



The Rhexia

Paynes Prairie Chapter of the Florida Native Plant Society

www.paynesprairie.fnpschapters.org

February 2022



February ZOOM Meeting [Zoom Link](#) Plant Defense: When Flight is not an Option with **Emily Kraus**, Biological Scientist IV

Florida Department of Agriculture and Consumer Services, Division of Plant Industry

Plants have very complex defense responses to the various stressors they encounter. They are under nearly constant pressure from abiotic factors such as sun, wind, temperature, and rain. There are also many biotic, or living, factors that stress plants. These include bacteria, fungi, insects, and other animals including humans. Scientists have speculated it may be possible to harness plant defensive responses to serve as protection against pests. This involves first an understanding of how plant defenses are initiated. Much literature has been generated in this area including the physiological pathways in plants that are triggered to release defensive compounds like tannins and terpenes. Further, use of plant defenses as a means of pest control involves an understanding of the costs of these defenses. Emily will describe two of the most well understood plant hormone pathways and the defensive compounds they produce. She will also present some of the literature on how these defenses have been used in agriculture, ending with a more theoretical discussion of the direction this work may go in regard to management of invasive species.



Emily grew up in the Midwest and moved to Florida in late 2019. She obtained her B.S. in entomology at Purdue University, her M.S. in entomology at Kansas State, and finally made her way into the south with her PhD at Louisiana State University. It was here that she began to branch out from entomology into plant-insect interactions. Her dissertation work involved induced plant defenses, or how plant physiology changes when plants are stressed. Her work was originally applied to agriculture, but she has expanded to applying these concepts to biological control of invasive species. Her current position is a Biological Scientist at the Florida Department of Agriculture and Consumer Services (FDACS). Here she is the head of the Asian Citrus Psyllid Biological Control Program and the Air Potato Biological Control Program. Emily serves as a committee member for UF Doctoral Candidate Jasleen Kaur who is further investigating induced defenses in the invasive air potato vine. Emily also serves as a board member at large for our FNPS Payne's Prairie Chapter.

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The Rhexia is published eight times a year by the Paynes Prairie Chapter of the Florida Native Plant Society. Comments are welcomed. Readers are encouraged to submit articles and images for publication consideration to gracehowell@gmail.com

A Message from the President...

Spring has sprung. Albeit a month early but we'll take it. We saw flowers on flatwoods plum and Carolina jessamine on our January field trip so that makes it official! At home my jessamine only has buds but my Trilliums are up and in full bloom. We had a great time at Fox Pen Preserve and Paul Lyrene provided lots of interesting information and made us forget the cold. Susan Carr is leading this month's field trip to Santa Fe River Preserve on February 26. Note this is not our traditional weekend for a field trip. Schedules dictated having it a week later but we will probably see a lot more flowers and new growth by this time. The details are below.

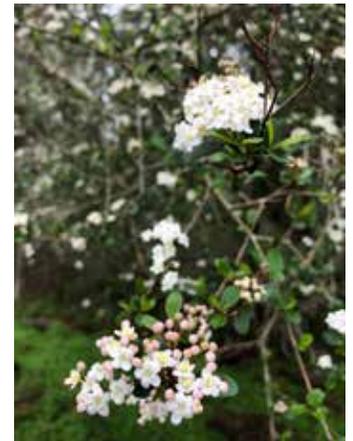
Also note that the Great Invader Raider Rally is on the 12th of this month. This is always a fun event and a great cause. Remember, you must register to participate and can you can do so at: <https://forms.gle/ZyNhwjV97QCZXuf6A>

Our meeting this month is on the 15th and our speaker will be Emily Kraus, one of our new board members.

She will talk about soil microbes and how they can affect plant defense responses. This should get us all thinking! Sadly, this will have to be on Zoom. See link below.

That's all for now, see you on the 15th and then again on the 26th.

- Mark



Meeting Info:

Topic: Mark Elliott's Zoom Meeting

Time: **Feb 15, 2022 06:30 PM Eastern Time** (US and Canada)

Join Zoom Meeting

<https://ufl.zoom.us/j/93121310904?pwd=eHAXSXIHmNznL1Zn-MW9xKzA5dGR4QT09>

Meeting ID: 931 2131 0904

Passcode: 963056

Skype: <https://ufl.zoom.us/skype/93121310904>



JANUARY FIELD TRIP REPORT

Fox Pen Preserve with Paul Lyrene

January 22, 2022
 By Mark Elliott



Fourteen intrepid hardy and hearty Paynes Prairie members gathered in the Fox Pen preserve parking lot on a very chilly Saturday morning. The temperature was hovering somewhere south of 45 degrees. Paul Lyrene started us out with a quick explanation of adaptive radiation. In essence, when a species is isolated in a (large) region, over time multiple species will evolve to adapt to environmental variations in soil type, moisture, temperature etc. He cited oaks, pines, palms and St. John's-wort (*Hypericum*) species as examples. Then came a quick history of Fox Pen and the great news that ACT had just acquired *more than 2,000 acres of swamps and piney woods which connects the Lochloosa Slough Preserve on the south with the Fox Pen Preserve on the north.*

With that we were off into the woods. The first section was a mesic hardwood hammock with a mixture of species including a sprinkling of cabbage palm (*Sabal palmetto*) as well as a few Saw palmetto (*Serenoa repens*). Just a few yards in Paul stopped to point out the first Deerberry (*Vaccinium stamineum*) and not far off, a Sparkleberry (*Vaccinium arboreum*). This unusual juxtaposition is probably a result of major disturbance like clear cutting for lumber many years ago. We paused by a Gopher apple (*Licania michauxii*) and then past a large-ish tree with serious raised bumps on the trunk. There was a short debate as to whether it was Toothachetree (*Zanthoxylum clava-herculis*) or Hackberry (*Celtis occidentalis*). While there were no leaves on it, we decided it had to be a Toothachetree. Rob Garren has informed us that it is most likely hackberry; however, the correct scientific name for this is *Celtis laevigata*. *Celtis occidentalis* is less likely as this occurs less frequently than *C. laevigata* (although it does occur in Alachua County). Regardless, without a specimen in hand, it is most likely to be *C. laevigata* based on the other species present and the habitat of that part of the field trip. Toothachetree is actually an older name for *Zanthoxylum americanum* – *Z. clava-herculis* is generally referred to as Hercules'-club.





Flatwoods plum, *Prunus umbellata*

We passed a substantial grape vine, and examining some old leaves on the ground, determined it was in fact *Vitis rotundifolia* (Muscadine). Another discussion ensued on whether size was indicative of age. That was soundly dismissed. Next up was a plum in flower. This is mid-January! It was decided that, since it was a single trunk specimen, it was a Flatwoods or Hog plum (*Prunus umbellata*) as opposed to Chickasaw plum (*P. angustifolia*) which forms colonies. Nearing Moss Lake we passed a lone Adams needle (*Yucca filamentosa*) with an infestation of a Cochineal scale – they ‘bleed’ red when squished.

Moving on put us at the shore of Moss Lake and Paul ventured off trail into the weeds to point out some Highbush blueberry (*Vaccinium corymbosum*). After a quick discussion of *Vaccinium* genetics, we started looking elsewhere for cool stuff in the thicket. We found both a Dahoon holly (*Ilex cassine*) not a surprise, and a Gallberry (*Ilex glabra*), kind of a surprise. Also, in the distance not far from the lake shore was a large 3-trunked Swamp blackgum (*Nyssa biflora*) and a few Fetterbush (*Lyonia lucida*). Paul found a scraggly Red bay (*Persea borbonia* var. *borbonia*) and mentioned the Laurel Wilt disease which was killing the Red bay and some of the other members of the Lauraceae such as Avocado (*Persea americana*).

Extracting ourselves from the thicket we were back on the trail and headed for the last leg of the hike. Leaving the hammock, we emerged on a higher drier area which had been burned in the last few years. Ten plus foot Slash pine (*Pinus elliottii*) had recolonized and the ground cover was dominated by a couple of species of Bluestem (*Andropogon* spp.) grasses. We breezed by a few Pineland pinweed (*Lechea sessiliflora*) and Tall elephants-foot (*Elephantopus elatus*). Naturally there was plenty of Dog fennel (*Eupatorium capillifolium*) but the surprise was a Carolina jessamine (*Gelsemium sempervirens*) in flower! Remember, this is January!

And, as you would expect, there were *Vaccinium*. Lots of shiny blueberry (*V. myrsinites*) and I think even a few Highbush (*V. corymbosum*) scattered here and there. In the unburned area we found Florida rosemary (*Ceratiola ericoides*) of course as well as an odd mixture of Turkey oak (*Quercus laevis*) next to Water oak (*Q. nigra*), a few Bluejack oak (*Q. incana*) and (of course) Sand live oak (*Quercus geminata*). Paul also pointed out several Sand pine (*Pinus clausa*) which is to be expected but also a bunch of Slash pine (*P. elliottii*) “growing poorly”. Looking down, Blackroot (*Pterocaulon pycnostachyum*), Indian plantain (*Arnoglossum floridanum* – a Florida endemic) and Summer farewell (*Dalea pinnata* var. *pinnata*) were populating the trail sides. We passed a few Common persimmon (*Diospyros virginiana*) and a single Tough bully (*Sideroxylon tenax*) as we re-entered the woods on the way to the parking lot. We seemed to quicken our steps as our vehicles (with heaters) came into view. Naturally we all paused to thank Paul for an interesting if not invigorating hike in Fox Pen. It was fun!





Partial List of Plant Species Observed on the Fox Pen Preserve Field Trip, January 22, 2022

Prepared by Rob Garren

Scientific Name	Common Name
<i>Andropogon</i> sp.	Bluestem
<i>Arnoglossum floridanum</i> (A. Gray) H. Rob.	Florida indian plantain
<i>Celtis laevigata</i> Willd.	Hackberry
<i>Ceratiola ericoides</i> Michx.	Florida rosemary
<i>Dalea pinnata</i> (J.F. Gmel.) Barneby var. <i>pinnata</i>	Summer farewell
<i>Diospyros virginiana</i> L.	Common persimmon
<i>Elephantopus elatus</i> Bertol.	Tall elephantsfoot
<i>Eupatorium capillifolium</i> (Lam.) Small	Dog fennel
<i>Gelsemium sempervirens</i> (L.) J. St. Hil.	Yellow jessamine
<i>Houstonia procumbens</i> (J.F. Gmel.) Standl.	Innocence
<i>Hypericum</i> sp.	St. John's-wort
<i>Ilex cassine</i> L.	Dahoon holly
<i>Ilex glabra</i> (L.) A. Gray	Gallberry
<i>Lechea sessiliflora</i> Raf.	Pineland pinweed
<i>Licania michauxii</i> Prance	Gopher apple
<i>Lyonia lucida</i> (Lam.) D. Don	Fetterbush
<i>Nyssa biflora</i> Walter	Swamp blackgum
<i>Persea borbonia</i> var. <i>borbonia</i> (L.) Spreng.	Red bay
<i>Pinus clausa</i> (Chapm. ex Engelm.) Vasey ex Sarg.	Sand pine
<i>Pinus elliottii</i> Engelm.	Slash pine
<i>Prunus umbellata</i> Elliott	Flatwoods plum
<i>Pterocaulon pycnostachyum</i> (Michaux) Elliott	Blackroot
<i>Quercus geminata</i> Small	Sand live oak
<i>Quercus incana</i> Bartr.	Bluejack oak
<i>Quercus laevis</i> Walter	Turkey oak
<i>Quercus nigra</i> L.	Water oak
<i>Sabal palmetto</i> (Walter) Lodd. ex Schult. & Schult. f.	Cabbage palm
<i>Serenoa repens</i> (Bartr.) Small	Saw palmetto
<i>Sideroxylon tenax</i> L.	Golden buckthorn
<i>Vaccinium arboreum</i> Marshall	Sparkleberry
<i>Vaccinium corymbosum</i> L.	Highbush blueberry
<i>Vaccinium myrsinites</i> Lam.	Shiny blueberry
<i>Vaccinium stamineum</i> L.	Deerberry
<i>Vitis rotundifolia</i> Michx.	Muscadine
<i>Yucca filamentosa</i> L.	Adam's needle



Carolina jessamine,
Gelsemium sempervirens



Upcoming Field Trip!

Saturday, February 26

9:30 a.m.

Santa Fe River Preserve

With Susan Carr

Santa Fe River Preserve is owned and managed by Alachua Conservation Trust (ACT). It consists of 1,067 acres along the upper Santa Fe River.

One of the best features of the Preserve is the Gracy Trail, a loop that descends through upland hardwood forest and seepage slopes, and traverses the floodplain of the Santa Fe Creek, a pristine tributary, as it makes its way to the river.

Late February is early Springtime, and we will likely see wild azaleas along the streambank and possibly other bloomers on the hike. We will walk 1 to 2 miles at a leisurely pace.

Depending on weather, the trails may be wet, muddy, and uneven.

Bring: drinking water, snacks and shoes that can handle mud or wet trails.

- Well-behaved dogs are allowed to attend, but please make sure they remain on their leashes and are OK with groups.
- **There are no restrooms at the trailhead.** More about the preserve and trail [here](#)

Meet Time: To caravan or carpool, meet at 9:00 AM at the Home Depot parking lot on Hwy 441 (13th Street) at 53 Ave. We will park near the Waffle House restaurant. It is a 20-minute drive from there.

For those who want to drive directly there, **meet at 9:30 AM at the Preserve.** The entrance is on State Road 121, just south of Worthington Springs and the bridge over the Santa Fe River. The preserve entrance is on the east side of the highway. There is a large ACT sign and a parking area.

Questions?

Call or text Susan Carr at 803 295 2229, or email at suscarr123@gmail.com She will decide whether to postpone due to weather.



The 8th Annual Great Invader Raider Rally
Saturday, February 12th, 2022
City of Gainesville, Florida / Parks, Recreation & Cultural Affairs

Have YOU purchased your License Plate Voucher?

Vouchers for the Florida Native license plate can be bought at any county tax collector's office in Florida, through the Florida Native Plant Society or through a separate online sales portal set up for the purpose. The cost of the voucher is \$33, and as soon as 3,000 vouchers are sold, the plate will be printed and buyers will receive a new license plate for their voucher. Purchase yours at this link: <https://www.fnps.org/support/license>

Don't forget to visit your LOCAL NATIVE PLANT NURSERIES!!

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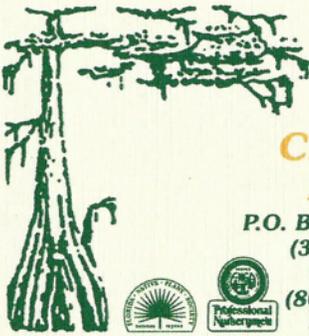
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To become a sponsor of the FNPS Paynes Prairie Chapter, email your business card-sized ad in JPG or TIFF format to Goldie Schwartz at afn49@mindspring.com. Ads appear in eight issues, January- November (except for summer months) for \$100 or monthly for \$12.50.

Florida Native Plant Society
Paynes Prairie Chapter
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Archer FL 32618



The Mission of the Florida Native Plant Society is to promote the preservation, conservation, and restoration of the native plants and native plant communities of Florida.

The society fulfills this mission through:

- Support for conservation land acquisition
- Land management that enhances habitat suitability for native plants
- Education
- Public policies that protect our native flora, especially rare species
- Research on native plant species and,
- Encouragement of local landscaping practices and policies that preserve Florida's native plant heritage.

Can you grow *Rhexia* from seed?

You could win \$100 worth of plants from Notestein's Nursery if you are the first to propagate *Rhexia*, our namesake, from seed. You will need to grow several flats of four inch pots in time for either our Spring or Fall Native Plant Sale to qualify.
Call Jim with questions - 352-372-2107



Photo Credits: Our thanks to Wesley Hetrick for permission to use his photo, Sunrise at Paynes Prairie, on Page 1. See more of Wesley's images at <https://www.flickr.com/photos/wesleyhetrick>
Also to Peter May for permission to use his *Rhexia* photo.

CALENDAR Paynes Prairie Chapter Florida Native Plant Society

**February 12:
Great Invader Raider Rally
By registration only**

(See page 6 for details)

**February 15:
General Meeting
7:00 pm**

*(See page 1 for details
and page 2 for zoom link)*

**February 26:
Field Trip
Santa Fe River Preserve
with Susan Carr
9:30 am**

(See page 6 for details)