THE GARDEN BENCH

UF IFAS Extension UNIVERSITY of FLORIDA | FLORIDA MASTER GARDENER VOLUNTEER | Manatee County FLORIDA

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The Manatee County Master Gardener Volunteer Newsletter

INTERVIEW WITH MARC S. FRANK, EXTENSION BOTANIST

BY AMY STRIPE & SALLY HERB, MASTER GARDENER VOLUNTEERS

Master Gardener Volunteers Sally Herb and Amy Stripe asked Marc questions about plant identification in order to help our customers. Marc is the UF/IFAS Extension Botanist and Associate Collection Manager at the UF Herbarium and a valued partner of Extension volunteers and staff.

Bench: Can I identify a plant species from a single leaf?

Marc: A solitary leaf usually is not sufficient for identification, unless it happens to be a species that is very common, already familiar to the identifier, or has very distinctive characteristics. There are a lot of plant species in Florida, so memorization and recognition will only get you so far. Often plant ID is a process of diagnosis or deduction, where you first determine family, then genus, and finally species. To do this, you need to be able to observe a whole suite of morphological clues. A single leaf doesn't provide enough clues to go through this deductive process of identification.

Bench: What is the ideal sample a customer should present (beyond a photo)?

Fern leaf. Photo by Canva

Marc: An ideal physical plant sample would include multiple complete, mature leaves attached to the stem, as well as flowers or fruit. Seedlings and juvenile plants can look quite different from mature ones, and reproductive features (flowers/fruit) are often necessary for confident species determination. In order to observe features like leaf venation and margins and the number and shape of floral parts, it's also important that the plant sample be relatively fresh (i.e., not terribly wilted or fragmented) or else pressed and dried in a manner that facilitates observation of diagnostic features.

Phalaenopsis flowers. Photo by Canva

INSIDE THIS EDITION

Master Gardener Volunteers are here to answers your questions!

Email us at: ManateeMG@gmail.com

Call our Master Gardener Volunteer Plant Diagnostic Clinic at:
Phone: 941-722-4524
Open weekdays (except Wednesdays) from 9:00 A.M. to 4:00 P.M.

In-person visits are welcome at:
The UF/IFAS Extension Manatee County Office
1303 17th St. W., Palmetto, FL 34221

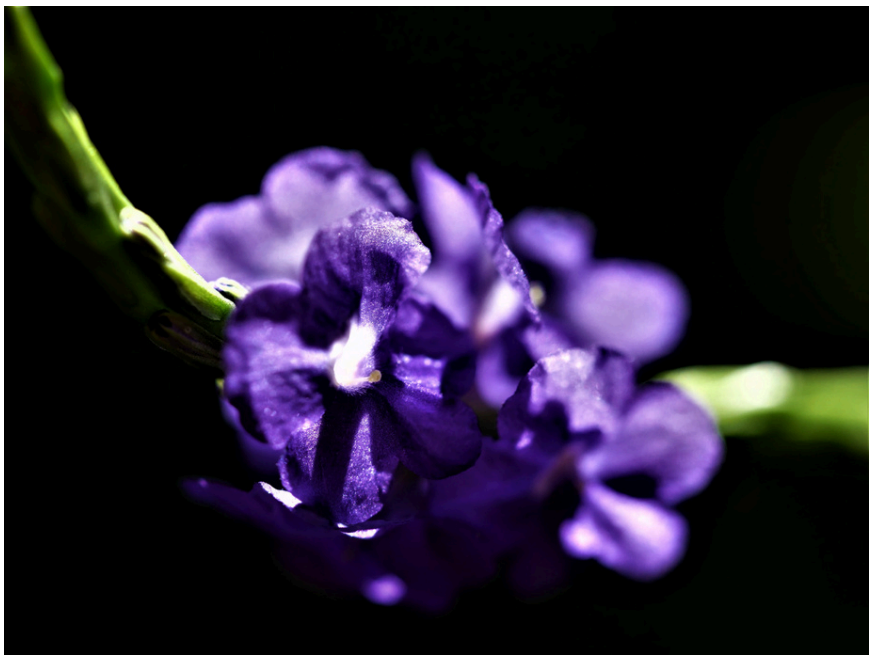
INTERVIEW WITH MARC S. FRANK CONT.

BY AMY STRIPE & SALLY HERB, MASTER GARDENER VOLUNTEERS

Bench: We've observed two fiddlewoods (*Citharexylum spinosum*), 10 feet apart (one in full sun, one in partial shade) having amazingly different looking leaves (serrated versus smooth leaf margins.) Had they not been in bloom, we would never have guessed they were the same species.

Marc: Plant classification and plant identification are largely based on aspects of the flowers and fruits because vegetative features may be quite variable as stated above. Variability in leaves between different individuals of the same species can be due to a number of different factors including genetics, the age of the plant, and environmental conditions. Even within a single plant individual (an oak tree, for example), you might observe differences in leaf shape between juvenile sucker shoots at the base of the tree, mature branches growing in the full sun, and mature branches growing in the shade. Plants react to changing temperature, moisture, and soil conditions by altering the shape, size, and thickness of their leaves. This morphological plasticity can make plant identification more challenging.

Large anthers on lillies. Photo by Canva



Porterweed flowers. Photo by Canva

I find that looking at the observations for a particular species on iNaturalist can be useful in this regard. I am fortunate to be working in a herbarium, where I have access to a large collection of preserved plant specimens, which can be very helpful in observing the range of variation within a species.

Bench: We've noticed more and more hybridization, such as oaks in our preserve areas, native and non-native porterweed, native and non-native firebush. Can you comment?

Marc: Hybridization between different species is called interspecific hybridization. With the porterweed and firebush examples you've provided, the concern is that non-native species or varieties that are introduced and cultivated or escaped in Florida can hybridize with native forms, resulting in changes in the genetics of our native plants

This can have negative impacts on the fitness and ecological function of native plant species. Human introduction and cultivation of non-native plant species increases the opportunity for interspecific hybridization, so we need to be mindful of potential hybridization impacts on native species.

Interspecific hybrids can be challenging to identify. Sometimes they have physical features intermediate between the two parent species, but that is not always the case. Sometimes hybrids look more like one parent than the other. To complicate matters further, most taxonomic keys do not include hybrids.

INTERVIEW WITH MARC S. FRANK CONT.

BY AMY STRIPE & SALLY HERB, MASTER GARDENER VOLUNTEERS

Cross pollination generally refers to the transfer of pollen from the anther of one plant to the stigma of another individual of the same species, intraspecific hybridization. This is commonplace in plants; it results in greater genetic diversity amongst the seedling offspring, which can confer adaptive fitness.

Petunias are often hybrids. Photo by Canva

Crosses between different species are one of the mechanisms by which new species arise over time. Furthermore, both intraspecific and interspecific hybridization are important tools in the development of new cultivated varieties, resulting in novel ornamental traits or improved resistance to disease or environmental stressors.

Bench: What is your opinion on plant I.D. apps? What is the most reliable?

Marc: I have seen firsthand how people can be misled by them...

Plant ID apps rely on photo recognition software and machine learning to compare your photos of an unknown plant with a database of plant images. Apps with larger databases of images from Florida are more likely to be of use for identifying the vast array of native, cultivated, and weedy plants we have in the state. Apps that are developed outside of the southeastern US may not include as many of the species we're likely to observe in Florida. I know that the iNaturalist app has a very large database of plant images from Florida, and I've had moderate success using it.

Keep in mind that apps are less likely to be successful in identifying rare plants, sterile plants (lacking flowering or fruit), and plants from large families for which many of the ID characters are microscopic or based on measurement (such as grasses and sedges).

Photo quality has a significant impact on whether an app will be able to provide an accurate identification. You can increase the chances of an app making an accurate ID by uploading multiple photos with the plant obvious (not obscured by other plants around it), shown from multiple perspectives, and in focus.

Bench: Lastly, can you comment on *Gaillardia puchella* as a native?

Marc: There are two species of *Gaillardia* in Florida. *Gaillardia aestivalis*, commonly known as lanceleaf blanketflower, is thought to be native to the southeastern and south central US. *Gaillardia pulchella*, commonly known as firewheel blanketflower, is thought to be native to northern Mexico and the central US but introduced and widely established in the eastern US.

My colleague Alan Franck (collection manager of the UF Herbarium) wrote about the non-native status of *G. pulchella* in an article that was published in December 2020. Alan's argument is based on the absence of reports of *G. pulchella* by the earliest explorers and floras in the southeast and by examination of the context and habitat of multiple early herbarium specimens, which suggest the plants were introduced rather than native in Florida and the southeast.

The Atlas of Florida Plants has changed their entry for *Gaillardia pulchella*, indicating that it is not native to Florida. Flora of the Southeastern United States recognizes three varieties within *G. pulchella*, all native to the central and/or southwestern US (with two of the varieties extending southward into Mexico) but introduced and established in the eastern US. Plants of the World Online also is now reflecting that this species is non-native in the eastern US. Since the Atlas of Florida Plants, Flora of the Southeastern US, and POWO are all in agreement on this, I would say there is good consensus on the non-native status of *G. pulchella* in Florida.

To support the herbarium: https://rb.gy/9mhbqk

THE EASIEST HERBS TO GROW IN FLORIDA: ROSEMARY

BY CYNTHIA OLCOTT, MASTER GARDENER VOLUNTEER

Salvia rosmarinus commonly known as rosemary, is a shrub with fragrant, pine needle-like leaves and winter/spring white, pink, purple, or blue flowers. It is a member of the sage family, Lamiaceae, native to the Mediterranean region, including Portugal and Spain.

This almost indestructible, Florida-friendly, drought tolerant plant will thrive in Florida year-round in landscapes or containers if protected from freezing. One plant can reach 6' tall and 4 – 5' wide in a garden but will remain a smaller plant in a container.

Although easy to grow, rosemary can be difficult to start from seed or cuttings, so using nursery stock is recommended. For best results, plant after the last frost in February or March. Your plant will prefer at least 6 hours of sun in well-drained soil. Too much water is not recommended.

Rosemary needles can be used fresh or dried for later use.

Rosemary potatoes. Photo by Canva

Rosemary bush. Photo by Canva

If you thought rosemary was "too piney" and "why bother"- think about showcasing this Florida treasure:

EZ Heavenly Oven Roasted Potatoes

6 servings

- 2 pounds yellow or Yukon gold potatoes, scrubbed
- 2 T olive oil
- 1 teaspoon garlic powder
- 3 T finely chopped fresh rosemary* (or 2 t dried)
- ½ teaspoon paprika
- Kosher salt to taste
- Black pepper to taste

Preheat oven to 425°F.
Cut potatoes into 1" cubes.
Soak potatoes in ice water 30-60 minutes. (To remove starch).

Drain and dry potatoes.
Evenly oil potatoes and toss with seasonings.

Place on a baking sheet and bake for 15 minutes. Turn them and bake another 15-20 minutes until browned and tender.

*Finely chopping will be a key to your success and enjoyment

For a drink receipe, try this:

Prettiest Holiday Drink You'll Ever Serve

- White cranberry juice*
- Sprig of rosemary
- 1-3 cranberries
- Served in a champagne coupe

The substitution of Champagne or Prosecco and optional splash of elderflower liquor takes this party drink to another level.

Rosemary is most often used to season meats like pork, chicken, and lamb, or focaccia bread and soups.

Rosemary drink. Photo by Canva

PALM IDENTIFICATION TIPS

BY AMY L. STRIPE, MASTER GARDENER VOLUNTEER

Palms can look a lot alike, especially if their canopy is very tall! But it's important to identify the types of palms you have because of host-specific issues.

Leaf shape: Is it featherlike? (Lots of leaflets along a mid-rib) Or palm-like? (Leaflets divided into segments like the palm of your hand.)

Leaf type: Featherlike is called "pinnate." Examples: queen palms (*Syagrus romanzoffiana*) and all *Phoenix* (date) palms.

Palm-like can take two forms: "palmate" and "costapalmate." The latter has a strong mid-rib (called "costa") which splits the blade into two sides.

A cabbage palm (*Sabal palmetto*) is costapalmate. A Mexican fan palm (*Washingtonia robusta*) is palmate.

Leaf base: Is the crown shaft smooth (called "self-cleaning") as for example in royal palms (*Roystonia regia*), foxtails (*Wodyetia bifurcata*) and Christmas palms (*Adonidia merrillii*).

Or, do dead fronds hang on persistently unless removed as for example queen palms (*S. romanzoffiana*) and all *Phoenix*?

Leaflet or segment attachment to the midrib:

Whether the fold (when viewed from the top of the leaf) is upward forming a "V" or downward forming a "roof" is pretty indicative.

Most feather palm leaflets form a downward V. Most fan palms form an upward V. There is a huge exception: *Phoenix* species palms have an upward V!

Color: Most palms come in green, silver or yellow-green canopies. Examples are the green cabbage palms (*Sabal palmetto*), the silver Bismarck palm (*Bismarckia nobilis*) and the yellow-green of an areca palm (*Dypsis lutescens*).

Flowers and fruits: Palm inflourescences are highly complex. Suffice to say that where the flower and fruit stalk appear in the canopy is a key clue to I.D. A flowerstalk above the canopy (suprafoliar) is highly unusual in an ornamental palm in Florida. However, an interfoliar (within the canopy) happens all the time on *Phoenix*. Lastly, those that occur below the canopy (infrafoliar) as on cabbage palms are quite common.

An excellent UF collaborative site for palm I.D. is https://idtools.org/palm_id/

Palmate palm leaves. Photo by Canva

Fruits on a Phoenix sp. Photo by Canva

Pinnate palm leaves. Photo by Canva

PLANT IDENTIFICATION APPS

BY JOHN DAWSON, MASTER GARDENER VOLUNTEER

Most plants do not come with name tags. If you are just curious or you have an immediate need to know, how can you identify them? Was that poison ivy? Did the cat just nibble that houseplant, do I need to rush it to the vet? Are my plants safe for my kids, grandkids or pets? What's that weed? If you are unsure, "Don't worry there's an App for that!"

Identification app in action. Photo by Canva

Modern technology, AI, and smart phones are now capable of useful plant identification (ID). If you go to your app store and search "Plant ID" you will find numerous apps that all claim to be at least 98% accurate of plant identification. Unfortunately, the majority are "In-App Purchase," meaning you pay for the plant identification. All of these apps have thousands of plant photos they use to find a likely match. Some allow free trials and all come with additional features and upgrades (more money).

Being a simple "cheap" guy, I chose to search for FREE apps that actually do work. I have three on my phone that I use as quick reference for follow-up research. If I get three positive IDs from these apps, I'm pretty sure to get reliable data for follow-up research. Keep in mind that even the "for pay" apps can make a misidentification.

I use PlantNet, Seek by iNaturalist, PlantMe and sometimes Google Images for initial searches.

PlantNet – Just take a photo, choose if it's a leaf, flower, fruit, bark, habit or other. It will provide the binomial identifier and a common name. You can share or store photos. There is a feed section where you can see photos from others, mapping capabilities and hundreds of photos of plant species in alphabetical order by binomial identifier.

This app has been rated the number one Free App by several rating sources.

Seek by iNaturalist – Just look through your phone's camera lens and move it about until an identification is made, then snap to save the photo. This app identifies flora, insects and fauna typical of your area.

This app also has features similar to PlantNet and has been rated the number two Free App by several rating sources and is one of my favorites.

PlantMe – Just shoot, and it identifies and provides a percentage evaluation of identification accuracy (e.g., 98% sure it's sweet basil.") You can also save photos you have taken. Very simple, easy to use.

Google Images – This is another way you may be able to identify your plant using a matching algorithm of all google images. I use this with caution. It requires your photo to be similar to ones on file. Your photo needs to be very clear and you may want to try several profiles.

Regardless of which apps you use, you need to follow up with more research to make a positive ID and learn more about the plant of your concern. Our Plant Clinic can help you in identifying your flora, fauna or insect for further verification or if apps aren't for you. If you believe a poisonous plant may have been ingested, call poison control at 941-746-5111 or 911, they may ask for a plant ID.

FOR YOUR CONVENIENCE: MASTER GARDENER VOLUNTEER MOBILE PLANT CLINICS

DAYS, TIMES, AND LOCATIONS

In addition to our regular Diagnostic Plant Clinic at the Extension office in Palmetto, Master Gardener Volunteers are deployed at additional locations throughout the county at our Mobile Plant Clinics.

Highly trained Master Gardener Volunteers staff each location and are qualified to address your lawn and garden questions, including plant and weed identification, insect identification, management of pest issues, and know how to refer you to science-based University of Florida information, all under the umbrella of Florida-Friendly Landscaping™ principles.

Our goal is to assist Extension agents in their aim to conserve water use and preserve water quality, responsibly manage pests, and assist residents in having a healthy and beautiful landscape.

BOB GARDNER PARK
Third Sundays
9:00 A.M. to 12:00 P.M.
2710 White Eagle Blvd.,
Lakewood Ranch

CROWDER BROS. ACE HARDWARE
Third Saturdays
9:00 A.M. to 12:00 P.M.
5409 Manatee Ave. W.,
Bradenton

CENTRAL LIBRARY
Third Saturdays
11:30 A.M. to 2:30 P.M.
1301 Barcarrota Ave.,
Bradenton

ISLAND BRANCH LIBRARY
First Saturdays
10:00 A.M. to 1:00 P.M.
5701 Marina Dr., Holmes Beach

LAKEWOOD RANCH LIBRARY
First Saturdays
9:00 A.M. to 12:00 P.M.
16410 Rangeland Pkwy,
Bradenton

Amy Boohaker, Tanya Larsen & Teri Conk at Crowder Bros. Ace Hardware

ROCKY BLUFF LIBRARY
Second & Fourth Saturdays
10:00 A.M. to 1:00 P.M.
6750 US-301, Ellenton

SOUTH MANATEE BRANCH LIBRARY
Second Saturdays
10:00 A.M. to 1:00 P.M.
6081 26th St W., Bradenton

ST. GEORGE'S EPISCOPAL CHURCH
First and Third Thursdays
8:30 A.M. to 11:30 A.M.
912 63rd Ave. W., Bradenton

UF/IFAS EXTENSION MANATEE COUNTY
Weekdays (except Wednesdays)
9:00 A.M. to 4:00 P.M.
1303 17th St. W., Palmetto
Phone: 941-722-4524
Email: ManateeMG@Gmail.com

ASK A MASTER GARDENER VOLUNTEER

YOUR QUESTIONS ARE ANSWERED BY KAREN HOLLERAN, MASTER GARDENER VOLUNTEER

DEAR MASTER GARDENER, Can you please tell me about this vine – it has thorns and is very difficult to pull out, it needs to be cut. Thanks so much!


Photo Courtesy of Resident

DEAR RESIDENT, This vine is one of nine *Smilax* vines native to Florida. This one may be *Smilax tamnoides*, commonly known as bristly greenbrier. These vines can climb very high and are difficult to control. They have a deep taproot and underground bulbs. Digging them out is the key to control, although the vine can sprout from roots left in the ground.

Persistently digging out the vines when they crop up will eventually eliminate them. Cutting the vine only eliminates the emerged plant.

For more information: https://edis.ifas.ufl.edu/publication/FR375

Email your questions to: ManateeMG@gmail.com

UPCOMING EVENTS

TO VIEW MORE EVENTS, VISIT : HTTPS://SFYL.IFAS.UFL.EDU/EVENTS/?LOCATION=MANATEE

RYE PRESERVE TOURS

Third Saturday of the month
(October - April)
9:00 A.M.
Learn more here:
https://RyePreserveTours.eventbrite.com

PERICO PRESERVE TOUR

Fourth Saturday of the month
(September - April)
9:00 A.M.
Learn more here:
https://PericoPreserveTours.eventbrite.com

EMERSON POINT PRESERVE TOUR

First Saturday of the month
(November - April)
9:00 A.M.
Learn more here:
https://EmersonPointPreserveTour.eventbrite.com

COMPOSTING 101

January 12, 2025
11:00 A.M. to 12:00 P.M.
Learn more here:
https://manateelibrary.libcal.com/event/15750469

PALMS 101

January 22, 2025
11:00 A.M. to 12:30 P.M.
Learn more here:
https://www.eventbrite.com/e/palms-101-tickets-1906833312769?aff=oddtdtcreator

VEGETABLE GARDENING

January 22, 2025
2:00 P.M. to 3:00 P.M.
Learn more here:
https://manateelibrary.libcal.com/event/15692926

FLORIDA-FRIENDLY LANDSCAPING™ FOR NEWCOMERS

THURSDAY, FEBRUARY 19, 2025 FROM 11:00AM - 12:00PM

Learn how to create a beautiful and sustainable garden in Florida with our Florida-Friendly Landscaping™ for Newcomers event!

Learn how to create a beautiful and sustainable garden in Florida with our Florida-Friendly Landscaping™ for Newcomers event!

Get tickets here:
https://www.eventbrite.com/e/florida-friendly-landscapingtm-for-newcomers-tickets-1906346988159?aff=oddtdtcreator