



# Friends of the Randell Research Center

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## Botanizing with Marc

*Plant expert helps us  
learn more about the  
RRC's diverse plant life*

by Cindy Bear

**V**isitors to the Calusa Heritage Trail come for a variety of reasons—some to learn about the archaeology, some for the fresh air, some to see some of the 100+ kinds of birds that come through the site. And, almost everybody notices the diverse array of interesting plants, some familiar, some not so familiar. We've written in this newsletter about the astounding variety



*Cindy Bear, Marc Frank, and Laura Coglean discussed the challenges of managing native habitats. (Photo by Charles O'Connor.)*



of native plants that sprang up in the new section of the Trail after the invasive vegetation was removed.

So, we were particularly excited when we scheduled Marc Frank, Extension Botanist and Associate Collection Manager, Florida Museum, to provide a talk in our *One World Lecture Series* and he offered to also take us botanizing on the grounds. His talk "Understanding Plant Toxicity" on April 20 was attended by plant enthusiasts from Lee, Collier, and Charlotte counties.

One outcome of botanizing is often the addition of plants to a herbarium, another is greater understanding of biodiversity on a landscape which can then guide restoration work. A herbarium is similar to a library. It holds a collection of dried, labeled, stored, and organized plant samples that can be referred to for study and education. Established in 1891 and housed in the Florida Museum of Natural History, the UF Herbarium contains about 273,000 vascular plants (including both pressed/mounted specimens and a seed collection), 160,000 bryophytes and lichens, 56,500 fungi, and 15,300 wood samples. It includes specimens from every continent except Antarctica, with an emphasis on Florida. It also contains a library of more than 5,000 books, 500 maps, and 1,000 botanical illustrations.

Most herbarium samples begin as pressed plants which are then flattened, dried, and mounted on archival paper. Some herbaria also include mosses, algae, fungi, or lichens in archival paper packets, seeds, wood sections, pollen,

*Marc shared valuable information related to plant identification and land restoration. (Photo by Charles O'Connor.)*

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Marc used a plant press to collect and transport plant specimens to the UF Herbarium. (Photo by Charles O'Connor.)

microscope slides, DNA extractions, and jars of plant parts.

Because there are very fine levels of similarities or differences that require very close-up and careful study, we quickly found ourselves eye level with plants as Marc made careful positive identifications. If the identification was questionable, Marc referred to detailed taxonomic “keys” – written instructions that tell the observer how to be sure of a plant identification.

Laura Cogan, Head Grounds Volunteer, joined Marc and Cindy Bear, RRC Co-Director, for the afternoon. Laura has a strong botany background and found it enriching to learn even more about how to “key out” plants: “What I learned from Marc is how wonderfully fascinating plant ID [identification] is, and how essential it is to use a botanical key in finding precise ID’s. Marc showed me it can be fun and easy if you know your terminology, have a copy of the *Guide to Vascular Plants*, and a good magnifying glass!”

Marc validated for us the presence on our grounds of a single plant of *Solanum diphyllum*, a non-native species of Night-

shade that is listed as a Category II exotic invasive species by the Florida Exotic Pest Plant Council. We carefully hand pulled this

**DID YOU KNOW?**  
About 10% of  
non-Florida-native plants  
tend to be invasive.

invader and will be watching for its presence other places on the grounds. He also gathered samples of several plant species for the herbarium including the challenging-to-identify newcomer on our site, Jack in the Bush (*Chromolaena odorata*).

Marc’s visit will result eventually in an up-to-date list of plants identified on our grounds – whether common, rare, or endangered, native or not, invasive or not. This will in turn help our staff and volunteers manage the property’s plant life for maximum sustainability and allow us to pass on the information to all interested visitors.



## Academics Update

**T**wo new publications are in print as of April, 2019: a chapter by Karen Walker, Bill Marquardt, Lee Newsom, and Merald Clark on waterlogged deposits found at the Pineland Site Complex, and a chapter by Bill Marquardt on wooden figurines found mostly in South Florida. Both were published in *Iconography and Wetsite Archaeology of Florida’s Watery Realms*, a book available from the University of Florida Press. Waterlogged archaeological deposits offer extraordinary preservation of organic materials such as wood, netting, cordage, fish scales, and seeds that rarely survive in dry deposits unless they have been burned. Waterlogged materials help us understand the daily lives of past people and how their environments changed through time. A copy of the new book has been ordered for the RRC library at the



Ruby Gill house. Meanwhile, photocopies of the two chapters

are already on file there for anyone who wishes to read them. Our research was also represented at the Society for American Archaeology

Karen Walker at the Society for American Archaeology meeting in Albuquerque, NM, April 11, 2019. (Photo by Bill Marquardt.)

meetings in Albuquerque, with co-authored papers on Pineland and a poster presented by Karen and colleagues on recent research on mullet remains.







## Frequently Asked Questions

### *How old is that Gumbo Limbo tree?*

**O**ur grounds host many spectacular Gumbo Limbo trees but the triple-trunked, massive beauty near the South Pasture area frequently evokes curiosity about its age. Gumbo Limbo trees (*Bursera simaruba*) do not usually lay down growth rings, so the typical method of taking a core to count rings will not yield that information. Additionally, according to Stephen Brown, Lee County Horticulture Extension Agent, there is no correlation between trunk diameter and age or crown spread. The crown is the mass of foliage and branches that grow outward from the tree's trunk. The "crown spread" is the crown's average horizontal width. Brown notes that these trees can grow rapidly. A seed can produce a six- to eight-foot tree in 18 months, and growth rates can vary significantly depending on very minor differences in soil conditions or other factors. Gumbo Limbos reproduce via seeds, but a branch inserted into the ground can grow into a mature tree. In

some parts of their range they are used as living fences.

When visitors ponder the age of this tree they are often wondering if a Calusa child might have climbed its branches or lingered under its shade. References to longevity of the trees are scant, with one publication stating their age span is 100 years. Since the last archaeological

evidence for Calusa at the site of their impressive town is about 300 years ago, it is not likely that they knew this particular tree. We will never know for sure, but it is possible that the tree grew from a branch of a tree that grew



*Many a visitor has marveled at this triple-trunked Gumbo Limbo tree on the Calusa Heritage Trail. (Photo by Kristen Grace.)*

from a branch of a tree that grew from a branch of a tree that started as a seed from a tree that was also marveled at by people centuries ago, just as we do today. 🌿

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## On the Trail – Recent Images



RRC instructor Diana Stockbridge helped students learn how duck bones alerted archaeologists that colder times challenged the Calusa during the Vandal Minimum climate episode. (Photo by Cindy Bear.)



After 14 years, the Calusa Heritage Trail needed resurfacing (left photo). Crushed concrete was used for the new surface with Gorilla Snot, “an ecosafe, biodegradable, liquid copolymer used to provide erosion control and dust suppression,” applied to the Short Loop. The Gorilla Snot created greater compaction and has made for easier wheelchair and stroller access on the loop (right photo).



A male Pileated Woodpecker (left) surveys the South Pasture from his roost. Male Pileated Woodpeckers have a bright red stripe across the cheek. (Photo by Kristen Grace.)

## RRC News

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# Friends of the Randell Research Center

Pineland, Florida • June 2019

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Sincerely,

*Cindy Bear*

Cindy Bear  
Co-Director  
Randell Research Center



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Photo by A. Bell

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