

A quarterly online magazine published for Master Gardeners in support of the educational mission of UF/IFAS Extension Service.

Pinellas Epiphytes

By James Stevenson, UF/IFAS Pinellas County Extension Services

Brooker Creek Preserve Environmental Education Center

Many of Florida's native trees host hitchhiking plants. With the exception of mistletoe, these plants are not parasites. Nor do they harm the trees. They are only seeking a spot in the sun to grow and reproduce. These aerial arboreta belong to a specialized group of plants known collectively as epiphytes.

What is an epiphyte? The word comes from epi-, which means "upon" and -phyto, which refers to plants. So, literally, upon plants! From algae to ferns to flowering plants, this adaptation to life on the branches of trees provides a space in the sun without having to grow very tall on their own. In Pinellas County, the majority of native plants growing as epiphytes are in the bromeliad family, Bromeliaceae, and in one genus, *Tillandsia*. In addition, we have three native epiphytic ferns and a couple of species of epiphytic orchids. These plants have evolved an epiphytic growth habit.

An epiphytic growth habit comes with challenges. In return for getting a place in the sun, an epiphyte's roots have adapted to anchor the plant to the tree. As a result, the roots have lost the ability to draw water up from the soil and into the plant's tissues. Bromeliads can store water in their leaf bases, absorbing water like a sponge via a covering of tiny scales. Many have very tough leaves that can avoid drying out. One of our native ferns, the Resurrection fern, *Pleopeltis michauxiana*, can almost completely dry out before re-absorbing rainfall and "resurrecting." Epiphytic orchids have a modified root system covered in a velvety "velum" that absorbs moisture. Orchids can also photosynthesize via chlorophyll in their roots.

Perhaps our most abundant and recognizable epiphyte is "Spanish Moss." It is neither Spanish nor a moss, but rather a native flowering bromeliad. This plant has an extremely reduced structure, producing leaves and flowers,

July 2018 Issue 14

Pinellas Epiphytes

11 Ideas for a Low-Cost, Low-Care Landscape

Baby Butterflies—A Poem

Welcoming Weeds to Our Garden

Rainwater Harvesting and You!

Pictures From the Chelsea Flower Show

Master Gardeners Speakers Bureau

Send in your articles and photos

but no roots or stems. Again, epiphytic plants are not parasitic—Spanish moss derives no sustenance from the tree or structure it grows upon. In some cases, if a tree is under stress and begins to decline, Spanish moss may appear to “smother” the tree, “killing” it. However, the epiphyte is not the problem. Another issue is causing the tree to lose vigor.

Other native bromeliads include the “air plants” which can be found in treetops throughout the county. Unfortunately, many are under attack from an introduced weevil, the Mexican bromeliad weevil. This insect lays its eggs in the “heart” of the plants and the larvae devour them from the inside out. This is fatal to the plants. Many natural populations of native bromeliads have been devastated. Research is underway to find a natural predator for this weevil.

Of the 19 species of orchids found in Pinellas, only two are epiphytic: the Butterfly Orchid, *Encyclia tampensis*, and the Needleroot Airplant Orchid, *Dendrophylax porrectus*.

The Butterfly Orchid regularly flowers here in Pinellas each June. This species is usually on tree branches that overhang seasonally wet areas. These areas include cypress domes and flooded forests. Their roots, covered in vellum, allow them to absorb moisture from rainwater and humidity. The Needleroot Airplant, related to the “Ghost Orchid”, *Dendrophylax lendinii*, is leafless. Like many other epiphytic orchids worldwide, the roots contain the photosynthetic tissues that can help facilitate sugar production. This orchid depends on its roots alone to provide for its needs. The narrow whitish roots with bright green growing tips form small (10cm, 4”) spiderlike encrustations on smooth-barked trees. The flowers are vanishingly small, likely moth pollinated. The fruit is the size of a large acorn held on a wiry stem. Like all orchids, the fruit is a dry dehiscent capsule that splits upon maturity to release the dust-like seeds.

For more information on Florida's native bromeliads, please see <http://edis.ifas.ufl.edu/uw205>.

For more information on Florida's native orchids, please see <http://gardeningolutions.ifas.ufl.edu/plants/ornamentals/floridas-native-orchids.html>.



Left: *Tillandsia*.
Center: *Encyclia tampensis*.
Right: *Dendrophylax porrectus*. Photo credits: UF/IFAS

11 Ideas for a Low-Care, Low-Cost Landscape (Part 1) (Based on the Article by Gail Hansen, UF/IFAS) By Debi Ford, Master Gardener

There are many beautiful landscapes and gardens in the world. Does achieving a beautiful garden require lots of work or money on your part? Here are 11 good ideas to help you achieve an attractive landscape without a great expenditure of either! (In the next issue, I'll bring you another 11).

1) Right Plant, Right Place

- Choosing the best plants for your growing conditions will go a long way to keeping costs down as you won't constantly be replacing plants.
- Select plants that require less water and are pest and disease resistant.
- Select long-lived plants that thrive in your soil conditions.
- Consider sturdiness and wind resistance.
- Pay attention to plants that work well and repeat them in areas with similar conditions.

2) Base plant choices more on interesting foliage than flowers

- Flowers often require time for deadheading, regular maintenance, and replacement, so look for large, colorful foliage with interesting shapes and textures.
- Variegated foliage often has stripes or splashes of red, yellow, and orange. Coarse-textured plants are attractive because of their large foliage and complex shapes.



The large, colorful leaves of "Florida Calypso" caladiums can replace flowers. Photo credit: UF/IFAS

3) Use large plants with a wide spread

- Large plants allow for the use of fewer plants. Fewer plants require less maintenance.
- Substitute small shrubs for perennials; once they grow to their mature height and width, they need little maintenance other than an annual pruning.
- Low-growing, sprawling groundcovers cover larger areas and reduce the need for many small bedding plants.

4) Choose evergreen plants to provide color and foliage all year

- Many evergreens, including junipers and small shrubs, have a neat growth habit that requires little trimming.
- The needle-like foliage of some evergreens typically sheds very little, and the small needle litter provides mulch.
- Evergreens can also add texture to your landscape.

5) Use plants with a pleasing form

- An attractive natural form reduces the need to trim for appearance.
- Most plants need some annual pruning for health but pruning techniques should maintain the natural plant form.
- Choose plants that naturally maintain a tight and clean form, or plants with a loose, open form and let them grow naturally.
- Mixing the forms adds variety and interest to the landscape.

6) Conduct a soil test to determine the pH, fertility, and structure of the soil

- This test is available through UF/IFAS <http://soilslab.ifas.ufl.edu>.
- The best strategy is to use plants that naturally thrive in your soil type.
- Amend and improve the soil with compost and use organic mulch to build soil structure, and keep soil moist. This protects plant roots

7) Use a simple plant palette with fewer, hardier plants

- Selecting 10–15 plants to use in large masses and repeating them throughout the yard simplifies maintenance.
- Group plants with the same water needs. Use drip irrigation when possible to reduce water use throughout the garden.



Left: Southern Red cedar (*Juniperus silicicola*) is an evergreen with a neat growth habit. Photo credit: Ed Gilman, UF/IFAS.

Right: Coontie (*Zamia pumila*) has an attractive, natural form that reduces the need for trimming. Photo credit: UF/IFAS.

8) Slightly crowd plants together in the plant beds

- Conventional planting techniques recommend spacing plants so they barely touch only at their mature size. To reduce maintenance, install plants so that they touch a little sooner (but don't overlap too much).
- Dense foliage suppresses weeds because of lack of sun.
- Plants may need thinning at maturity if they reach the high end of their spread potential.

9) Fit the plant to the space.

- Use slow-growing, small plants in small areas and large, faster-growing plants in large areas.
- Consider the shape of the plant and the shape of the space. The more compatible the shape, the less time needed to trim the plant to fit the space.

10) Use small trees or large shrubs to provide shade.

- Small trees shed fewer leaves. Large shrubs can be limbed up to provide shade for plants on the ground.
- Select trees with small foliage. Tiny leaves that fall off the trees will blend in with the plant material and mulch below and will not require raking.
- Place trees to provide shade to air conditioning units and windows for energy efficiency.

11) Move or remove unhealthy plants

- Observe plants and watch for signs that they are not doing well.
- Determine if a sick plant is in the wrong location. Adverse growing conditions can contribute to poor performance.
- Relocate to a more suitable location, if possible, or remove plants rather than waste time and money trying to keep the plant healthy. This is also a good time to remove nonnative invasive plants—Brazilian Pepper, Air Potato, Carrotwood, etc. <http://assessment.ifas.ufl.edu/>

In the next issue, I'll share 11 more tips.

Baby Butterflies

By Lois Weber, Master Gardener, District VIII Butterfly Chair,
Garden Club of Tarpon Springs & Palm Harbor
(One of those rare members happy to have holes in her leaves)



If Fritillaries flit, and Zebra Longwings dine,
You can be sure there's passionvine.

Larva white, black polkadots
Burnt orange, long stripes, under leaves—
LOTS!

We drive past citrus, it never shows,
The Giant Swallowtail quietly grows.

Herbs we share with the Black Swallowtail,
And never notice they 're there.

Pipevine Swallowtail, brown with golden tuff,
Dutchman's pipe, heart-shaped leaves, he
never gets enough!

If a black and orange Monarch glides by you'll
know,
Nearby you see some milkweed grow.

A curly leaf in the Red Bay tree,
Invites a peek inside to see.

Taking photos, magnified,
Illustrates who lives inside!

Please DON'T SPRAY—no, oh my,
That "worm's" a baby butterfly!



Top left: Gulf fritillary butterfly.
Bottom right: Mature larvae of the Zebra longwing butterfly.
Photo credits: UF/IFAS

Welcoming Weeds to Our Garden

By Ellen Mahaney, Master Gardener

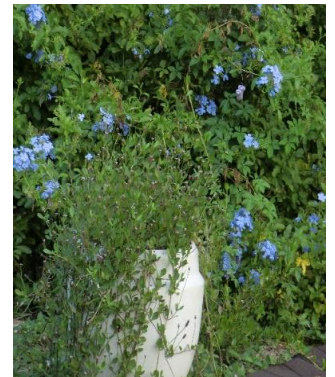
Unfortunately, we spend the majority of our gardening time weeding. (If anyone disagrees with me, please share your secrets.) Yet, attractive, controllable weeds can add interest and attract butterflies and other pollinators to our gardens. It is important to identify any weed and research it carefully before planting it. Although unwelcome weeds pop up anywhere, here are three that I have welcomed to my garden. I hope to find more that work.

Matchweed, Mat Lippia Turkey Tangle, Creeping Charlie, Fogfruit *and* Frogfruit (*Lippia nodiflora*): People sometimes consider this member of the Verbena family a weed when it grows within lawns. However, it can be a ground cover replacing grass in moist environments. It thrives in a frequently watered, large container, allowing the tiny stems and blooms to creep to the ground where they create a white, lavender-tinted flower mat. Imagine how attractive this would look against a background of native yellow flowers and blue plumbago covering a six-foot fence. It's a valuable plant in the butterfly garden. It is a larva plant for the Common Buckeye, White Peacock and Phaon Crescent butterflies. Bees and smaller butterflies seek its nectar.



Left: A pollinator enjoying some matchweed. Photo credit: Dianne L. Fecteau.

Right: Container holding matchweed with plumbago in the background. Photo credit: Ellen Mahaney



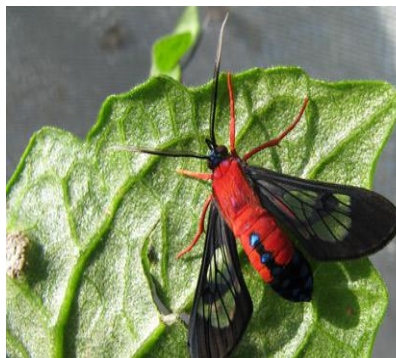
Spanish-needles, shepherd's needles, or beggarticks (*Bidens alba*): The white-flowers of this plant are a feast for bees and butterflies. It's a host plant for dainty Sulphur butterflies as well as a nectar plant for more than thirty-six butterflies, including several skippers and hairstreaks. It is very aggressive. One plant typically produces 1,200 seeds. Bidens means "two-tooth" and refers to the shape of the sticky seeds. They cling easily to skin, fur, or cloth and one or two plants can soon become hundreds. However, if you're careful to remove the plant before it goes to seed, you'll be doing the pollinators a favor by having this plant in your garden.

Dog fennel or Summer Cedar (*Eupatorium capillifolium*): An aggressive Florida native, this poisonous plant is harmful to grazing cattle. However, it is an asset in a garden. A wetland plant adaptable to a range of environments, it can grow to more than six feet with graceful feathery branches swaying in the breeze. (In the picture below, it suffers from a bad haircut.) I planted it in an area with Wild Coffee, Beauty Berry, Bahama Cassia, and Pinecone Ginger. Small white flowers bloom in the fall. These produce winter seeds that play an indispensable function in the Scarlet-bodied Wasp Moth's (*Cosmosoma myrodora*) courtship process. This moth is a Florida native insect. The male moth vomits on the seeds to dissolve a toxic chemical into a liquid. He then drinks it, storing it in his pouch. During the mating process, he transfers it to the female who subsequently transfers it to the eggs in order to protect them against predators.



Above Left: Beggarticks. Center: Beggarticks' seeds. Photo credits: UF/IFAS. Right: Dog Fennel claims a place in a corner of the garden. Photo Credit: Ellen Mahaney.

Below Left: Scarlet-bodied wasp moth. Right: Scarlet-bodied wasp moth mature pupa. Photo credits: Rodrigo Diaz, University of Florida.



Rainwater Harvesting and You!

By Brian Niemann, UF/IFAS Extension Pinellas County,
Florida-Friendly Landscaping™ Agent

Harvesting rainwater is a great way to reduce your water bill and transition your landscape to being more Florida-Friendly. Depending on the size of your landscape and your need for water, you can use rain barrels and cisterns to reduce your reliance on public water supply. Remember that this water is not stored for drinking. It is for outside use where potable water is not required.

The easiest way to get started with rainwater harvesting is to install a rain barrel under a downspout (Image 1) to catch runoff. In the absence of a downspout, you could place the barrel under a roof valley where an abundance of water pours off the roof. One inch of water on a 1,000 square foot catchment area yields over 600 gallons of water, so you want to address overflow in your planning. The ideal solution is to direct the overflow into a rain garden (Image 2) in order to treat your stormwater on site.

When more storage capacity is required, a cistern is the recommended option. (Image 3) Cisterns can be above or below ground. You can build them from a variety of materials. Many homeowners opt to install a small submersible pump in their cistern in order to run a micro-irrigation system. If you're going this route, be sure to match the pump output to the watering requirements for your system.

Next month, we'll provide 5 tips on hooking up a rain barrel to ensure that it is safe and effective. For more information on rainwater harvesting and Florida-Friendly Landscaping™, contact Brian at bniemann@pinellascounty.org or 727.453.6524.



Image 1



Image 2



Image 3

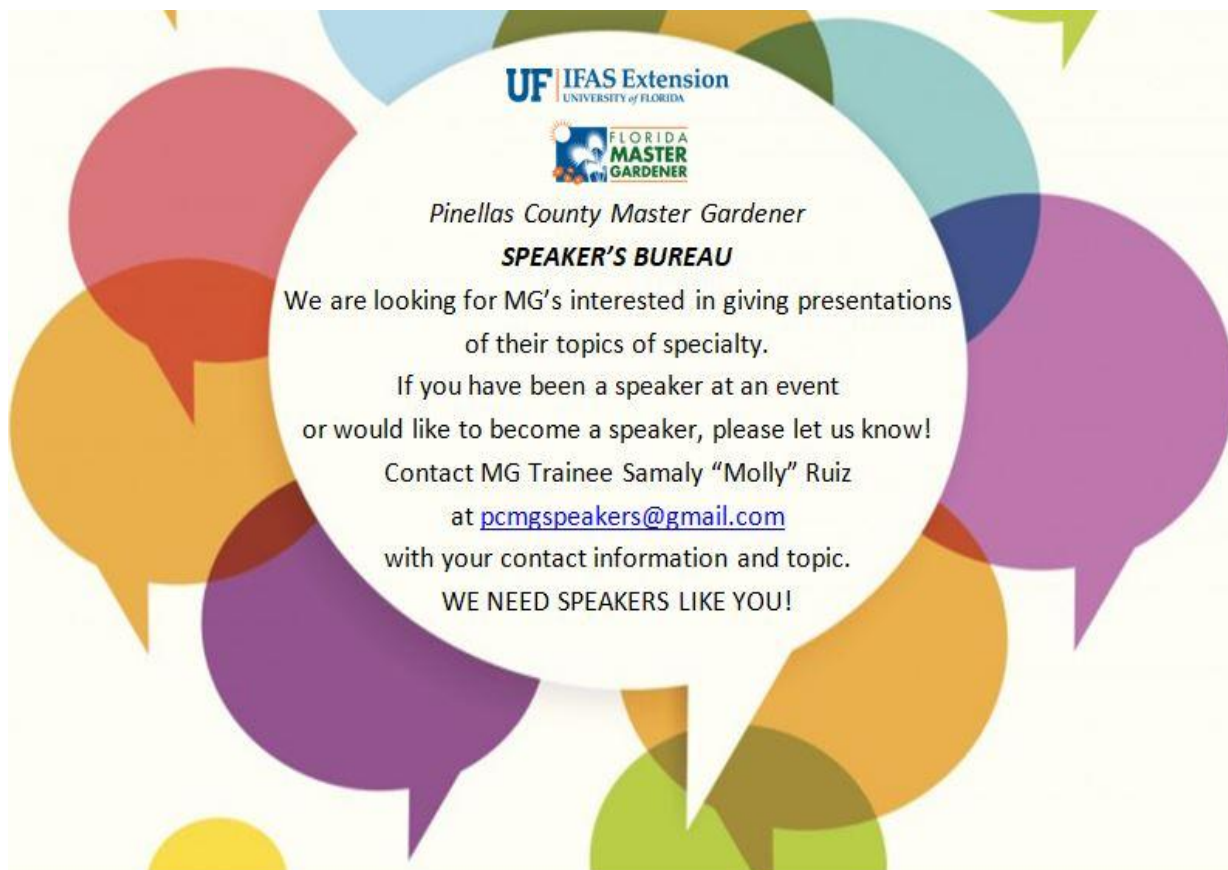
All photo credits: UF/IFAS

Some Pictures from the 2018 Chelsea Flower Show, London

By Dianne L. Fecteau, Master Gardener



Top and center rows are from the show gardens. Bottom row is from the Great Pavilion display of decorated chairs. Photo credits: Dianne L. Fecteau



Send your Articles and Photos

The next Issue of *The Dirt* is October 2018. The deadline for articles is September 30. Share your passion for gardening with your fellow Master Gardeners by writing an article for *The Dirt*. Include images where possible. However, if you include images they must fall under one of the following guidelines:

- your own
- UF/IFAS image
- open access image, as in wiki-commons, where all rights are open and the photographer is credited
- used with the express permission of the photographer

When you do send images, please do not embed them within the article. Include them separately. Please send all files as Word files. I cannot edit .pdf files.

Do you like to photograph plants or trees but don't like to write? Send me your photos with a description, even without an accompanying article, and I'll publish them with the description as well as a credit to you, the photographer.

Send your articles, images, and your photos to Dianne Fecteau at dianne@kendiacorp.com. My phone number is 727.366.1392.

All articles are subject to editing. In addition, Theresa Badurek, Urban Horticulture Extension Agent and Master Gardener Coordinator, reviews and approves all articles prior to publication.

The Dirt

Published quarterly for Master Gardeners by Master Gardeners:
April, July, October & January

UF/IFAS Advisor: Theresa Badurek, Urban Horticulture Extension Agent and Master Gardener Coordinator

Editor: Dianne L. Fecteau.

Staff: Jane Furman, Shane Palmer, Lainy McPhee. **Contributing Writer:** Debi Ford

UF/IFAS: An Equal Opportunity Institution