon Bark)	20' [Local] (Slow)	Full sun; widely adaptable as to soil – site must be free draining. Drought tolerant; moderately salt tolerant.	1,3,4a E S N	Shrub/small tree, clusters of small red flowers and red to purplish berries mostly in mid-summer. Suitable for coastal sites away from ocean front.
<b><i>Capparis cynophallophora</i></b> (Jamaican Caper)	10-20' (Slow – Moderate)	Full sun to dappled shade; free draining soil. Well adapted to limestone – slow release fertilizer on nutrient poor soils. Salt and drought tolerant.	4a,5 E S N	Shrub or trained as small upright tree. Canopy fuller if grown in direct sun. Showy, fragrant, white to pink flowers in spring to summer. A good choice for coastal sites.
<b><i>Casimiroa edulis</i></b> (White Sapote)	20' [Local] (Moderate)	Full sun; free draining soil. Drought tolerant but irrigate for best fruit production.	1,2 E C/A (S)	The cultivar 'Dade' is a small spreading tree. Fruit apple-like with soft sweet creamy flesh. Provides some limited shade. (K)
<b><i>Cassia spp.</i></b> (Pink/Yellow Shower Trees)	15-25' (Moderate)	Full sun; free draining soil. Drought tolerant	2,4a E S	Most cassias are too large for a small yard see notes for smaller yellow/pink flowering species. (L)

<b><i>Citharexylum fruticosum</i></b> (Fiddlewood)	15-20'  (Slow – Moderate)	Full sun. Any free draining soil – use slow release fertilizer on nutrient poor soil. Drought tolerant and moderately tolerant of salt.	2,4b,5 E  S  N	Glossy green leaves and clusters of small white fragrant flowers. Needs pruning to develop tree-like form. Caterpillars may consume foliage.
<b><i>Clerodendrum minahassae</i></b> (Tube Tree, Fairchild's Clerodendrum)	18-20' (E)	Full sun but some part afternoon shade during summer. Free draining moist soil. Suitable for large containers.	1,2,4a (E)  S C/A	Large coarse foliage; leaf drop during cold weather. Sprays of attractive white tubular flowers. More often grown as shrub it can be trained as a fountain shaped tree. (M)
<b><i>Cnidoscolus chayamansa</i></b> (Tree Spinach)	12-18'  (Fast)	Full sun to partial shade. Not particular as to soil, as long as it drains freely.	3,4a/b E  C/A	An open shrubby plant that can be grown as a tree. Attractive clusters of white flowers. Leaves are edible if cooked. (N)
<b><i>Cordia lutea</i></b> (Yellow Geiger Tree)	15'  (Moderate)	Open site with full sun; free draining soil – drought tolerant.	3,4a E  S (C/A)	Yellow fragrant trumpet shaped flowers appear year round. For tree-like form grow from seed. (O)
<b><i>Dais cotinifolia</i></b> (Pompom Tree)	10-15'  (Fast)	Full sun, soil moist but not heavy - can withstand periods of drought.	3,4a/b (D)  S	An outstanding small flowering tree, spherical clusters of small, tubular pink flowers in summer. Attractive blue-green foliage and reddish bark (P)
<b><i>Diospyros blancoi</i></b> (Velvet Apple)	20' [Local]  (Slow – Moderate)	Full sun/ light shade. Moist enriched soil. Intolerant of salt.	1,2,4a/b E  S (C/G)	A handsome ornamental shade and fruit tree. In Florida usually no more than 20 – 25'. Solitary white waxy female flowers, smaller male flowers in clusters. Fruit with reddish brown velvety hairs. On Miami-Dade limestone correct for trace element deficiencies
<b><i>Eriobotrya japonica</i></b> (Loquat)	15-20'  (Moderate)	Full sun; free draining soil. Tolerant of drought.	1,4b,5 E  S C/A	Attractive winter blooming tree with fragrant flowers and edible fruit. (Q)
<b><i>Eugenia spp.</i></b> (Stoppers)	15-20'  (Slow – Moderate)	Partial shade to full sun; any free draining soil. Drought tolerant.	1,3,5 E  S C/A  N	Very useful as small shade trees where there is limited space. New foliage often tinged red. Fruit attracts birds. (R)
<b><i>Eugenia brasiliensis</i></b> (Grumichama)	15-20'  (Slow)	Full sun to some light shade; organically enriched moist soil. Tolerant of neither	1,4a/b,5 E  S (C/A)	An attractive small fruit tree with short lived but showy white spring blossom followed rapidly by juicy

		salt nor drought. Can be grown in a large container.		grape-like fruits. Prone to nutritional deficiencies. (S)
<b><i>Euphorbia leucocephala</i></b> (Pascuita, Little White Christmas Tree)	8-10'  (Fast)	Full sun; any free draining soil. Do not allow soil to dry out.	4a/b E  C/A	Usually grown as a shrub, but can be trained as a tree. In winter covered with showy white fragrant flowers (bracts). Prune back after flowering.
<b><i>Euphorbia punicea</i></b> (Jamaican Poinsettia)	10-15'  (Moderate)	Full sun; well suited to dry infertile soil. Drought and salt tolerant.	3,4a E  C/A	Variable in appearance; select specimens with showy brilliant red bracts. Prune to achieve tree like growth. Milky white, irritant sap. (T)
<b><i>Fagraea ceilanica</i></b> Ceylon Fagraea	15-20' [Local]  (Moderate)	Full sun to partial shade; suited to free draining infertile soil. Drought and salt tolerant.	2,4a/b,5 E  S C/A	A large spreading shrubby plant that requires early formative pruning to develop a tree like shape; 10" leaves thick shiny and rubbery. Large, creamy white, funnellform flowers are fragrant at night. May develop root suckers.
<b><i>Filicium decipiens</i></b> (Fern Leaf Tree)	20' [Local]  (Moderate)	Full sun to partial shade. Prefers moist soil but with maturity develops greater drought tolerance.	2,3,5 E  S	An increasingly popular, small shade tree that can be maintained at 20'. Dense round crown, fern like leathery foliage. Non-invasive roots. Low risk assessment as a potential threat to natural areas.
<b><i>Guaiacum sanctum</i></b> (Lignum vitae)	15'  (Slow)	Full sun, adapts well to rock limestone soils. Highly salt and drought tolerant.	1,3,4a E  S N	Attractive form and showy deep blue flowers make this a much sort after Florida native tree. (U)
<b><i>Gustavia superba</i></b> (Membrillo)	20' [Local]  (Slow)	Partial shade (bright light), organically enriched moist soil. Limited drought tolerance (mulch); will not tolerate salt. Suitable for large planter.	4a/b,5	Huge deeply veined leaves – to 2', bright pink at first turning dark green. Large fragrant pinkish/magenta and cream flowers borne directly on main branches. Cut wood has an offensive odor. On limestone correct for trace element deficiencies especially iron. (V)

<b><i>Gymnanthes lucida</i></b> (Crabwood)	20' [Local]  (Slow)	Full sun; free draining soil. Drought tolerant	2,5 E  S  N	Unassuming trouble free South Florida native with attractive pale bark and red tinged new foliage. Slender canopy suits it to narrow sights.
<b><i>Haematoxylum campechianum</i></b> (Logwood, Campechy)	15-20'  (Fast)	Full sun. Preferably moist, but free draining soil; will tolerate limited drought conditions.	2,3,4b,5 E  S	Young foliage tinged red; small, fragrant, yellow flowers; develops attractive gnarled trunk with age; spiny. Noted as weedy in Caribbean/Pacific.
<b><i>Hamelia cuprae</i></b> (Bahamas Firebush)	15-20'  (Moderate-Fast)	Full sun/partial shade – any free draining soil. Responds well to fertilizer and water but tolerant of drought and salt.	2,4a,5 E  S C/A	Can be limbed up to a small tree with a full rounded crown. Attractive orangey/yellow bell shaped flowers. Frequent pruning will reduce flowering. Some leaf drop/scorch in cold weather. (W)
<b><i>Ixora finlaysonia</i></b> (White Santan)	15' (Slow-Moderate)	Partial shade; moist enriched soil; does not tolerate salt.	4a/b,5 E  C/A (S)	Creamy white fragrant flower heads and glossy foliage. Correct for trace element deficiencies on Miami limestone. (X)
<b><i>Jacaranda jasminoides</i></b> (Maroon Jacaranda)	12'  (Moderate)	Full sun; free draining soil. Some drought tolerance; intolerant of salt.	4a,5 E  G/B	Better adapted to S. Florida than the common blue jacaranda (foliage coarser rather than feathery). Flowers trumpet shaped and deep purple. Flowering on and off during warm months. Use only grafted trees.
<b><i>Jacquinia keyensis</i></b> (Joewood)	15'  (Slow)	Full sun to partial shade in an open site away from competing plants. Thrives in alkaline soils. Salt and drought tolerant.	1,3,4b E S  N	Rare, very slow growing South Florida native. Clusters of small, creamy, fragrant flowers followed by attractive red berries. Small leathery leaves. Forms a short stout trunk and compact canopy. Excellent for beach front properties. Poisonous. (Y)
<b><i>Jatropha integerrima</i></b> (Peregrina)	10-15'  (Moderate)	Full sun; adapts well to poor soil; drought tolerant. Container plant for a sunny patio.	4a E  C/A	Year-round axillary clusters of red flowers. Prune to maintain tree-like form. Scale insects and mites occasional pests. Poisonous: Sap causes skin irritation.

<b><i>Krugiodendron ferreum</i></b> (Black Ironwood)	20-25' (Slow)	Full sun to partial shade; free draining soil; drought tolerant	2,3 E  S  N	Dense compact canopy of this South Florida native provides good shade but is very slow to establish. Very hard dense wood.
<b><i>Lagerstroemia indica</i></b> (Crepe Myrtle)	10-15' (Moderate)	Full sun to partial shade; free draining soil. Drought tolerant	3,4a,5 D  C/A S	A Southern favorite for the showy flowers in many colors – white, pink, red, lilac and purple. (Z)
<b><i>Lawsonia inermis</i></b> (Henna, Migonette)	6-12' (Moderate)	Full sun; sandy free draining soil. Tolerant of drought when established. Good response to fertilizer applications.	4b,5	A much-branched shrub that can be trained as a small tree. Pyramidal clusters of white flowers with a heavy long lasting fragrance. Mature trees often spiny. Leaves a source of orange dye.
<b><i>Lonchocarpus spp.</i></b> (Florida Lilac)	20' [Local]  (Fast)	Full sun; moist, free draining' organically enriched soil. Limited tolerance of drought; intolerant of salt	2,4a/b E  S (C)	Attractive late summer/fall flowering trees with erect spikes of purple/violet fragrant flowers. May need to correct trace element deficiencies on Miami limestone. (AA)
<b><i>Malpighia glabra</i></b> (Barbados Cherry, Acerola)	12' (Moderate – Fast)	Full sun; free draining soil. On sandy soils roots prone to nematode damage – mulch. Tolerant of salt and drought once established. Can be grown in containers.	1,4a E  C/A (S)	Shrubby – prune for more tree like form but avoid creating top heavy canopy. Attractive pink flowers followed by refreshing sub-acid cherry like fruit high in vitamin C.
<b><i>Mangifera indica</i></b> (Mango)	8-12' {Local}  (Moderate)	Full sun; avoid dry soil when bearing fruit; apply fertilizer and trace element supplements on a regular basis. Poor salt tolerance.	1,2 E  G/B (S)	"Dwarf" cultivars available for small yard/container culture; prune to ensure compact growth habit. May need to spray to control insect pests and fungal diseases. (BB)
<b><i>Michelia champaca</i></b> (Champaca)	20-25' [Local]  (Moderate)	Full sun to part shade with moist but free draining enriched soil. Some limited drought tolerance once established.	2,4a/b,5 E  S G/B	Grown principally for the exquisite fragrance of the large yellowish flowers. (CC)
<b><i>Mimusops cafra</i></b> (Coastal Red Milkwood)	20-25' [Local]  (Slow - Moderate)	Full sun/light shade. Free draining sandy soil. Drought and salt tolerant.	1,2,3 E  S C	Formative pruning for tree like form otherwise becomes shrubby especially in open areas. Storm fast – used as a windbreak. Excellent for coastal sites.

<b><i>Morinda citrifolia</i></b> (Indian Mulberry, Noni)	10-20'  (Moderate)	Full sun is preferable –can take partial shade. Free draining soil; well adapted to rocky limestone. Highly tolerant of drought and salt.	1,2 E  S C/A	A good choice for ocean front properties with rocky soil. Fruit can be messy with a pungent odor. Very susceptible to root damage from soil nematodes – more a problem on sandy soils. <b>(DD)</b>
<b><i>Moringa oleifera</i></b> (Horseraddish Tree, Palo Garinga)	20' [Local]  (Fast)	Full sun; any free draining soil; highly drought tolerant once established. Poor salt tolerance.	1,2,4ab (E)  S C/A	A fast growing tree with attractive, fragrant white flowers. Leaves, pods and roots all edible. Susceptible to storm damage. <b>(EE)</b>
<b><i>Myrcianthes fragrans</i></b> (Simpson Stopper)	15-20'  (Slow)	Full sun to partial shade; any free draining soil. Some salt tolerance but not for direct ocean front. Withstands drought but not for extended periods.	1,2,3,4a E  S  N	An outstanding native stopper, fragrant white flowers and conspicuous orange berries attract birds. Useful for narrow sites. <b>(R)</b>
<b><i>Myrciara cauliflora</i></b> (Jaboticaba)	12-15'  (Slow)	Full sun; enriched moist soli, but will not tolerate flooding. Neither drought or salt tolerant.	1,3,4a E  S	After 6-10 years produces several crops annually of superior grape-like fruit. Attractive peeling bark and unusual flowering habit (cauliflorous). <b>(FF)</b>
<b><i>Napoleana imperealis</i></b> (Napoleons Hat )	15-20'  (Slow)	Bright light away from direct sun. Moist organically enriched soil, keep mulched. . Suitable for large container/planter.	2,4a E  S	A multi-trunk tree grown for the curiosity value of the unusual purple and yellow hat shaped flowers that grow directly on trunk and limbs. Correct for expected trace element deficiencies.
<b><i>Noronhia emarginata</i></b> (Madagascar Olive)	20'  (Moderate)	Full sun; any free draining soil; very tolerant of salt and drought.	1,2,3 E  S	A neat storm fast tree with a compact canopy of stiff obovate leaves. Clusters of small fragrant white flowers. Ideal for ocean front locations. Fallen fruit might be a nuisance near driveways.
<b><i>Nyctanthes arbor-tristis</i></b> (Tree-of-Sorrow)	15-20'  Fast	Full sun; free draining soil. Some drought tolerance but prefers moist soil. Intolerant of salt.	4a/b E  S	Often seen as a somewhat sprawling shrub, but can be grown as a tree. Slender stems with dull green leaves. Principal attribute night time, jasmine-like fragrance of the white and orange flowers.

<b><i>Ochrosia elliptica</i></b> (Ochrosia)	15' (Moderate)	Full sun; any free draining soil; very tolerant of salt; good drought tolerance.	2,4a/b (E)  S	Upright but shrubby at first becoming tree-like with age. Whorls of thick, leathery leaves; small creamy white flowers. The bright red paired plum like fruit is highly poisonous. Well adapted to coastal sites but potentially invasive. (GG)
<b><i>Ocotea coriacea</i></b> (Lancewood)	20-25' (Moderate – Fast)	Full sun to light shade; free draining soil. Moderate salt tolerance – not for direct ocean front sites. Tolerant of drought.	2,4a/b E  S  N	Bushy at first developing narrow rounded crown with age. Aromatic leaves and slightly showy clusters of fragrant white flowers.
<b><i>Oncoba spinosa</i></b> (Fried Egg Tree, Spiny Oncoba)	20' [Local] (Moderate)	Full sun; adapts to poor rocky soil. Good drought tolerance once established. Salt tolerance limited.	2,4a/b (E)  S	Grown for the attractive 2-3" fragrant white flowers. New growth tinged pale red. Sharp 2-3" spines. (HH)
<b><i>Picramnia pentandra</i></b> (Florida Bitterbush)	15-20'  (Slow-Moderate)	Full sun, free draining soil of limited fertility. Drought tolerant; moderately tolerant of salt.	1,2 E  S  N	Slender small tree (or shrub) with thin stems; new growth tinged red. Narrow canopy: suitable for restricted sites. Trees bearing female flowers produce dark red to black berries (if pollinated).
<b><i>Pimenta dioica</i></b> (Allspice)	20' [Local]  (Slow)	Full sun; free draining soil; adapted to limestone; drought tolerant; intolerant of salt.	1,3,5 E  S	An attractive small upright tree with non-invasive roots stiff highly aromatic leaves, edible berries (spice) and exfoliating bark.
<b><i>Pithecellobium keyense</i></b> (Florida Keys Blackbead)	15-20'  (Slow-Moderate)	Full sun; any free draining soil, adapted to limestone. Salt and drought tolerant.	1,2,4a E  S  N	Low branching, spreading multi-trunk tree; white to pink mimosa-like flowers mostly spring to summer. (II)
<b><i>Plumeria spp.</i></b> (Frangipani)	12-20' (Slow-Moderate)	Full sun; free draining soil. Salt and drought tolerant; will respond to regular fertilizer and water. Adapts well to tub culture.	3,4a/b,5 E/D  C/A (S)	Small trees; spreading canopy of smooth, thick, gray/green succulent stems and large thick leaves. Grown for the extremely showy salverform fragrant flowers. (JJ)
<b><i>Poitea carinalis</i></b> Syn. <i>Sabinea carinalis</i> (Carib Wood)	15' (Moderate)	Full sun; adapts well to open infertile rocky soil; highly drought tolerant. Low salt tolerance.	3,4a,5 (D)  S	A graceful, small, airy tree, ideal for the smallest of yards. A profusion of bright crimson flowers on bare branches in spring. (KK)

<b><i>Polyalthia longifolia</i></b> cv. 'Pendula Compacta' (Mast Tree)	20' (Moderate- Fast)	Full sun/partial shade –best on enriched moist soil but free draining soils; during dry weather provide supplemental water.	1,3 E  C/A	Striking tree with a stout, straight trunk, much of it hidden from view by the long drooping branches. Ideal for narrow sites; limited storm resistance in the open. (LL)
<b><i>Portlandia grandiflora</i></b> (Glorias floridas de Cuba, Bellflower)	10-15'  (Slow)	Light afternoon shade, otherwise full sun; enriched moist soil; good tolerance of limestone; can be grown in a planter or large container.	4a/b,5 E  C/A	Prune to develop single leader; attractive glossy foliage, fragrant, large, trumpet-shaped, white flowers sometimes with the faintest hint of pink. (MM)
<b><i>Posqueria latifolia</i></b> (Needle Flower, Brazilian Oak)	20'  (Moderate)	Full sun/partial shade enriched soil; water during extended dry periods.	1,4a/b E  C/A	A bushy tree grown for the masses of highly fragrant, long thin pure white flowers – corolla tube to 7" – borne in early spring.
<b><i>Psidium guajava</i></b> (Guava)	10-20'  (Moderate)	Full sun, free draining soil. Tolerant of drought; intolerant of salt.	1,3,4a E  S C/A	Small tree that responds well to pruning; attractive flowers and edible fruit. (NN)
<b><i>Randia formosa</i></b> (Blackberry Jam Fruit)	10'  (Moderate)	Full sun but partial shade preferable. Enriched moist soil – treat as common gardenia.	1,3,4a/b E  C/A	Prune to develop tree like form; stiff reddish brown stems; solitary fragrant flowers, 6" corolla tube with star-like lobes; 1" sweet light green edible fruit. (OO)
<b><i>Rothmania spp.</i></b> (September Bells, Star of Africa)	15-20'  (Moderate- Fast)	Full sun to partial shade. Enriched, moist soil – treat as common gardenia.	2,4a/b,5 E  S C/A	Attractive upright form, striking glossy foliage; fragrant, tubular, bell- shaped white flowers. (PP)
<b><i>Sapindus saponaria</i></b> (Wingleaf Soapberry)	20-25' [Local]  (Moderate- Fast)	Full sun; adapts well to infertile soil; high drought tolerance, moderately salt tolerant.	2,3 E  S  N	An attractive native shade tree with a full dense crown and flaking bark; useful in coastal sites away from direct ocean front. Seeds poisonous. (QQ)
<b><i>Saraca indica</i></b> (Sorrowless Tree, Ashoka)	20' [Local]  (Moderate- Slow)	Shifting shade; moist somewhat enriched soil. Limited drought tolerance; low salt tolerance.	E S  S C/A	Broad but tight canopy with showy rounded clusters of fragrant orangey-yellow flowers that deepen to scarlet. (RR)
<b><i>Schottia afra</i></b> (Hottentot's Bean)	18'  (Modeate)	Full sun; free draining soil. Highly drought tolerant; moderate salt tolerance.	1,3,4a E  S	A much branched, multi- trunk, spreading tree with attractively knotted limbs; extremely showy, bright red flowers. (SS)
<b><i>Senna polyphylla</i></b> (Desert Cassia, Hediondila)	9-15'  (Slow)	Full sun; poor rocky soil; salt and drought tolerant.	4a,5 E  S	Diminutive stature and a slow growth rate make for an ideal showy flowering tree for the smallest of sunny dry gardens. (TT)

<b><i>Senna surattensis</i></b> (Glaucous Cassia, Scrambled Egg Tree)	15'  (Moderate- Fast)	Full sun; free draining soil. Shelter from direct wind exposure. Moderately drought and salt tolerant.	2,4a E  S (C/A)	A widely used, small evergreen tree with a spreading canopy and showy bright yellow fall flowers. (TT)
<b><i>Spondias purpurea</i></b> (Purple or Red Mombin)	20'  (Fast)	Full sun; free draining soil. Good tolerance of drought once established. Salt tolerance moderate.	1,2,5	Grown for the plum like fruit. Attractive foliage; wood brittle. (UU)
<b><i>Stemmadeina litoralis</i></b> (Lecheso)	10-20' (Moderate)	Partial shade to full sun; prefers moist soil; salt tolerant away from the ocean front.	3,4a/b E  C/A S	Large, fragrant, milky white tubular flowers with overlapping flared petals. Glossy, thin textured, elliptic leaves. (VV)
<b><i>Stenocarpus sinuatus</i></b> (Firewheel Tree)	20' [Local]  (Slow- Moderate)	Full sun; free draining acid, moist' enriched soil. Limited drought tolerance, poor salt tolerance. Nutritional problems – better in a large planter.	3,4a,5	Extremely showy with unusual bright red flowers; negligible leaf drop makes this a good choice as a patio or pool side container tree. (WW)
<b><i>Synssepalum dulcificum</i></b> (Miracle Fruit)	12-15'  (Slow)	Partial shade; moist enriched acid soil. Locally best if grown in a large container.	1,3 E  S C/A	Although usually found growing as a shrub, this plant novelty can be trained as a small tree. (XX)
<b><i>Syzygium paniculatum</i></b> (Australian Brush Cherry)	10-12'  (Moderate)	Full sun; free draining enriched soil with constant moisture preferred. Suitable for tub culture.	1,2,4a,5 E  C/A S	A compact shrubby tree with attractive glossy foliage and showy off-white, fluffy flowers, edible large red berries. Very amenable to close shearing (YY)
<b><i>Tabebuia aurea</i></b> syn. <i>T. argentea</i> <i>T. caraiba</i> (Silver Trumpet Tree)	20' [Local]  (Moderate)	Full sun; free draining soil; drought tolerant; do not water during winter. Moderately salt tolerant.	3,4a (D)  S C/A	Grown for the masses of bright yellow, trumpet shaped flowers in spring; palmate leaves with silvery scales. Attractive corky bark. (ZZ)
<b><i>Tabebuia chryso-tricha</i></b> (Golden Trumpet Tree)	20' [Local]  (Moderate)	Full sun; free draining soil; drought tolerant; avoid watering during winter. Moderately salt tolerant.	3,4a D  S	Masses of bright yellow trumpet-shaped flowers on bare branches during spring. Undersides of palmate leaves covered with fine yellow hairs. (ZZ)
<b><i>Tabebuia impetiginosa</i></b> syn. <i>T. palmeri</i> (Ipe)	20' [Local]  (Slow- Moderate)	Full sun; free draining soil; drought tolerant. Moderately salt tolerant.	4a D  S	Exceptionally showy with rosy pink/purplish red trumpet-shaped flowers on bare branches winter to early spring when tree is briefly deciduous. Palmate leaves. (ZZ)

<b><i>Tabebuia heterophylla</i></b> (Pink Trumpet Tree)	20' (Moderate)	Full sun; free draining soil. Some drought tolerance once established.	2,4a (E)  S	Light pink to pinkish-lavender flowers appear intermittently especially during the wetter months of the year. Some leaf drop during cold weather. (ZZ)
<b><i>Tecoma castanifolia</i></b> <i>syn. Tecoma gaudichaudii</i> (Chestnut leafed trumpet tree)	15-20' (Moderate-Fast)	Full sun; free draining soil. Drought tolerant and moderately salt tolerant.	4a/b,5 E  S	Erect growth makes this an easy shrub to limb up as a small tree. Clusters of brilliant yellow, trumpet-shaped sweetly fragrant flowers in late fall to spring. (AAA)
<b><i>Uncarina grandidieri</i></b>	10-12' (Slow-Moderate)	Full sun, free draining gritty soil; adapted to limestone. Drought tolerant, must remain dry in winter.	3,4a,5 (D)  C/A S	A low branching and squat tree with a swollen trunk and branches. Large soft lobed leaves and attractive yellow petunia-like flowers. (BBB)
<b><i>Wrightia religiosa</i></b> (Water Jasmine)	10-12' (Moderate)	Full to sun to light shade; free draining enriched moist soil.. Drought tolerance limited; intolerant of salt. Suitable for a large container.	3,4a/b (E)  C/A (S)	A delightful small shrubby tree with slender drooping branches, small leaves and numerous miniature white fragrant flowers during warmer months, withstands close pruning. (CCC)
<b><i>Xanthostemon chrysanthus</i></b> (Golden Penda)	20' [Local] (Slow-Moderate)	Full sun; enriched free draining moist soil. Limited drought tolerance; intolerant of salt.	2,4a,5	A spectacular flowering tree related to the bottlebrush, with masses of bright yellow flowers. Very amenable to pruning. (DDD)
<b><i>Xylosoma congestum</i></b> (Shiny xylosoma)	12-15' (Moderate)	Full sun/light shade; tolerates poor rock soil; drought tolerant but responds well to supplemental water. Amenable to tub culture.	2,3,4a,5 E  S(C/A)	Can be grown as a small spiny tree developing a gnarled slender trunk and dense canopy; shiny bright green leaves have serrated edges; new growth tinged red. Fragrant flowers. (EEE)
<b><i>Zanthoxylum coriaceum</i></b> (Biscayne Prickly Ash)	15-20" (Moderate)	Full sun; adapted to grow in poor soils; salt and drought tolerant.	2,4a,5 E  S,C/A  N	A compact erect tree with leathery leaves; attractive clusters of small pale yellow flowers. Sharp spines on trunk and branches (FFF)

(For Footnotes See Below)

## Footnotes

- (A) Acacias are a large group of shrubs and trees found in a diverse range of habitats. Many are spiny, small trees to shrubs and are an excellent choice for a small sunny garden. *Acacia farnesiana* (sweet acacia) has light feathery foliage and sweetly fragrant, small, yellow pom-pom like flowers. Similar in appearance, but with even smaller leaves is *A. pinetorium* (pineland acacia) the common acacia endemic to South Florida. *Acacia choriophylla* is a natural introduction to South Florida, notable for being essentially free of spines and with bolder foliage than the other two species. Caterpillars and thornbugs can be occasional pests – these trees will not succeed in wet soil.
- (B) The **soursop** is lower branching, but more upright and less open than the **sugar apple**. The shiny leaves of the soursop are more attractive, but rank smelling especially when bruised. Leaf drop during a mild winter is normally much less pronounced compared to other annonas, however the soursop is far less tolerant of cold temperatures. Leaves will show cold damage as temperatures approach freezing, with trees in exposed positions suffering more severe damage. Expect leaf drop if soil becomes too dry – mulching is recommended. The soursop should be planted in a protected spot (south side of a building), and is only fully reliable in the Keys. The fruit is much larger than the sugar apple, and can weigh more than 10 lbs, with soft, juicy sub-acid fibrous flesh having a musky, pineapple like taste. Pollinate both trees by hand to improve yield, and help avoid incomplete fertilization (causes misshapen fruit, especially with soursop). The sugar apple can be grown in a large container, but is likely to develop a more shrub like form. The **atemoya** (*Annona squamosa* x *Annona cherimola*) has superior fruit, but produces a 250– 25' tree with a very open spreading canopy, that could be too large for very small yards. The **custard apple** (*Annona reticulata*), like the sugar apple is well adapted to South Florida but is the least attractive in appearance, with sweet but blander tasting fruit than the other annonas. Known also as the **chirimoya**, it should not be confused with the cherimoya (*A. cherimola*), which is poorly adapted to South Florida.
- (C) The **barringtonias** bloom in the evening producing spectacular, often scented, red to purple flowers in large hanging sprays. It can take several years before they commence to bloom. *Barringtonia edulis* is especially noted for its 2-3' shiny narrow leaves as well as an enormous catkin-like inflorescence. Excellent situated near a shaded patio or ornamental pool. Some species develop multiple trunks and tend to be shrubby. Very tolerant of salt and some limited drought tolerance.

- (D) The popular **Hong Kong orchid tree**, *B. x blakeana*, grows to 30 – 35' and would become too large for the small yards considered in this publication. There are a number of smaller, attractive, white-flowering orchid trees: *B. rufescens* grows to 15' producing fragrant spring time blooms; *B. divaricata* (8 – 15') has small white to pinkish mauve flowers, and *B. grandideri*, with unusual white to pale blue flowers, reaches only 8' as a sprawling shrubby plant and only with very careful pruning can assume a more tree-like form (better as an espalier). More readily grown as a small tree, *Bauhinia monandra* naturally develops into a spreading shrubby plant, that can be maintained at about 20'. It produces very attractive spring flowers with white petals that turn pink, and a single, enlarged, erect petal that is yellow with red spots. *Bauhinia racemosa* is a small shrubby tree growing to less than 20' with white to cream flowers. *Bauhinia tomentosa*, **St. Thomas tree**, has yellow flowers and although shrubby, it can be grown as a small tree reaching no more than 15'.
- (E) **Brugmansias (Angel trumpets)** are naturally shrubby, but can be grown as 10 – 15' small trees. When grown in this manner it is advisable to stake plants to compensate for the weak trunk. It is especially important with *B. versicolor* and its hybrids to remove suckers from the base of the plant as soon as they are noticed in order to maintain a tree like appearance. Flowering is improved if soil remains moist with regular applications of fertilizer (a slow release 8/4/12 palm special is suitable). Brugmansias can appear wilted if exposed to direct hot afternoon sun – some partial shade is recommended. Both snails and caterpillars can be serious pests, the former especially during the wet summer months.
- (F) The **Jamaican Raintree** can also be grown as a large shrub. Under optimum conditions it can reach 30', but can be managed at 15 – 20'. The tree has an unusual form with many straight branches bearing short spines in the axils of the small sessile leaves. Although sometimes referred to as West Indian ebony (the wood is highly esteemed), the tree is not related to the true ebony, *Diosporys ebenus*.
- (G) **Locustberry** is sensitive to over-watering, but exhibits no other problems. It is naturally shrubby, but can be trained as a small tree resulting in the added bonus of revealing more of the plant's attractive, smooth, light brown bark. During late spring to summer masses of small, white to yellow flowers are produced that turn pink to rosy red. The fruit is edible, but barely palatable. The related **nance**, *Byrsonima crassiflora*, is a slow growing, large shrub or small shade tree that bears

edible fruit of variable quality, and can be maintained at 15 -20'. Both of these plants are in the same family as the Barbados cherry (*Malpighia glabra*, see entry in Table 1), which is a superior choice as a fruit tree.

(H) *Caesalpinia pulcherrima*, Barbados flower fence or dwarf poinciana, is the most familiar species, with showy flowers that resemble those of the royal Poinciana. It is in bloom for much of the year, growing naturally into a somewhat prickly, rather open shrub. The cultivar 'Compton', growing to about 12 – 14', has a more upright growth habit and is more amenable to training as a small tree. *Caesalpinia coriara*, divi-divi, is unarmed, the compound leaves composed of much smaller leaflets, and the yellow to orange flowers not as showy, but very fragrant. In exposed sites, e.g., near the ocean, it develops an interesting form – flat topped with a contorted trunk that is bent in response to the prevailing wind. Evergreen, but leaf drop is pronounced as temperatures approach 40°F. *Caesalpinia vesicaria* (brasiletto) is a wind resistant, small, often spiny, evergreen tree to 20' with small leathery leaves and copious bright yellow flowers in late fall to winter. It is slow growing and adapts well to dry limestone soils. *Caesalpinia mexicana* is well adapted to drought, and with pruning to remove the lower branches can be maintained as a small tree at about 20'. Large clusters of yellow flowers are produced on and off throughout the year but mainly during summer. Although some of these caesalpinias will produce seedling volunteers in the landscape, they do not appear to be invasive.

(I) *Callistemon* spp. are found as shrubs or multi-trunk small trees with attractive cylindrical flower heads having many bristle-like stamens. Most species/cultivars have flowers in shades of red to pink or cream. *Callistemon viminalis*, weeping bottlebrush, is locally popular, *C. citrinus* is more upright with citrus scented foliage and *C. rigidus* somewhat smaller but with more brittle wood. There are many smaller cultivars that are slower growing and used as shrubs. Since they readily hybridize there is some confusion over the identity of *Callistemon* spp. As they grow larger, bottlebrush trees become more difficult to transplant. It is advisable to choose small container specimens, especially since they grow quite rapidly. Bottlebrush trees readily produce suckers on the lower trunk and these should be removed as soon as they form. Although bottlebrush prefers moist soil, they exhibit moderate drought tolerance - avoid soil that remains wet, as this will encourage root rots. Parasitic soil nematodes can cause trees to decline, and are more of a problem on sandy soils – mulching helps to lessen this problem. Salt tolerance is low to moderate so bottlebrush trees should be planted away from the ocean front. Witches broom

(Sphaeropsis knot) is a common fungal disease that results in die-back of the tree canopy, and is usually the result of careless pruning.

- (J) *Cananga odorata* is grown for the highly scented flowers (used in the perfume industry), which can be overpowering at close quarters. The cultivar 'Fruticosa' is ideal for a small yard. Place in a sheltered position – wood is brittle and liable to break in windstorms, a definite problem with species type.
- (K) Like the **white sapote** the **wampi**, *Clausena lansium*, is in the Rutaceae (citrus family), and is occasionally grown in South Florida for the grape-like clusters of 1" yellowish tan fruit. The tree is also quite attractive in the landscape, exhibiting moderate to fast growth to about 20'. The pinnately compound leaves are composed of five to nine, 2 - 4" leaflets, which have an anise-like aroma when crushed. Panicles of ½" sweet smelling flowers with off white petals are produced in spring. The wampee is not particular as to soil, as long as it is free draining, though it will be necessary to correct for trace element deficiencies on Miami-Dade's limestone soils. Once established, the wampee is fairly drought tolerant.
- (L) *Cassia afrofistula* (Dwarf Golden Shower Tree) grows as a 15-20', often multi-trunk tree with an extended bloom period of golden yellow flowers, summer into fall. It is a drought tolerant substitute for the larger golden shower tree (*C. fistula*) suitable for smaller yards. The dwarf pink cassia, *Cassia bakeriana* at 20-25' is a deciduous (locally) tree with a spreading canopy of flexuous branches. In spring erect clusters of purplish pink buds open to reveal masses of pink flowers which fade almost to white. Anecdotal reports of good wind resistance.
- (M) Most clerodendrums are shrubby or climbing plants that often produce vigorous root suckers. *Clerodendrum quadriloculare*, widely sold as 'Starburst' is an upright shrub that can be trained as a 12 – 15' tree. It produces masses of pink to white tubular flowers with pink lobes in flat-topped panicles from late winter to early spring. Large dark green leaves with deep purple undersides contribute interest to the landscape when the tree is not in flower. Expect leaf drop during spells of cold weather. Although less prone to produce root suckers than many other clerodendrums, some will sprout and should be removed as soon as they appear.
- (N) **Tree spinach**, also known as **chaya**, makes a striking if somewhat rank growing landscape plant with its' broad heavily lobed leaves (like papaya) and attractive clusters of small white flowers. However it is more often grown for the edible leaves – they must be cooked first, raw

leaves are poisonous containing hydrocyanic glycosides. Exercise care when handling since the leaves can be spiny, and the stems may have stinging hairs. Propagate using cuttings from plants of known eating quality if foliage is to be consumed. Seed grown plants can be excessively spiny and more likely to possess stinging hairs.

- (O) Unless propagated from seed collected in the wild (seed is not readily produced by plants in cultivation), *Cordia lutea* is very difficult to grow as a tree; vegetative techniques such as air layering produce a low sprawling shrub. *Cordia sebestena*, the more familiar orange Geiger tree will grow to about 25'. Unlike *C. lutea* it often suffers leaf damage from the larvae of a tortoise beetle, which detracts from its appearance. Otherwise it is an outstanding landscape tree, but better for a larger yard where it can be positioned at a distance so that the flowers can still be appreciated but any chewed foliage is less conspicuous. Despite claims to the contrary most authorities do not regard *C. sebestena* as native to Florida<sup>2</sup>. *Cordia boissieri*, the Texas wild olive, is less showy with white flowers, but like *C. lutea* is free of pest problems. None of these plants will tolerate heavy, wet soil, and must have a site with perfect drainage. *Cordia superba* (babosa branca) from Brazil is claimed to be more tolerant of local wet soils and humid conditions.
- (P) The pom-pom tree is of limited availability locally but worth seeking out. It does however grow rapidly from seed (available from mail order sources), attaining full size in 4-5 years, and flowering after two years. Although fast growing it has non-invasive roots and exhibits good resistance to wind. Often classed as deciduous, leaf drop is usually only slight in mild climates (late winter locally). The tree has a naturally shrubby habit, but tolerates pruning well and can be trained as a standard. Flowering locally from early summer into early fall after which the tree can be pruned.
- (Q) For superior fruit select named loquat cultivars. Use fertilizer sparingly – too much can promote fire blight. Thin out fruit leaving 2-3 per panicle – Caribbean fruit fly can be a serious problem. The fruit is messy if allowed to fall to the ground, and seedling volunteers often appear in the landscape.
- (R) Various species of Florida's native stoppers are available: *Eugenia axillaris* (20') is especially useful in shady areas where space is limited (caution, some may find the smell of the foliage offensive); *E. foetida* (Spanish stopper) is smaller (15') with a narrow, erect growth habit

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<sup>2</sup> See: Atlas of Florida Vascular Plants from the University of South Florida's Institute of Systematic Botany.

making it a good choice for use in confined areas. Not quite as tolerant of shade as other native stoppers. *Eugenia confusa* (redberry stopper) has striking red berries and can eventually grow to 35', but is usually maintained at about 20'. It is not as readily available as the other Florida stoppers. *Eugenia coronata*, which is of African origin, grows to 20' with 3" leathery leaves and fragrant flowers, and is more suited to full sun than native stoppers. It is especially drought tolerant. **Simpson stopper** (see *Myricanthes fragrans*) is an excellent choice for both full sun and partial shade - growth will be more upright where there is shade. In full sun growth is not as upright - there will be more need to prune to achieve a tree-like form.

- (S) The **grumichama** is not well adapted to the shallow limestone soils of Miami-Dade. Incorporate some composted organic matter into the backfill, and apply a 3" covering of mulch. Provide nutritional supplements to prevent trace element deficiency symptoms (iron and manganese) from developing. There are other fruit bearing eugenias that can double as handsome if somewhat shrubby, small (growing to about 15') landscape trees. Both *E. aggregata* (cherry of the Rio Grande) and *E. luschnanthiana* (pitomba) will need to be selectively pruned to achieve a tree like form. Attractive foliage, showy flowers and peeling bark combine to make these desirable landscape items. For successful fruit production it is essential to maintain adequate soil moisture from the time in spring when the trees first commence blooming.
- (T) *Euphorbia punicea* is under-utilized in Miami-Dade landscapes; sparingly available commercially with reported problems with propagation (rooted cuttings). Choose specimens with an upright growth habit and bright red cyathophylls (bracts) and take ½-1" thick tip cuttings in early spring. Allow them to dry out for several days then root in a mix of Perlite and coarse sand, lightly misting once or twice a week. Situate in a sunny, dry part of the yard with similar succulents.
- (U) **Lignum vitae** seed is difficult (slow) to germinate unless pre-soaked in gibberellic acid, in addition to which trees are very slow growing - full-sized specimens are therefore expensive. The flowers, which appear briefly in early spring, fade from dark blue to white. They are followed in the fall by attractive yellow to orange fruit, which split to reveal seeds attached to a bright red aril. Tree sap can be an irritant. The non-native *Guaiaucum officinale* is very similar to *G. sanctum* but the leaflets appear more lanceolate and the petals not as spoon shaped

- (V) *Gustavia superba* often develops as a multi-trunk shrubby tree in cultivation and being very slow growing is easy to keep within bounds. Both the fragrant flowers and foliage are attractive ornamental features – the large new leaves are a striking bronze red. The flesh of the fruit, chupa, is edible and highly regarded in parts of Central and northern South America. The cut wood has an offensive odor and accounts for the common name stinkwood. The tree is best suited to a site shaded from hot sun that provides bright light. Trace element supplements will need to be applied to counteract nutritional deficiencies that are likely on the alkaline soil prevalent in Miami-Dade. The soil should be enriched with plenty of organic matter and kept moist. A good choice for wet, shady (bright light) areas – occurs naturally as an understory tree in moist tropical woodland. A related species, *G. augusta* has narrow leaves with less prominent venation.
- (W) The native firebush, *Hamelia patens*, tends to be more shrub-like than the **Bahamas firebush**, however it can be grown as a small tree especially where there is some partial shade. Grown for the clusters of small orangey red flowers, attractive to both butterflies and hummingbirds; seedling volunteers can sprout, but are usually not a problem. The cv. 'African' (now believed to be *H. patens* var. *glabra*) has orangey yellow flowers and is not native to Florida but is found from northern South America into Mexico.
- (X) *Ixora fragrans* is another fragrant, white flowering species, reaching a height of about 15'. As with all ixoras enrich the soil with plenty of organic matter, apply a 2-3" covering of mulch and provide iron and manganese supplements to counter deficiency symptoms induced by the alkaline soils of Miami-Dade.
- (Y) *Jacquinia arborea* (**barbasco**, **torchwood** or **bracelet wood**)) is a close non-native relative of **joewood**, very slow growing to 15' it branches low from a short, thick, heavy trunk to eventually form a compact, rounded, much branched, canopy. The leaves are obovate to spatulate, stiff, leathery and a dull yellowish to mid green, found mostly in whorls toward the branch tips. Erect spikes of fragrant white flowers are followed by clusters of deep red, poisonous berries. Drought and salt tolerant, it adapts to limestone based soils - it is best planted in an open site (poor shade tolerance) away from competing shrubs and trees. Less frequently seen locally, *Jacquinia aurantica* has more showy orange flowers and darker green, spine-tipped leaves.
- (Z) There are many **crepe myrtle** cultivars growing to 12 –20' that can be grown as single or multi-trunk small trees. Choose those resistant to

powdery mildew, and control aphid infestations if necessary. Tip prune to remove spent blossoms in order to encourage further flowering. Little other pruning is necessary apart from removing water sprouts that develop on the lower part of the trunk. Trees will lose their foliage, which often first takes on a colorful autumnal appearance, during the dry season. The bare trees however have an attractive form and peeling bark. The more tropical *Lagerstroemia speciosa* (**queen crepe myrtle**) can grow into a spectacular 50' flowering tree, with panicles of lavender to pink flowers. It can be maintained at about 20 – 25', especially if grown in full sun away from other trees, and regularly pruned after flowering ceases. Deciduous, but some leaves present well past Christmas in mild winters. The cultivar 'Nong Nooch' is especially floriferous, with panicles of pinkish mauve flowers.

- (AA) Of the various *Lonchocarpus* spp., *L. violaceus* (locally known as **lancepod**) is most familiar in Miami-Dade. A low branching tree with a spreading canopy composed of long arching branches. Both iron and magnesium deficiencies can develop on Miami limestone; correct with appropriate fertilizer supplements (chelated iron for high pH soils and magnesium sulfate). **Swamp dogwood** (*L. heptaphyllus* syn *L. pentaphyllus*) is available locally and reputed to flower more reliably under wet conditions. *Lonchocarpus* spp. roots are the source of rotenone, a respiratory poison used as an insecticide and putatively implicated as a possible risk factor in Parkinson's disease. Rotenone is not found in *Lonchocarpus* leaves or seeds.
- (BB) **Mango** cultivars such as **Cogshall**, **Fairchild**, **Graham** (a good substitute for **Julie** which does poorly in Miami-Dade), **Ice Cream**, **Mallika** and **Parvin** are suitable for large containers or as patio trees. All of these trees need to be correctly pruned to maintain compact size and fruitfulness. All in ground locally grown mango trees should be maintained at a maximum height of 15' for ease of spraying and harvesting, and to lessen storm damage.
- (CC) In its native range, India, Bangladesh and Myanmar, *Michelia champaca* can grow to more than 75' where it is used as a timber tree. In the US it is more familiar as the source of essential oils used in expensive perfumes. In this regard it is appreciated as a flowering tree for the pervasive scent of its blooms. Closely related to the magnolias, it is better suited to the tropical climate of Miami, though like magnolia nutritional deficiencies are likely on local alkaline soil. Apply chelated iron as a soil drench, and remaining trace elements such as manganese as a foliar spray. Under local conditions *M. champaca* should grow no more than 20 – 25'. Scale insects can sometimes be a problem.

(DD) *Morinda citrifolia* is a dense, shrubby plant, which can be grown as a small tree. It can withstand flooding, prolonged drought and ocean front salt spray, though it is best to avoid sites exposed to direct wind (brittle wood). Use as a landscape tree limited, largely due to unpleasant smell of ripe fruit, which is used for both culinary and medicinal purposes in many different cultures. The tree reacts well to pruning. Frequent light pruning can be used to reduce the amount of fruit on the tree. Possibly invasive, though no widespread disruption of plant communities recorded. An ornamental variety, 'Potteri' with smaller fruit and variegated leaves is used for landscaping in Hawaii, but is not known to be locally available. Another drought and salt tolerant plant from the same plant family (Rubiaceae), *Casasia clusifolia*, is also an excellent choice for ocean front sites. Commonly referred to as the **seven year apple**, this Florida native is a slow growing, shrubby plant with shiny, leathery leaves clustered at the branch tips. Fragrant, white, star-shaped flowers and decorative fruit (female plants). Although regarded as low maintenance plants, they show good response to occasional applications of fertilizer. As the plant develops, remove lower branches to develop as a small tree. Leaf spotting diseases can severely detract from the overall appearance of seven year apple.

(EE) *Moringa oleifera* is a multi purpose tree, useful as a source of light shade. It also produces fragrant panicles of cream to light yellow flowers and edible leaves and fruit (young seed pods boiled as a vegetable). An open, fast growing, soft wooded tree with lacy foliage that develops an umbrella shaped canopy. The tree should be pruned to promote a more compact form, and reduce the risk of storm damage. Once established *M. oleifera* exhibits good drought tolerance, but will loose foliage during extended dry periods. Flowering occurs in response to drought, but if grown for consumption of foliage, supplemental water will increase leaf production. The tree will not withstand flooding or wet soil. It is short-lived, about 20 years, but can easily be propagated from large cuttings stuck directly in the ground.

(FF) The **jaboticaba** is best known as a small 12 – 15' shrubby fruit tree, but makes a very attractive addition to the landscape. Somewhat unusual in that masses of white flowers are produced directly on the trunk and main branches (cauliflorous). Plant in full sun using an organically enriched soil. Mulch, as an aid to retaining soil moisture, and provide trace element supplements to overcome nutritional deficiencies.

Culture is similar to that for gardenias, though with more exposure to direct sun.

- (GG) The use of *Ochrosia elliptica* (syn. *O. parviflora*) is being discouraged, as it is regarded as potentially invasive of coastal plant communities. Inland the threat is probably less. At the very least, in view of the poisonous nature of the attractive fruit, exercise caution in the placement of this plant. The common name kopsia is misleading, since there is a closely related plant genus with the same name. Although not widely available, *Kopsia fruticosa* (**shrub vinca**) is an attractive shrubby plant with glossy, thin textured leaves that can be grown as a 15' small tree. The common name "vinca" refers to the flowers resemblance to those of the common Madagascar periwinkle, pale pink with a deeper crimson throat. Plant in full sun in free draining soil, or grow in a large container for use as a small patio tree. Also of limited availability is *K. pruniformis* which develops into a low branching 20' tree with old senescing leaves turning brilliant red. Clusters of white star-shaped flowers are followed by small, poisonous, deep blue, egg shaped fruits.
- (HH) The **fried egg tree** is so named because the 2½" flowers bear a superficial resemblance to fried eggs (a prominent large button of yellow stamens surrounded by spreading, white petals, similar to a single rose such as *Rosa bractea*). The flowers, which have a mild melon like fragrance, appear on and off throughout the year, especially after rainfall during the warmer months of the year. They are followed by 2-3", dark brown, hard-shelled berries. The tree usually forms multiple trunks (it is prone to produce both basal and root suckers, especially on damaged surface roots, which should be removed. If neglected root suckers can form thickets Prune in late winter/early fall when the tree is not actively growing – incorrect pruning or pruning during a growth flush will induce a profusion of water sprouts. As temperatures approach 40°F the tree will loose foliage. In view of the formidable spines situate the tree away from children's play areas or footpaths.
- (II) **Blackbead** is a trouble free native plant that tends to adopt a more upright tree like growth habit where there is light shade. The fruit is a distinctive curled pod, which splits to reveal a red interior and stalked black seeds.
- (JJ) There are two species of *Plumeria* that have contributed to the many cultivars found in cultivation: *Plumeria rubra* and *Plumeria obtusa*. The former typically has large glossy green leaves with a pointed tip and

fragrant funnel-shaped rosy pink flowers, however there is great variation in flower color and fragrance. Most of the *Plumeria* cultivars of horticultural interest are complex hybrids derived from this species. The terms *acuminata*, *acutifolia* and *lutea* are sometimes incorrectly used as specific epithets, rather than as names for botanical forms of *P. rubra*. *Plumeria obtusa*, often referred to as **Singapore white**, has blunt tipped leaves, and no variation in flower color (always white with a yellow center). For many, the principal attribute of Singapore white is the intense lemony fragrance of the flowers. Far fewer cultivars have been developed from this species. The best known, '**Dwarf Singapore Pink**', is a compact plant that is well adapted to container culture. Unlike *P. rubra* and most of its cultivars, Singapore white is evergreen, not losing leaves during winter. Exercise care when installing large container plants, since plumerias have brittle root systems. Successful flowering requires full sun, somewhat dry soil, and the use of low nitrogen fertilizers. There are no official fertilizer recommendations but most growers recommend a high phosphate fertilizer, such as 10-30-10. For all of the above plumerias, scale insects and caterpillars are occasional pests. Rust, a fungal disease, is more of a problem, especially during the wet summer months. The disease disfigures the leaves, which eventually fall, but otherwise is of little consequence. Under South Florida conditions fungicide applications give limited control and are not usually warranted. More recently there has been increasing local interest in *P. pudica*, sometimes offered under the name **bridal bouquet**. This species grows to form a much-branched, 12 -15' small tree. Although the flowers are not as fragrant, they are produced in great profusion for much of the year in large, pure white clusters. The leaves are most conspicuous, being distinctly spatulate (spoon shaped). One important advantage of this species, apart from the constantly showy blooms, is a total resistance to rust. Plumerias are well suited to sheltered beachfront locations.

**(KK)** Flowering of **carib wood** is markedly reduced on enriched soils or where fertilizer nitrogen is routinely used – if the tree is surrounded by turf grass do not apply high nitrogen lawn fertilizer within 10' of the trunk. There is no need to irrigate this tree once it is established, and avoid watering during winter as this too can inhibit flowering. After blooming in early spring a light application of a complete slow release fertilizer can be made.

**(LL)** *Polyalthia longifolia* var. *pendula* is a dwarf selection of the mast tree more suitable for the smaller yard. The above varietal designation is used in the nursery trade, but has no botanical standing. The name

ashoka, sometimes applied to this tree, is more commonly used for *Saraca indica* (see below).

- (MM) **Portlandias** are found as woodland understory plants growing in areas with underlying limestone - e.g., Cockpit Country of Jamaica. They commence blooming within 2 – 3 years the large trumpet shaped flowers, which resemble Easter lilies, being especially fragrant at night. Individual flowers last longer and are more attractive when plants are partially shaded from hot afternoon sun. Low winter temperatures cause the leaves to discolor (reddish brown blotches) and drop. Choose a site sheltered from cold winds. Initial growth is restricted to the top of a thin stem, however as the plant becomes taller it fills out, becoming more shrubby.
- (NN) **Guavas** can be readily maintained as small trees, and pruning will induce new growth, flowering and fruit production. On the alkaline soils of Miami-Dade correct for trace element deficiencies. Fruit should be thinned, to improve size, and bagged as protection from fruit flies. Parasitic soil nematodes can seriously debilitate trees on sandy soils, and scale insects can be occasional pests. Guava is considered potentially invasive, especially of natural hammocks and pinelands. The related *Psidium cattleianum*, **strawberry guava**, is an attractive small tree with stiff glossy leaves and peeling bark. Listed as invasive in certain parts of Florida, and one of Hawaii's most serious pest trees.
- (OO) **Randia aculeata** (**white indigo berry**) is less showy and, unlike *R. formosa* is spiny especially near the branch tips. As a Florida native it adapts more readily to local conditions, but is very slow growing. Normally a shrubby plant of variable appearance, white indigo berry will grow in poor limestone soils and full sun, but is more liable to assume tree like growth in less open situations where there is some light shade (as would occur in open woodland, or the margins of a hammock).
- (PP) **Rothmania** spp. occur as both shrubs and small trees – availability limited to a few local South Florida nurseries. The throat of the white flowers is often flecked red or violet, and fragrance is most pronounced after dark. Situate in a sheltered position and correct for expected trace element deficiencies on calcareous soils. **September bells**, *R. globosa*, has leaves with prominent, colored veins, whilst *R. manganjiae* (**scented bells**) has larger flowers and glossy deep green leaves.
- (QQ) The **wingleaf soapberry** is an excellent small tree, but will have to be pruned to maintain it at 20' – the tree can grow 10-12' higher with a

corresponding increase in canopy width. For a very small yard it would be too large and dense. Leaf drop is usually restricted to early summer, the time of major leaf renewal. Fruit, which is not especially attractive to wildlife, tends to persist on the tree for an extended period. Beware, the seeds are poisonous.

**(RR)** **Ashoka** is a useful, attractive, small tree for areas receiving limited direct sun (it occurs naturally as an understory forest tree in India and SE Asia, often at the edge of streams). Initially slow to establish, it will eventually develop into a 20' tree (much larger in its native habitat) with a compact canopy of pinnate leaves, composed of up to 7 pairs of lance shaped leaflets. New foliage is soft, limp and pale green to light pink, becoming stiffer and a deeper green as it matures. Flowering occurs on old wood after extended dry periods (spring locally), and commences when trees are still comparatively young (4-5 years), and is followed by purple leathery seedpods. A dwarf selection, offered locally as *S. indica* var. *bijuga*, has a more compact canopy and produces abundant if smaller inflorescences, and is suited to container use. *Saraca thaipingensis* (**yellow saraca**) has yellow, fragrant flowers that darken to red and is about the same height, but with a wider spreading crown than *S. indica*. *Brownea macrophylla* (**flame of Panama**, also in the Fabaceae) from northern S. America is slow growing (locally) to about 15' and has similar traits: leaves that are initially pale and limp and globose, cauliflorous inflorescences made up of many orangey red tubular flowers. For all of the trees in this section expect to correct for trace element deficiencies when grown on Miami limestone.

**(SS)** **Schotias** must have absolutely perfect drainage (where in doubt consider building up a large berme) and once established should never need to be watered. Do not water during winter and withhold fertilizer to encourage flowering, which is usually more impressive in areas with a more arid climate than South Florida. Apart from springtime flowers, the trees provide useful shade. *Schotia brachypetala* is showier than *S. afra* (fragrant, intensely red flower panicles), but grows to a height of at least 25 – 30'. This latter fact, together with the tree's more wide spread crown, renders it outside the size limits set for this publication. In addition, surface roots can cause damage if planted too close to patios and sewer lines.

**(TT)** **Sennas** have a tendency to become shrubby, unless pruned to maintain a tree-like form. With *S. polyphylla* for instance, new stems readily grow from the root crown and need to be removed to allow a single trunk to develop. All sennas have showy, yellow (very occasionally white) flower spikes, with flowering either year round or more often

concentrated in late summer – fall. The leaves are compound (made up of a number smaller leaflets), and can be attractively light and feathery (*S. polyphylla*) or provide a denser canopy with leaves composed of fewer but larger (bright green) leaflets (*S. surattensis*). In the latter case the tree often becomes top heavy and is prone to wind throw. Many other sennas can be grown as small trees: *S. multijuga*, **false sicklepod**, is a drought tolerant, fast growing, shrubby tree with a spreading crown and 12” panicles of yellow fall flowers, and *S. splendida*, **‘Golden Wonder’** a shrubby small tree that can be maintained at 15 – 18’, with a spreading canopy and a profusion of golden yellow fall flowers. Two other species commonly found in cultivation, *S. didymobotrya* (popcorn senna) and *S. alata* (candlebush) have upright spikes of yellow flowers, but are usually grown as shrubs.

- (UU) **Spondias spp.** are a group of fruit trees grown for their plum-like fruit, of which *S. purpurea* (**red or purple mombin**) is the most frequently grown in South Florida. Tree size can be controlled at less than 20’ by pruning, which should be done immediately after harvest (summer to early fall). Do not remove more than the previous year’s growth to avoid interfering with fruit production. Since the tree has brittle wood, avoid planting in exposed sites – correct pruning will also lessen the risk of storm damage. The tree can be propagated from large cuttings planted directly in the ground.
- (VV) **Lecheso** is evergreen but will loose leaves when temperatures fall in winter. Flowering occurs on and off during the warmer months of the year. Lecheso develops by repeated forked branching making it easy to shape. It is closely related to the more familiar Florida gardenia (**crepe jasmine**), *Tabernaemontana divaricata*, which has similar flowers but develops into a large shrub with a much denser canopy – the cultivars **‘Flore Pleno’** and **‘Grandifolia’** have double flowers, with the latter also having larger leaves. Older specimens of *T. divaricata* can develop attractive, twisted, tree-like trunks, especially the cv. **‘Grandifolia’**. Both *Stemmadenia* spp. and *Tabernaemontana* spp. benefit from enriched moist soil and some partial afternoon shade, though *Stemmadenia* is the more drought and salt tolerant of the two. Bark scales can be serious pests of crepe jasmine.
- (WW) The **fire wheel tree** can grow to more than 40’, but the slow growth rate permits it to be readily maintained at much less than this, especially in a container. Since the tree does not adapt well to alkaline soils, this is a good option in Miami-Dade irrespective of space considerations. In addition to being amenable to container growth, the fire wheel tree has an erect growth habit, attractive compact canopy, and creates little leaf

litter making it ideal as a patio or poolside flowering tree. Where available, grafted cultivars usually require less pruning, and flower within 2 – 3 years as opposed to at least 7 – 10 years for seed grown trees.

- (XX) **Miracle fruit** is grown as a novelty item – chewing a single fruit blocks taste bud receptors that function to detect sourness in food, making lemons and limes for instance appear pleasantly sweet. Since *S. dulcificum* will not tolerate alkaline soils, such as those found in Miami-Dade, it is best to grow it in a large container using a soil mix prepared from Canadian peat, composted pine bark and Perlite. The growing medium should be kept moist, using rain or bottled water (local well/tap water is too alkaline). Provide applications of an acid forming, slow release fertilizer (Osmocote or Nutricote) every 4-6 months, or a liquid fertilizer such as Miracid every 6 – 8 weeks.
- (YY) **Brush cherry** is usually grown as a close cut shrub, and is especially popular as a topiary subject, particularly the numerous dwarf, slow growing cultivars. However it can be allowed to grow as a small tree, often developing multiple trunks. With less frequent pruning, the showy flowers and decorative fruit will now add to its ornamental value. The fruit, although edible, is of variable quality, but attracts birds. New growth is an attractive pinkish red. Brush cherry is very amenable to container culture, and is ideal for a sunny patio. Mites and die-back can sometimes be a problem, as well as root rots if over watered.
- (ZZ) The **tabebuias** are one of the most important group of flowering trees for tropical/sub-tropical landscapes, with many other cultivated species in addition to those mentioned in this publication. All are drought tolerant, especially the yellow flowering specimens listed above. For these latter trees, flowering in spring is improved if the soil is kept dry during the winter months. The **yellow tabebuias** have gained a reputation for being weak rooted, and easily toppled in storms. You can lessen the likelihood of this happening by not installing root bound trees, and avoiding sites that are liable to flood. Tabebuias are generally free of serious pests or disease. A thrips recently introduced to the area can disfigure new leaves causing severe curling and puckering, more especially the **pink tabebuias**. Feeding injury from plant hoppers leads to yellow stippled leaves. The most serious disease problems are stem and root rots, generally due to injury and/or soil that is too wet. The yellow tabebuias are prone to storm damage, and broken limbs should be pruned back to the next appropriate branch to lessen the risk of disease and associated canopy die-back. *Tabebuia*

*heterophylla* tends to be weedy, producing many seedling volunteers in the surrounding landscape. Flower quality of this species is also highly variable with some specimens producing rather pallid limp flowers. For a more reliable richer color *T. impetiginosa* is a better choice, though flowering is limited to a single explosion of color in winter to early spring.

(AAA) *Tecoma stans*, yellow elder is far more commonly seen locally, both in local landscapes and as a seedling volunteer. It is more straggly, not as erect, adopting a more sprawling habit than *T. castanifolia*, and where pruned as a small tree often looks rather untidy. The foliage of *T. castanifolia* is also more attractive, flowering is more frequent (late fall into spring) and the tree is far less liable to be weedy than *T. stans*.

(BBB) *Uncarina grandidieri* is a succulent small tree related to the sesame plant, occurring naturally on limestone outcrops in Madagascar. It is grown for the pachycaulous (swollen) trunk and branches, and striking yellow flowers. A free draining, gritty soil is essential, with plenty of summer moisture – consider building up a berme, then as backfill a mixture of coarse builder's sand, gravel (with some local crushed limestone) plus no more than 10 –15% organic material. Use inorganic mulch such as ¼ to ½" granite or Chattahoochee rock. Provide a slow release fertilizer when in active growth, but during winter when the plant is semi-dormant withhold both water and fertilizer. *Uncarina decaryi* is similar to *U. grandidieri*, but with smaller flowers and lobed leaves. *Uncarina pelata* has orangey yellow flowers with a red throat.

(CCC) *Wrightia religiosa* can be closely pruned and is often used as a topiary subject in S.E. Asia – frequent pruning will reduce flowering. The soil must not be allowed to dry out (mulching is beneficial), however reduce watering during coolest winter months when limited growth can be expected. At that time, although nominally evergreen, expect much of the foliage to be lost. With increasing temperatures in spring the tree will recover and leaf out, especially if watered so as to maintain soil moisture, until the advent of the summer rainy season. Flowers mainly in early spring, then sporadically there after until the return of cooler, drier weather. Correct trace element deficiencies when grown on Miami limestone.

(DDD) Golden penda will eventually develop a wide spreading crown. However after flowering, which occurs mainly during the rainy months of the year, canopy size can be controlled by pruning. Flowers are a

bright lemon yellow with prominent long stamens, and occur in terminal clusters.

(EEE) *Shiny xylosma* is used as a hedge plant in the deep South (it takes pruning well), but in more tropical climates it grows as a small tree. Essential to provide perfect drainage, and on alkaline soils (i.e. Miami-Dade), where it may become chlorotic, correct using chelated iron as a soil drench. Mites and scale insects are potential pests.

(FFF) *Zanthoxylum coriaceum* is a rare native of coastal S. E. Florida (at the limit of its' northern range), and is found more frequently to the south in countries bordering and within the Caribbean basin. The tree is a smaller, less spreading relative of the locally more common, native wild lime *Zanthoxylum fagara*, and can substitute for the latter in butterfly gardens.

## Additional Resources

Photographs of the plants listed should be available on one or more of the following web sites:

<http://asgap.org.au> The magic of Australian native plants.

<http://www.africantrees.com/all.asp> Private site featuring trees from the southern half of Africa.

<http://www.plantzafrica.com/> Extensive list of fact sheets and photographs, devoted to plants native to southern Africa, from the National Botanical Institute of South Africa.

<http://www.csdl.tamu.edu/FLORA?gallery.htm> The Vascular Plant Image Gallery, from Texas A&M University.

<http://www.botany.hawaii.edu/faculty/carr/160webindex.htm> Photographic gallery of tropical and sub-tropical plants on the Manoa Campus of the University of Hawaii.

<http://hort.ifas.ufl.edu/woody/index.html> Information on installing and maintenance of trees plus than 1000 fact sheets on landscaping trees and shrubs used in Florida. Choose 'Tree Selection' for access to some relevant photographs,

<http://www.virtualherbarium.org/> Photographic galleries of both native and exotic plants grown in South Florida.

<http://www.regionalconservation.org/beta/nfyn/default.asp> Natives for your neighborhood: photos and information from the Institute of Regional Conservation on Florida native plants.

[http://bio.fiu.edu/trees/scientific\\_name.html](http://bio.fiu.edu/trees/scientific_name.html) Trees of Miami – photos of trees found growing in Miami-Dade landscapes.

<http://ntbg.org/plants/photogallery.php> Photographs from the National Tropical Botanical Garden.

The following books have additional information and photographs of many of the small trees listed above:

Barwick, M. 2004 *Tropical and Subtropical Trees: An Encyclopedia*. Timber Press, Portland, OR. 484p.

Chin, W. Y. 2003. *Tropical Trees and Shrubs: A selection for urban plantings*. Sun Tree Publishing Ltd., Singapore. 391p.

Ellison, D. P. 1995. *Cultivated Plants of the World; Trees, Shrubs, Climbers*. Flora Publications International Pty. Ltd., Brisbane, Australia. 598p.

Etherington, K. and D. Imwold, eds., 2002. *Trees and shrubs: Illustrated A-Z of over 8500 plants*. Barnes and Noble Books, New York, N.Y. 928p. (Originally published in Australia by Global Book Publishing).

Huxley, A., M. Griffiths and M. Levy, eds. 1999. *The New Royal Horticultural Society Dictionary of Gardening, Vols. 1-4*. Groves Dictionaries, Inc., New York, N.Y.

Llamas, A.K. 2003. *Tropical Flowering Plants: A guide to identification and cultivation*. Timber Press, Portland, OR. 423p.

Nelson, G. 2003 *Florida's Best Native Landscape Plants: 200 Readily Available Plants for Homeowners and Professionals*. University of Florida Press, Gainesville. 432p.

Page, S. and M. Olds, eds. 1999. *Botanica: the illustrated A-Z of over 10, 000 garden plants*. Welcome Rain Publisher Llc., New York, N.Y.

Rohwer, J. G. 2002 *Tropical Plants of the World*. Sterling Publishing Company, New York, N.Y. 287p.

Whistler, W. A. 2000 *Tropical Ornamentals: a Guide*. Timber Press, OR. p542

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(See Below for Table 2)

**Table 2 Small Trees Listed According to their Common Name**

If you know the common name of a plant that is of interest search the list below then use the correct scientific name to refer to Table 1. For those trees that are only referred to in the footnotes go to the indicated note as shown in parentheses ( ).

Acerola	<i>Malpighia glabra</i>
Allspice	<i>Pimenta dioica</i>
Anatto	<i>Bixa orellana</i>
Angels Trumpet	<i>Brugmansia</i> spp.
Anon	<i>Annona squamosa</i>
Ashoka	<i>Saraca indica</i>
Australian Brush Cherry	<i>Syzygium paniculatum</i>
Babosa branca	<i>Cordia superba</i> (O)
Bahamas Firebush	<i>Hamelia cuprae</i>
Barbados Cherry	<i>Malpighia glabra</i>
Barbados Flower Fence	<i>Caesalpinia</i> spp.
Barbasco	<i>Jacquinia arborea</i> (Y)
Bell Flower	<i>Portlandia grandiflora</i>
Biscayne Prickly Ash	<i>Zanthoxylum coriaceum</i>
Blackbead	<i>Pithecellobium keyense</i>
Blackberry Jam Fruit	<i>Randia formosa</i>
Black Ironwood	<i>Krugiodendron ferreum</i>
Bottlebrush	<i>Callistemon</i> spp.
Bracelet Wood	<i>Jacquinia arborea</i> (Y)
Brasiletto	<i>Caesalpinia vesicaria</i> (H)
Brazillian Oak	<i>Posoqueria latifolia</i>
Bridal Boquet	<i>Plumeria pudica</i> (JJ)
Campechy	<i>Haematoxylum campechianum</i>
Carib Wood	<i>Poitea carinalis</i>
Ceylon Fagrea	<i>Fagrea ceilanica</i>
Champaca	<i>Michelia champaca</i>
Chaya	<i>Cnidocolus chayamansa</i>
Cherry of the Rio Grande	<i>Eugenia aggregata</i>
Chestnut Leaf Trumpet Bush	<i>Tecoma castanifolia</i> (YY)
Cinecord	<i>Acacia</i> spp.
Cinnamon Bark	<i>Canella winterana</i>
Coastal Red Milkwood	<i>Mimusops caffra</i>
Crabwood	<i>Gymnanthes lucida</i>
Crepe Jasmine	<i>Tabernaemontana divaricata</i> (TT)
Crepe Myrtle	<i>Lagerstroemia indica</i>
Desert Cassia	<i>Senna polyphylla</i>
Divi-divi	<i>Caesalpinia coriara</i> (H)
Dwarf Golden Shower	<i>Cassia afrofistula</i> (L)
Dwarf Pink Shower	<i>Cassia bakeriana</i> (L)

Dwarf Poinciana	<i>Caesalpinia</i> spp.
Fairchild's Clerodendrum	<i>Clerodendrum minahassae</i>
False Sicklepod	<i>Senna multijuga</i> (RR)
Fernleaf Tree	<i>Filicium decipiens</i>
Fiddlewood	<i>Citharexylum fruticosum</i>
Firebush	<i>Hamelia patens</i> (W)
Firewheel Tree	<i>Stenocarpus sinuatus</i>
Fish Poison Tree	<i>Barringtonia</i> spp.
Flame-of-Panama	<i>Brownea macrophylla</i> (RR)
Flor de Mayo	<i>Plumeria</i> spp.
Florida Lilac	<i>Lonchocarpus</i> spp.
Fountain Tree	<i>Barringtonia</i> spp.
Frangipani	<i>Plumeria</i> spp.
Fried Egg Tree	<i>Oncoba spinosa</i>
Glaucous Cassia	<i>Senna surattensis</i>
Glorias Floridas de Cuba	<i>Portlandia grandiflora</i>
Golden Penda	<i>Xanthosoma chrysanthus</i>
Golden Trumpet Tree	<i>Tabebuia chrysotricha</i>
Grumichama	<i>Eugenia brasiliensis</i>
Guanabana	<i>Annona muricata</i>
Guava	<i>Psidium guajava</i>
Hediondila	<i>Senna polyphylla</i>
Henna	<i>Lawsonia inermis</i>
Horseradish Tree	<i>Moringa oleifera</i>
Hottentot's Bean	<i>Schottia afra</i>
Ipe	<i>Tabebuia impetiginosa</i>
Indian Mulberry	<i>Morinda citrifolia</i>
Jaboticaba	<i>Myrciaria cauliflora</i>
Jamaican Caper	<i>Capparis cynophallophora</i>
Jamaican Poinsettia	<i>Euphorbia punicea</i>
Jamaican Raintree	<i>Brya ebenus</i>
Jasmin del Monte	<i>Brunfelsia lactea</i>
Joewood	<i>Jacquinia keyensis</i>
Kopsia	<i>Ochrosia elliptica</i>
Lancepod	<i>Lonchocarpus violaceus</i> (AA)
Lancewood	<i>Ocotea coriacea</i>
Lecheso	<i>Stemmadenia littoralis</i>
Lignum Vitae	<i>Guaiacum sanctum</i>
Little White Christmas Tree	<i>Euphorbia leucocephala</i>
Locustberry	<i>Byrsonima lucida</i>
Logwood	<i>Haematoxylum campechianum</i>
Loquat	<i>Eriobotrya japonica</i>
Madagascar Olive	<i>Norhonia emarginata</i>
Mango	<i>Mangifera indica</i>
Maroon Jacaranda	<i>Jacaranda jasminoides</i>
Mast Tree	<i>Polyalthia longifolia</i>
Membrillo	<i>Gustavia superba</i>
Migonette	<i>Lawsonia inermis</i>
Miracle Fruit	<i>Synsespalum dulcificum</i>
Nance	<i>Byrsonima crassiflora</i> (G)
Napoleon's Hat	<i>Napoleana impereal</i>
Needle Flower Tree	<i>Posqueria latifolia</i>
Noni	<i>Morinda citrifolia</i>

Orchid Trees	<i>Bauhinia</i> spp.
Palo Garinga	<i>Moringa oleifera</i>
Palo de Orquideas	<i>Bauhinia monandra</i> (D)
Pascuita	<i>Euphorbia leucocephala</i>
Pata de Chivo	<i>Bauhinia divaricata</i> (D)
Peregrina	<i>Jatropha integerrima</i>
Pineland Acacia	<i>Acacia</i> spp.(A)
Pink Butterfly Tree	<i>Bauhinia monandra</i> (D)
Pink Trumpet Tree	<i>Tabebuia heterophylla</i>
Pitomba	<i>Eugenia luschnanthiana</i>
Pompom Tree	<i>Dais cotinifolia</i>
Purple (red) Mombin	<i>Spondias purpurea</i>
Purple Tabebuia	<i>Tabebuia impetiginosa</i>
Queen's Crepe Myrtle	<i>Lagerstroemia speciosa</i> (Z)
Redberry Stopper	<i>Eugenia confusa</i>
St. Thomas Tree	<i>Bauhinia tomentosa</i> (D)
Scented Bells	<i>Rothmania manganjae</i> (NN)
Scrambled Egg Tree	<i>Senna surattensis</i>
September Bells	<i>Rothmania globosa</i> (NN)
Seven Year Apple	<i>Casasia clusifolia</i> (BB)
Shiny Xylosma	<i>Xylosma congestum</i>
Shrub Vinca	<i>Kopsia fruticosa</i> (EE)
Silver Trumpet Tree	<i>Tabebuia aurea</i>
Simpson Stopper	<i>Myricanthes fragrans</i>
Sorrowless Tree	<i>Saraca indica</i>
Soursop	<i>Annona muricata</i>
Spanish Stopper	<i>Eugenia foetida</i>
Spiny Oncoba	<i>Oncoba spinosa</i>
Starburst	<i>Clerodendrum quadriloculare</i> (M)
Stoppers	<i>Eugenia</i> spp.
Sugar Apple	<i>Annona squamosa</i>
Swamp dogwood	<i>Lonchocarpus heptaphyllus</i> (AA)
Sweet Acacia	<i>Acacia</i> spp. (A)
Torchwood	<i>Jacquinia arborea</i> (Y)
Tree-of-Sorrow	<i>Nyctanthes arbor-tristis</i>
Tree Spinach	<i>Cnidocolus chayamansa</i>
Tree Wisteria	<i>Bolusanthus speciosus</i>
Tube Tree	<i>Clerodendrum minahassae</i>
Velvet Apple	<i>Diospyros blancoi</i>
Wampi	<i>Clausena lansium</i> (K)
Water Jasmine	<i>Wrightia religiosa</i>
White Indigo Berry	<i>Randia aculeata</i> (MM)
White Sapote	<i>Casimiroa edulis</i>
White Santan	<i>Ixora finlaysonia</i>
Wingleaf Soapberry	<i>Sapindus saponaria</i>
Yellow Elder	<i>Tecoma stans</i>
Yellow Geiger Tree	<i>Cordia lutea</i>
Ylang-ylang	<i>Cananga odorata</i> cv. 'Fruticosa'