A WORD OR TWO ABOUT GARDENING

Beware of intrusive plants – a timely post-hurricane topic

The recent media attention devoted to the proliferation of Burmese pythons in the Everglades has again drawn attention to the threat posed by exotic introduced species. But it is not just introduced animal species that are of concern. For many years there has been a concerted effort to eliminate exotic plants such as Brazilian pepper and *Melaleuca quinquenervia* (paper bark) that threaten to overwhelm South Florida native plant communities. These are two of the most notorious invasive plants, but there are others that are either prohibited or controlled by state and/or county statutes. For Miami-Dade use the following link: http://www.metro-dade.com/derm/Plants/prohibited_plants.asp . Although a threat to natural areas, many listed plants can also become a major headache for homeowners once established in a residential landscape. While *Melaleuca* is no longer encountered as frequently in urban areas, there can be few local gardeners who haven't had to pull out at least one Brazilian pepper growing in their yard.

In a previous article that introduced the topic of weeds, a weed was defined as the wrong plant growing in the wrong place at the wrong time. That article focused on turf grass, but unwanted plants can of course become established in other areas of the yard. This can happen at any time, but especially now in the months following hurricane damage. Running the gamut from herbaceous perennials, to shrubs, trees and vines they may be uninvited arrivals, including many banned/ controlled plants, or errant specimens intentionally planted that subsequently grow out of bounds.

If you regularly scout your landscape, volunteer trees and shrubs can be pulled out seedlings before becoming a problem. That is unless you are one of those who, on finding a tree/shrub suddenly sprouting up in the yard, become curious as to whether it might be a landscape freebie. Barring an ability to positively identify a volunteer tree/shrub, it should be either removed or at least transferred to a container for later positive identification. Occasionally you may be lucky and find a live oak or mahogany volunteering in your yard. It would still be prudent to remove a potentially useful tree to a container. If it appears healthy and develops good structure relocate later to a suitable site in the landscape. More often than not trees that sprout in this manner, especially if they make rapid growth are invariably "trash trees" such as **mother in law's tongue**, *Albizia lebbeck*; **bishopwood**, *Bischofia javanica*, or the **Queensland umbrella tree**, *Schefflera actinophylla*, all prohibited in Miami-Dade.

Of these three trees the *Albizia* can cause most confusion – from a cursory glance seedlings can be mistaken for the native wild tamarind (both have bipinnate leaves) but the latter has much smaller leaflets and stems with a more zigzag growth pattern. The umbrella tree has digitate leaves made up of 7-15 oblong to oval leaflets, and the *Bischofia* milky white sap and trifoliate leaves, each leaf having finely toothed margins. Also occasionally found as seedling volunteers are two weedy and messy **orchid trees**, *Bauhinia purpurea*, (fall orchid tree) and *B. variegata*, (poor man's orchid), both controlled in Miami-Dade. Orchid trees can be

recognized from the bi-lobed leaves which resemble a cloven hoof. Apart from being weedy all of these trees readily break up in storms, plus the weak-rooted *Albizia* easily topples in high winds. The Hong Kong orchid tree (*B*. x *blakeana*) has showier flowers, is not weedy (does not set seed) and therefore not listed as a controlled plant.

The **pongam tree** *Milletia pinnata* (syn. *Pongammia pinnata*) although fast growing is, unlike the above trees, relatively storm resistant. It can develop an attractive, domed canopy and used to be far more commonly seen, especially in public landscaping. The tree is controlled in Miami-Dade – it is invasive due to the profusion of seedling volunteers which soon appear from the rapidly germinating (poisonous) seeds. Of eventual greater concern to homeowners is a steadily expanding system of surface lateral roots. These can extend to more 30' from the trunk and will readily sucker. As a substitute consider the related *Gliricidia sepium* (**madre de cacao or quick stick**). Although having a leggier, rather untidy appearance, the spring time flower display of pale pink flowers lasts longer and is much showier. The wood is hard and durable and the tree recovers well from severe pruning (a plus during hurricane season). Insect access to flowers for pollination is mostly limited to certain large solitary bees. Locally, this severely limits the amount of viable seed produced and therefore the trees invasive potential.

Not as widely planted in Miami-Dade as the above trees, **carrotwood** (*Cupaniopsis anacardiopsis*) also produces very many seedlings. Since the brightly colored fruits attract birds, seeds can be dispersed far from the original tree. The tree found acceptance because it is very adaptable to growing in confined urban settings, is pest free and has colorful decorative fruit and hard wood that resists breakage. It is now recognized as highly invasive and prohibited in Miami-Dade. **Tulipwood** (*Harpullia pendula*) is a closely related non-invasive tree that can substitute locally. It also has colorful ornamental fruit, but is slower growing and has a non-invasive root system.

Although not often encountered locally seeds of **Chinaberry** (*Melia azerderach*) are occasionally brought back from the Gulf States where the tree is quite common. It is grown for the delicate foliage and pinkish white and purple flowers. Apart from being very weedy, it has brittle wood and is too fast growing for subtropical areas such as Miami-Dade, rapidly developing a weak structure. While not officially controlled, the tree has long been regarded as weedy and is therefore rarely offered for sale by nurseries.

Apart from the above trespassers, some of the trees we choose as part of a Miami-Dade landscape invariably volunteer in other parts of the yard. Such is the case with the wind blown seeds of the **pink tabebuia**, *Tabebuia heterophylla* or **yellow elder**, *Tecoma stans.* Although a nuisance they are not as objectionable as the trees discussed above. You could choose to substitute *Tabebuia impetiginosa* (**purple trumpet tree**) and *Tecoma castanifolia* (**chestnut leaved tecoma**), both less liable to produce volunteers. Other landscaping trees that often volunteer in the landscape include fruit trees such as **loquat**, **guava**, **capulin** (*Muntingia calabura*) and **Otaheite gooseberry** (*Phyllanthus acidus*) as well as ornamental trees such as the **golden rain** (*Koelreutaria elegans*) and the less commonly seen **Manila tamarind**

(*Pithecellobium dulce*) and **rattle box tree** (*Sesbania punicea*). There are palms that also produce large numbers of seed which readily germinate in the yard. Look for volunteer **queen**, **Christmas** , **Senegal date** (female plants) and **Washingtonia palms**. Washingtonias are the only palms controlled in Miami-Dade – cannot be planted near beaches or coastal wetlands.

There are several shrubs, herbaceous perennials and groundcovers that become weedy and/or invasive, the best known of which is the **Brazilian pepper**. Although prohibited for many years it is, like the albizia, commonly seen in abandoned lots and surprisingly still found as a landscape item in local yards! It originally found favor as a holly substitute during the holiday season (female plants). One other "attribute", shared with many of the early exotic plant introductions to south Florida was rapid growth. Most native shrubs and trees are slow growing and do not give the instant shade or privacy screen that so many homeowners demand. Unfortunately attitudes are slow to change. Further education is required regarding the benefits of slower growing shrubs and trees, both native and exotic.

Brazilian pepper can rapidly develop into a very large (more than 20') shrub or small tree. Apart from being extremely weedy, the pollen is a common cause of allergies and the leaves, fruit or cut surfaces can cause dermatitis. Seedlings first have simple leaves with distinctly toothed margins however subsequent leaves are compound with 3-13 finely toothed, 1-2" leaflets. Crushed leaves have an unpleasant turpentine smell. If there are too many seedlings to hand pull, use an herbicide containing triclopyr or glyphosate. Brush Killer Plus and Brush-B-Gone contain about 8% triclopyr and Pathfinder II about 14%. To avoid spraying non-target plants apply glyphosate (Roundup) using a wipe on type applicator (e.g., Sideswipe).

To remove a large established Brazilian pepper, choose a time when it is not bearing fruit or in flower and cut back to as near ground level as possible. This will stimulate many new shoots/root suckers, so apply one of the above triclopyr herbicides to the freshly cut (within 5 minutes) stump. Use a paint brush and undiluted herbicide. Control any re-growth or seedling volunteers with additional herbicide. Viability of seed becomes negligible after 5 months. This same approach can be used to eliminating other nuisance trees and large woody shrubs. Where feasible, it is preferable to it grind out a large stump.

Shoe button ardisia (*Ardisia elliptica*) is another large shrub also prohibited in Miami-Dade, though far less common in local yards. Like Brazilian pepper the seed is bird dispersed so it may appear at random some distance from the parent plant. Take care not to mistake it for the desirable native **marlberry** (*A. escallanioides*). The former has new growth tinged red, axillary as opposed to terminal clusters of mauve as opposed to white flowers. There are commonly used landscape shrubs such as **orange jasmine**, **Surinam cherry** and Duranta with fruit attractive to birds that can volunteer throughout the yard. You can prevent seedling volunteers altogether by removing fruit as it sets – where Surinam cherry and orange jasmine are regularly clipped as hedges flowering and therefore fruit formation is reduced.

Other shrubs, herbaceous perennials, and groundcovers that often escape from their allotted space in the landscape include: **yellow alder** (*Turnera ulmifolia*),

ruellia, **snowbush** (*Breynia disticha* – root suckers), **lantana** (use native *Lantana depressa* or sterile cultivars), **wandering zebrina** (*Tradescantia zebrina* - discarded stems readily take root), some **heliconias** (e.g., *H. latispatha* and *H. psittacorum* vigorous rhizome), **barlerias** (numerous seedlings) and many **clerodendrums** (especially glory bower, pagoda plant and Java glory bower – aggressive root suckers) and **running bamboos** (extremely difficult to control – not suitable for a small yard, choose clumping types). All of these plants can be attractive in the landscape – if you choose to use them take care to restrict their spread. Two controlled groundcovers, to be avoided at all costs are **life plant** (*Bryophyllum pinnata*) and **bowstring hemp** (*Sansevieira hyacinthoides*).

Finally, invasive vines an especially difficult group of plants to control once established in a tree or shrub. Those that grow high into a tree may escape notice, being mistaken as part of the tree canopy until closer inspection reveals the difference in foliage. The presence of an aggressively growing vine weakens a tree by limiting light exposure as well as increasing the risk of disease through poor air circulation encouraging a build up of moisture. There is also an increased risk of damage to a tree during a hurricane. The force exerted by the wind on a tree supporting a large vine is amplified as a result of the increase in surface area. To this can be added the strain placed on tree limbs by the weight of the vine, particularly when wet. After a hurricane invasive vines can become particularly troublesome. With a broken tree canopy permitting increased light exposure, seedling vines will respond with rampant growth.

Two woody vines that I have been battling for some time are **gold coast jasmine** (*Jasmimum dichotomum*, prohibited in Miami-Dade) and **Virginia creeper** (*Parthenocissus quinquefolia*, a weedy native vine). Gold coast jasmine can grow as a scandent shrub, but is more often encountered as a 20 -30' twining woody vine with 2-4" glossy opposite leaves. Pinkish flower buds open at night to reveal white, 5-lobed flowers, quickly followed by small black two-lobed berries. The seeds, dispersed by birds, have an almost 100% germination rate contributing to the plants invasive nature. Virginia creeper is one of a few native plants that cannot be recommended for local landscapes. Fast growing, it as readily climbs up the side of a building as into a tree, attaching by means of adhesive tendrils. These leave a tacky residue on stucco walls when the vine is removed. Often mistaken for poison ivy it can be identified by the palmately lobed leaves made up of five (occasionally three) leaflets with conspicuously serrated margins. **Poison ivy** has three leaflets (margins entire or irregularly serrated), the center leaflet with a distinctly longer petiole. Although not a cause of contact dermatitis, Virginia creeper produces many small dark blue berries that are attractive to birds but poisonous to humans. The related **Cissus vines** (e.g., possum grape) are also rapidly growing but heavier and can quickly overwhelm a tree. Support should be restricted to a strong trellis.

As well as poison ivy, beware of the sap from climbing species within the arum family (**philodendrons**, **Pothos** and **Syngonium**) which can cause severe contact dermatitis. Exercise caution when pruning trees containing these vines or removing hurricane debris from the yard. Pothos and Syngonium stems readily break on

attempting to uproot either plant – apply glyphosate to kill remaining portions. Discarded stem pieces readily take root so clean up thoroughly after removal.

Locally one of the worst and most frequent of invasive vines are **air potatoes** (principally *Dioscorea bulbifera*), fast growing herbaceous (soft stemmed) vines that can readily overwhelm the surrounding landscape. They are prohibited in Miami-Dade, and can be recognized from the prominently veined, large, cordate leaves in the axils of which form round grayish aerial tubers (bulbils – the 'air potatoes'). On dropping to the ground bulbils readily take root to produce numerous new vines. Flowering and therefore seed production are not an important factor in spreading the plant in Florida. Underground tubers may form and can be especially large in *D.alata* (winged yam).

To control, cut each stem and after applying one of the triclopyr herbicides to the still rooted portion, remove the severed vine including as many of the bulbils as possible. This latter point is very important and it may be easier to accomplish during winter as the vine dies back in response to shortened day length. Repeat applications of herbicide will be required to control growth from sprouting bulbils. Re-growth from tubers will cease once food reserves are exhausted. This means preventing photosynthesis by killing new leafy shoots as soon as they appear.

Cat's-claw vine (*Macfadyena unguis-cati*) is not as widespread locally, but like air potatoes once established it is very difficult to eradicate. It can be recognized by the opposite bifoliolate leaves each with a terminal stiff three pronged tendril. It was originally grown for the showy, yellow, trumpet shaped flowers. These are followed by long thin capsules which split and release numerous wind dispersed seeds. The roots develop large swollen tubers from which new runners sprout to produce a dense groundcover. On encountering a vertical support (e.g., fence or tree), the runners climb to form a woody vine with thick stems. For control cut large stems and apply herbicide as described above. Vines can produce aerial roots and should be removed from their support as completely as possible. With a heavy infestation you may have to remove some of the tree canopy – this is work for a trained arborist. Digging out the tuberous roots is difficult – the vine can sprout from portions that remain in the ground. You will need to make repeated follow-up applications of herbicide to control not only re-growth but any seedling volunteers.

Unwanted plants, as indicated earlier, are but one of the legacies of a hurricane and only time will tell with Wilma and Katrina. Meanwhile I am still dealing with Andrew and a particularly obnoxious vine, **bitter gourd** (*Momordica charantia*), that is entangled in several shrubs with its sickly sweet yellow flowers and bright orange fruit. As far as I am concerned it is literally strictly for the birds!

John McLaughlin November 21, 2005