

A WORD OR TWO ABOUT GARDENING

Flowering Vines: Meet some clambering shrubs that appreciate our support.

I suspect my early experience with vines in the South Florida landscape is not unique: unplanned, interlopers that stubbornly refused to realize they were and continue to be unwanted. In my own case an ongoing 25 year battle with gold coast jasmine *Jasminum dichotomum*, then later courtesy of Hurricane Andrew bitter melon, *Momordica charantia*. These are but two examples (there are many others including the infamous air potato and cat's claw vine) of vines becoming among the most intractable of invasive plant problems. For now though enough of the negatives; after all the purpose of this article is to draw attention to how much vines can add to the ornamental appeal of local landscapes. With 90% of the all vines being found in the tropics, it is no surprise that for residents of south Florida there is no shortage of species from which to choose.

First however some general **background information on vines** is in order. They vary from huge woody vines (lianes) of tropical forests (e.g., *Mucuna bennettii*, New Guinea creeper or *Anemopaegma amberlaynii*, yellow trumpet vine) to small succulent climbers of desert scrub (e.g., twining species of *Ceropegia* and *Fockea*). Climbers are found in groups of plants with which they are not immediately associated: for instance cacti (several genera including *Pereskia*, stems attaching by curved spines and *Hylocereus* with heavy clambering stems that attach by aerial roots) and palms (*Calamus*, rattan palms, aggressive climbers with fronds armed with a whip-like cirrus bearing fearsome spines). Vines assume several different growth habits, but all possess stems which, to varying degrees, lack sufficient rigidity to grow vertically without some external support. In most instances support is in the form of neighboring trees and shrubs, enabling them to gain access to light, moisture and more effective dissemination of pollen and seeds.

There are vines that grow horizontally over open ground, rooting at the nodes, such the native railroad vine (*Ipomoea pes-caprae*) important for stabilizing coastal sand dunes. Others grow horizontally over open ground but climb once contact is made with a suitable support- e.g., **creeping fig (*Ficus pumila*)** and various climbing aroids (e.g., ***Epipremnum aureum*, devil's ivy**). In both instances these become aggressive climbers that attach using adhesive aerial rootlets. Once they adopt a climbing habit, they eventually develop larger leaves with longer stouter petioles. This can result in creeping fig becoming top heavy pulling away parts of the wall to which it is attached, of particular concern in a wind storm. In tropical forests this change in leaf size and morphology enables the foliage to grow well out from the supporting tree and helps maximize the amount of light absorbed. Rather than a house, creeping fig is best used on a perimeter wall with frequent pruning to remove large leaves – this will stimulate production of smaller juvenile leaves. The cultivar 'Minima' only produces small "juvenile" leaves and can make an attractive covering for a perimeter wall where there is some shade. Vines used as groundcover often

flower poorly, but once they climb up a vertical surface (e.g., *Trachelospermum asiaticum*, little leaf jasmine) they flower freely.

As already pointed out above a common feature of all vines are stems that utilize some external supporting structure (usually another plant). This is the case with many sprawling shrubs that in the wild grow into neighboring plants. For an informal effect those that are not aggressive can be allowed to grow in this manner in the garden. Otherwise they should be tied to a support or allowed to sprawl over a low wall or pergola. Such plants are often described as being **scandent**, a habit exemplified by many roses (e.g., Noisettes and many Bourbons), the Chinese hat plant *Holmskjoldia sanguinea*, woolly congea (*Congea tomentosa*), pride of the Cape, *Bauhinia galpini* and some bougainvilleas. Some of these scrambling plants possess thorns or prickles which, apart from any protective role, help hook stems in place. Within this group of scandent shrubs are some which, if appropriately pruned (pinching back new growth), can be grown as free standing specimens – some bougainvilleas and allamandas for instance. From climbers that at best become loosely attached, we move to those that actively secure themselves to a support – we have already seen examples of this with the aerial rootlets of creeping fig and climbing aroids.

The strongest attachment is effected by **vines with stems that coil** around those of the plant used as a support. This is the most widely found means of attachment and is especially important in securing large tropical woody vines. Examples of vines with twining stems suitable for local landscapes range from those of small to medium size (e.g., ***Stephanotis floribunda* bridal wreath, *Stigmaphyllon ciliatum* Brazilian golden vine** as well as some species of jasmine) to those that are large and fast growing (e.g., ***Thunbergia grandiflora*, sky vine and *Tecomanthe dendrophilia*, New Guinea trumpet vine**). Not as common are vines that attach by means of **twining leaf stems** (petioles) which are functionally similar to tendrils (see below). Two familiar examples (though not in south Florida) being ***Clematis*** and **nasturtiums**, less common ***Rhodochiton atrosanguineum* (purple bells**, perennial - try as a cool season annual in south Florida).

The most specialized adaptation found in climbing plants is their use of **tendrils** as a means of attaching to a support. Most tendrils are modified leaves, leaflets or parts of a leaf where the blade is absent and the axis that remains becomes greatly elongated. Tendrils also arise as **modified axillary shoots** (from leaf axils as in passion vines) or as what are termed “**stem**” **tendrils** which form opposite a leaf, not in the leaf axil (such as *Cissus* vines). Some examples of leaf tendrils include the following: **leaf tip tendrils** (termed cirrose, a coiled extension of the leaf midrib) seen in *Gloriosa* (glory lily) and the related but less familiar littonias; **leaflet tendrils** formed from the terminal leaflet of compound leaflets as in *Cobaea scandens* (cup and saucer vine, tendrils branched with hooked tips) and *Pyrostegia venusta* (flame vine, tendril tips split into three, also climbs using twining stems). Coiling tendrils are sensitive to touch (**thigmotropic**), contact with a support stimulating the tendril to coil. Contact need only be minimal to stimulate coiling which comprises a rapid, but reversible response, followed by a slower response that makes the coils permanent. **Virginia creeper *Parthenocissus tricuspidata*** produces branching

tendrils the tips of which possess adhesive discs. This vine therefore is very adept at climbing flat vertical surfaces such as walls without the need for a trellis. Apart from being rather weedy, the adhering tendrils of Virginia creeper leave a dirty sticky residue on painted surfaces (such as stucco) on removal of stems.

There is a vine to meet most local landscape needs from a large estate in Coral Gables to a condo in Kendall. **A first important step before choosing a vine** is to be sufficiently informed to be able to make an appropriate choice as to which best suits the site(s) available in your landscape. Choosing a rampant vine such as sky vine (*Thunbergia grandiflora*) or Rangoon creeper (*Quisqualis indica*) could prove a serious mistake for a condo owner, but be quite appropriate where there is space for a large sturdy pergola.

The second important step is to consider how best to support the climber you have chosen. You may already have a suitable tree or a chain link fence you wish to disguise, otherwise you will require some type of purpose built system. Supports can be free standing or wall mounted and range from simple ladder trellises to ornate pergolas and gazebos. The simplest of free standing supports include pillars, obelisks, pyramids, arches and trellis panels. These can be constructed from rot-resistant wood, plastic or wrought iron - avoid powder coated tubular metal as it is prone to corrode, especially in Miami-Dade's humid climate. More sturdy and of more elaborate construction, pergolas have open sides and are usually erected over a walk way to support large heavy vines. They are especially effective for climbers having long pendent inflorescences such as jade vine (*Strongylodon macrobotrys*) and *Thunbergia mysorensis*. Less often seen free standing structures include garden bowers, a vine clad framework with a single opening, an ancient form of garden retreat. Arbors are similar in concept but developed later, having a less rustic appearance, they were often constructed as wall recesses with the opening adorned with a vine clad trellis. Simpler and more frequently seen are arbors featuring a garden seat with a trellis canopy and sides that can be garlanded with a vine. If you have room for a gazebo these too can incorporate trellis work or pillars to support two or three small vines.

Rather than using free-standing supports, trellises can be wall-mounted either to a house or perimeter wall. Trellises are available in various shapes, sizes and styles, from simple ladder forms to those with ornate fret work, the ultimate deciding factor being the nature of the vine to be grown. Wall mounted trellis work should be installed with a gap of several inches from the wall to permit access to the vine and adequate air circulation. A thorough discussion of supports and their installation is beyond the scope of this article. The reader is advised to check local building codes before installing any garden structure and to consult with of a landscape architect if contemplating an elaborate installation.

Most vines will need to be tied, at least initially, to a trellis – those with twining stems or tendrils will eventually form their own attachment. **When installing a vine** it should be placed slanting at a 45° angle toward and about 18" from the foot of the trellis. Carefully tie in new growth using garden twine, twist ties or preferably stretchable plastic garden tape. Tie in stems fairly loosely, and never flush against the trellis. For heavier woody climbers old nylon hosiery can be used or better still

adjustable plastic plant ties. For vines that attach by means of coiling tendrils the trellis should have a frame work that permits tendrils to gain adequate attachment, e.g., heavy duty coated wire. Coiling tendrils will fail to attach to a trellis made of wooden slats.

The remainder of the present article will concentrate on climbers that in the wild sprawl and ramble, using neighboring shrubs and trees for support. In two subsequent columns vines that actively attach themselves to a support will be discussed, followed by a consideration of climbers for use where space is at a premium. Scandent climbers that are not overly aggressive can be quite effective if allowed to ramble into a nearby suitable tree or open shrub. Otherwise a chain link fence is often suitable, a trellis or for especially vigorous/heavy climbers, a pergola.

In local landscapes, the **red musseanda** (*Mussaenda erythrophylla* and **white M. philipica**, and more especially crosses involving the two) are increasingly popular as free standing shrubs. They are grown for the very showy flowers comprising a small tubular corolla surrounded by a calyx with one or more sepals (calycophylls) showy and greatly enlarged. Although usually pruned to about 5', in its native West Africa *M. erythrophylla* is found as a scandent shrub where it can climb up to 30' into adjacent trees. If you have an open nearby tree or large shrub this is a viable option, especially for large cultivars such as '**Queen Sirkit**' and '**Dona Luz**' where the branches, weighed down with flowers, can be supported to form a truly show stopping 12 – 15 wall of color. Mussaendas should be grown in full sun, though some light afternoon shade improves flower quality. In reduced light stems will elongate, making their support more necessary, as they grow toward more sunlight. Soil should be organically enriched and moist – mulching is recommended as mussaendas have limited drought tolerance. Apply a complete slow release fertilizer in spring and in late summering correcting trace element (iron and manganese) deficiencies as they appear. Loss of flowers and leaves can be expected with the first outbreak of cold weather (below 40°F). In late winter prune out dead/weak stems – mussaendas respond well to pruning.

There other scandent shrubs with sufficiently restrained growth that they can be allowed to ramble through an adjacent shrub or small tree. The **Chinese hat plant**, *Holmskjoldia sanguinea* is a good choice, the flowers with their unusual disc shaped calyx and tubular corolla, both yellow to orange and bright red ('Mandarin Red'). *Rotheca myricoides* (**blue butterfly clerodendrum**) is the currently accepted name (see GRIN) for what was formerly *Clerodendrum ugandense*, a sprawling shrub to 10' increasingly appreciated for its dancing blue flowers. Usually pruned as a free standing specimen, it can be allowed to sprawl along a fence or is also suited to scrambling into a nearby open shrub.

Allamandas are sprawling shrubs rightly popular for their large showy flowers and attractive foliage. Growing 10 – 15', *Allamanda* '**Cherries Jubilee**' is a good choice for the average sized Miami-Dade yard. The leaves are mid-green, somewhat scaly, opposite, grouped in fours along each stem. The 4" bell shaped flowers occur in terminal cymes, the corolla lobes a pale pinkish purple with darker flushes, the throat deep red. Grow in full sun, preferably with some light afternoon shade, in a moist but free draining enriched soil, mulched to help preserve soil moisture. Do

not allow soil to dry out, though in winter as growth is less evident watering can be reduced. Allamandas are prone to develop manganese deficiency symptoms when grown on Miami limestone which will necessitate 3-4 applications of a trace element nutritional spray during periods of most active growth.

The **yellow allamanda *A. carthartica*** is seen more frequently in local landscapes, and is appreciated for its bright yellow bell-shaped flowers and whorls of bright green glossy leaves. Yellow allamanda is more vigorous than 'Cherries Jubilee', growing to 25', so requires more space. The related **shrub allamanda *A. schottii*** is less scandent, more compact (easier to grow as a free standing shrub). The flowers are similar, if squatter and more open than yellow allamanda with the throat orangeier. All parts of an allamanda are regarded as being mildly toxic.

One scandent shrub, now infrequently seen in local landscapes, but due a revival is **pride of the cape *Bauhinia galpini***, a South African native admired for the brilliant summer show of orange to brick red orchid-like flowers. It should be grown in full sun for best flowering either tied in to a pergola or sprawling along a chain link fence. In either case allow plenty of room as it can grow to 15 – 25' and resents hard pruning. Like most other cultivated bauhinias it has bilobed "cloven hoof" leaves and on local soils is susceptible to deficiencies of potassium (leaf margins yellow and necrotic) and iron/manganese (interveinal chlorosis). Apply a slow release complete low nitrogen fertilizer in spring and late summer, as well as appropriate mineral supplements. Apart from its ornamental attributes, pride of the cape also exhibits good tolerance to drought once established, and in the landscape produces few, predominantly sterile seeds (i.e., unlike some other bauhinias, it is not weedy). There are other climbing bauhinias, most of which attach by means of tendrils and these will be discussed in a subsequent article.

Although *B. galpini* is usually described as a scandent climber, friction between a stem and its support can induce it to weakly twine. This is also seen with ***Congea tomentosa* (shower orchid, wooly congea)** a scandent shrub from S.E. Asia. The leaf undersides and new stems are covered with short hairs (tomentose). Clusters (cymes) of 5 – 9 small white insignificant flowers are subtended by three white/pink/purple 1" woolly bracts that persist long after flowering ceases. The bracts are the principal ornamental attribute (c.f. *Petrea* with which *Congea* was once classified), and first appear in fall. By midwinter they're at their most showy, the color deepening until they disappear as active growth resumes in spring. A large but not excessively vigorous shrub, it should be allowed to spill over a sturdy pergola.

Another underutilized South African native shrub is ***Grewia occidentalis* star lavender** which grows to about 9' with deep green 1-2" slightly pubescent leaves. The flowers have a star shaped arrangement of purplish lavender petals and a center filled with prominent bright yellow stamens – flowering occurs throughout the year but mostly spring into summer. Branching is such that all the leaves on a given cane are carried in the same making star lavender an excellent subject for espaliering against a wall. Alternatively it can be allowed to sprawl along a chain link fence or ramble into a neighboring shrub. Grow star lavender in full to light shade applying a slow release fertilizer twice a year and prune as necessary. Star

lavender is quite drought tolerant, but responds favorably to supplemental water if provided. Also from South Africa is the familiar **cape honeysuckle *Tecoma capensis***, widely valued for its bright orange tubular flowers. In the wild a fast growing scandent shrub, it is usually pruned in cultivation to form a free standing shrub. Alternatively it can be used as a climber, trained along a fence or attached to a trellis. Grow in full sun in free draining soil, taking care to keep stems off the ground as they readily take root and sprout.

Combretums include a number of fast growing scandent shrubs predominantly of African origin, with a few from the tropical Americas, some of which are cultivated for their colorful and unusual inflorescences. As they climb many use hardened peg like remains of old petioles to aid attachment. Of the African species ***Combretum grandiflorum* (showy combretum)** is best known. Growing to 20-30', it is covered in late fall through winter with small bright red flowers with exerted (extended) stamens, clustered together in a brush-like inflorescence. Provide a sturdy support in full sun to light shade and grow in moist soil. Prune back in spring after flowering ceases. The **flame creeper (*C. microphyllum*)** from Mozambique is similar and although each inflorescence is smaller it still makes a spectacular display summer into fall. It is more drought tolerant than showy combretum, and should be kept dry during winter. A vigorous grower, flame creeper needs to be pruned back hard after flowering to keep it within bounds. A South American species with a more distinctively brush like inflorescence is the **monkey brush vine *C. rotundifolia*** (syn. *C. aubletii*) with red flowers, the long exerted golden yellow to orange stamens forming the brush bristles. Monkey brush should be planted in an organically enriched soil and can be situated in full sun, though the soil must not be allowed to become dry. Flowering from spring through summer, with partial leaf drop in winter, at which time watering can be reduced.

Related to combretums (in the family Combretaceae), ***Quisqualis indica* Rangoon creeper** is a scandent shrub originally from New Guinea that is now widely grown throughout the tropics where it can become a rampant climber. In Cuba it is known as piscuala, and is a favorite ornamental as well as finding use in herbal medicine. Individual flowers are 1 - 1½" across, loosely clustered in a terminal inflorescence, the corolla tube long and thin, and lobes silky, initially white becoming pink to red over a period of 1-2 days. The flowers are sweetly fragrant, intoxicating to some, excessively fruity to others. Persistent petioles which harden become thorny and hook like help secure stems to their support. This is a large fast growing vine that is best grown on a well-built pergola, rapidly becoming out of control if allowed to grow into a tree. Use fertilizer low in nitrogen to ensure flowering and reduce rampant vegetative growth. Prune back hard in late winter, removing crowded growth and cutting back old flowering stems.

A scandent shrub with a more appealing light rose like fragrance is ***Strophanthus gratus* climbing oleander**, climbing to 25', the flowers in small but dense clusters, salverform, white with red to purple tints, becoming yellow. Grow in moist soil with light shade allowing the soil to dry out more in winter at which time the vine is semi deciduous. ***Strophanthus preussi*** also has fragrant flowers but is of more interest for the unusual flowers with corolla lobes that are truncated, the tips drawn out into

foot long streamer like tails. Caution: *Strophanthus* sp. are highly poisonous, containing the cardiac glycoside strophanthin (ouabain) used in heart medications.

***Gmelina philippensis*, wild sage** is a scandent shrub that also uses spines, (these though arising from leaf axils) to help keep the long drooping stems attached to a support. Flowers appear during the warmer months of the year and are found in an unusual pendent inflorescence. This comprises overlapping (imbricate) scale-like green to light tan bracts flushed red to purple, which open to reveal bright yellow more or less bell shaped flowers. This climber can be grown on a trellis or espaliered against a wall. Grow in full to partial sun with evenly moist soil.

Several vines are grown for their large showy cup-shaped flowers, most familiar being the cup and saucer vine *Cobaea scandens* a tendril climbing vine from the mountains of southern Mexico, and often grown as an annual in temperate climates. For local yards some of the most impressive are the **chalice vines**, especially *Solandra maxima* large heavy climbers with butter yellow to gold fragrant flowers, best grown on an especially strong support. Chalice vines are sometimes pruned and grown as sprawling free standing shrubs.

Only brief mention is made of chalice vines for like bougainvilleas, locally the most widely used of scandent shrubs, their cultivation in Miami-Dade was discussed in a recent article on winter (Holiday) flowering landscape shrubs and trees. The next article will continue our ramble through vines suitable for Miami-Dade with a selection of twiners and climbers.

John McLaughlin

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