General Meeting

*Niche evolution in the genus Liatris*
Anthony Melton, PhD Candidate, UF
**Tuesday, November 21, 2017**
Phillips Hall, Unitarian-Universalist Fellowship
4225 NW 34th Street, Gainesville, FL 32605

Anthony Melton is a PhD candidate at the University of Florida. Anthony graduated from the University of Montevallo (Montevallo, AL) in the spring of 2013 with a BS in Biology and then began his graduate career at Auburn University (Auburn, AL). While at Auburn, Anthony became increasingly interested in Botany and niche evolution while studying genetics in members of the genus *Marshallia* (Asteraceae) for his Master’s Thesis.

Anthony is broadly interested in evolutionary biology, particularly molecular and niche evolution and the process that drive them. His dissertation research is focused on patterns and drivers of niche evolution in the genus *Liatris* (Asteraceae). He is also involved in research that investigates the evolution of plants that have an Eastern Asia – Eastern North American disjunct distribution, effects of climate change on plant communities, community phylogenetics of regional flora, and conservation genetics of endangered species.

Anthony will discuss his research on niche evolution in the genus *Liatris*, as well general interesting *Liatris* species, *Liatris* ecology, and their roles in ecosystems.

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Election of Officers

Please join us as we tend to the business of the chapter by electing new officers at the general meeting on November 21, 2017. Our thanks to nominating committee members Mark Elliott, Karen Schneider, and Karen Garren for preparing the following slate for your consideration.

**President:** Mark Elliott
**Vice-President:** Currently Open
**Secretary:** Ellen Thoms
**Treasurer:** Goldie Schwartz

**Directors:**
- Michael Bubb
- Connie Caldwell
- Jill McGuire
- Karen Schneider
- Dan White

**Chapter Rep:** Sandi Saurers

Nominations will also be accepted from the floor at the meeting. Notice the vice president's position is open. If you have considered taking a more active role in the chapter, perhaps this is the opportunity you've been waiting for!
November Yard Tour
Home of Mark Elliott, Gainesville
Saturday, November 18, 2017

On Saturday, November 18, at 9:00 AM, we'll be gathering at the home of Mark Elliott in northwest Gainesville. It'll be interesting to see his yard in the fall, since the last time we were there, 2013, was in March.

For directions, contact Connie Caldwell at cnncldwll@gmail.com, or for carpooling, meet at the Publix parking lot in Hunter's Crossing, corner of NW 43rd St. and NW 53 Ave. at 8:15 AM.

Carl’s Garden Workday Scheduled
Saturday, December 9, 9:00 a.m.

It’s that time of year again. The air has cooled off and we’re all feeling like getting out in our yards (finally!) to spruce things up. Well, the Paynes Prairie Chapter also has a demonstration garden that we maintain at the Kanapaha Veterans Memorial Park. Dedicated to the memory of Carl Miles, who was an avid native plant lover, we’ve been caring for this native plant garden for 12 years. We will be meeting at 9:00 am on the morning of December 9 at the garden. Bring a shovel, clippers, gloves, sunscreen, and water. We will be spreading concrete fines on the pathways, so if you have a portable wheelbarrow, that would also be helpful.

After our hard work has been completed, we’ll adjourn for a nice lunch. The address is 7400 SW 41st Place (at Tower Road). If the gate is open when you get there, you can drive right to the garden which is just to the west (left) of Chapman’s Pond. For more information about Carl’s Garden, please see “Who was Carl Miles” in the September 2005 Rhexia available on our website at http://paynesprairie.fnpschapters.org/data/uploads/newsletters/2005/sept05rhexia1.pdf. We look forward to seeing many of you there!

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. See more of Peter’s work at http://www2.stetson.edu/~pmay/index.htm
Field Trip to B B Brown’s Gardens
By Rob Garren

On Saturday October 21st, Dr. Marc Minno led us on a field trip to B B Brown’s Gardens, a 15 acre former citrus grove located west of Lake Minnehaha near Clermont. The property was purchased by Bruce and Cathy Brown in 1996 and soon afterward the Browns were about to build a Florida Cracker style cabin on the property when they read an article in the paper about the sale of two complete towns that had been built in central Florida by Warner Brothers Pictures as movie sets for the film Rosewood. All of the buildings on the sets were to be auctioned off. The Browns bought one of the cabins and had it moved to their property. The cabin is where our field trip began when we met Cathy and Bruce as well as their dog Charlie Brown.

Since 2003, with the help of a number of volunteers, they have been working to restore the site to native scrub habitat. They have planted over 10,000 native trees, shrubs, and herbs on the property since that time. In addition to the former citrus grove (originally scrub) habitat, the property also contains a small unnamed lake as well as a willow swamp. The property is also home to a small scrub jay population and is a founding member of the Florida Scrub Jay Trail. There are currently some 65 gopher tortoise burrows on the site as well. A small plant nursery also has been established at the cabin to sell butterfly-friendly flowering species. Finally, there is a small breeding group of Sicilian Miniature Donkeys in a pen – these animals are used to teach animal husbandry – as well as some chickens and a vegetable garden.

Dr. Minno makes a monthly visit to the property to inventory existing fauna and flora, particularly butterflies and their larvae. He has documented over 300 plant species since initiating his monthly “bioblitz” on the parcel. Additionally, butterfly tagging was being performed during the day of our visit so we got to observe that process as well.

We followed Marc around over the course of a couple hours and I must note that, as expected, his knowledge of butterflies, their lifecycles, and their taxonomy is truly remarkable. Marc found a number of butterfly larvae hidden in rolled-up leaves, twigs, and other places where one would not necessarily think to look. We did manage to add a few new plant species to the cumulative list, including interrupted fern (Thelypteris interrupta), indian crabgrass (Digitaria longiflora), pangolagrass (Digitaria eriantha), whisk-fern (Psilotum nudum), Florida airplant (Tillandsia floridana), and possibly viviparous spikerush (Eleocharis vivipara) at the lake edge. Control of exotic plant species that do not provide butterfly forage or larval food is an ongoing, daunting task as one might expect. Rose natalgrass (Melinis repens) is a widespread, common invasive species along with several crabgrass (Digitaria) species.

I highly recommend a visit to B B Brown’s Gardens if you want to see restoration of central Florida habitat in action. Cathy and Bruce have spent considerable time and money in their effort to restore and preserve a little piece of what used to exist in this part of Florida. With the demise of much citrus acreage due to freezes, pests, and other causes over the past several decades, perhaps they have started a trend which will bear fruit over the coming years. Natural habitat of the central Florida ridge has been under increasing stress in recent decades and, given the presence of many endemic plant species found only in this small area and nowhere else worldwide, it is increasingly important to preserve and restore what we can before it is all gone. Thanks to both the Browns as well as Marc Minno for allowing us to “tag” along on their monthly foray. I am sure a return visit will be in the works.
Our October 14 yard visit took us to the home of Paul Lyrene, who lives with his wife Irma on a seepage slope next to Barr Hammock on Paynes Prairie. We were lucky enough to have David Hall on the tour, a professional plant taxonomist who was able to identify most of the plants we saw. The house and plantings are located on the higher five acres that they own; the five acres abutting Levy Lake (which is more a prairie than a lake) are left to be natural. The seepage slope drops gradually 30 feet to reach Levy Lake, and the sandy topsoil is just one foot deep, above an 8 inch phosphate rock layer, below which lies soft sand. Water from Hurricane Irma is still seeping along the slope, five weeks later!

Paul has researched and speculated about what has taken place on the property in the past, and concluded that part of it had been an open field, which was abandoned 80 to 100 years ago. When a large loblolly pine (Pinus taeda) fell during the recent storm, he was able to calculate the age of the even larger ones to about 80 years. Other trees growing here include pignut hickory (Carya glabra), sweetgum (Liquidambar styraciflua), basket oak (Quercus michauxii), flatwoods plum (Prunus umbellata), Carolina basswood (Tilia americana var. americana), southern magnolia (Magnolia grandiflora), laurel oak (Quercus hemisphérica), live oak (Quercus virginiana), water oak (Quercus nigra), and cabbage palms (Sabal palmetto), which Paul says grow here “like hairs on a dog’s back”!

Paul’s area of expertise being blueberries, we learn some things about the genus Vaccinium. For example, palms and blueberries do not grow on the same soil; the pH is too high for the blueberries. We learn about the history of the term Vaccinium: a plant of the same genus, “cowberry”, which grows in Sweden, is relished by cows and the connection with the name has to do with getting the vaccine for smallpox from cows that have cowpox. Interesting!

We walk toward the house on a wide path edged by pinezter azaleas (Rhododendron canescens), persimmon (Diospyros virginiana), snow squarestem (Melianthera nivea), goldenrod (Solidago sp.), mistflower (Conoclinium coelestinum), and Spanish needles (Bidens sp.), all thriving among the larger trees. In pots in front of the house are eastern gamma grass (Tripsacum dactyloides, which we learn was once thought to be an ancestor of maize), Simpson’s stopper (Myrcianthes fragrans), blue curls (Trichostema dichotomum), river oats (Chasmanthium latifolium), and others, all waiting for their place in the landscape. Paul tells us that he doesn’t mow until June 15 in order to enjoy the spring wildflowers that grow among the grasses, and then he only mows five times during the year after that. He points out a number of grasses and weeds as we walk along on them, and he tells us he recommends centipede grass because it seldom needs mowing.

We proceed towards the back of the house, passing elderberry (Sambucus canadensis), yellowleaf hawthorn (Crataegus flava), tree sparkleberry (Vaccinium arboreum), St.Andrew’s cross (Hypericum hypericoides), Elliott’s blueberry (Vaccinium elliottii), pokeweed (Phytolacca americana), various morning glories (Ipomoea spp.), ironweed (Vernonia sp.), yellow jessamine (Gelsemium sempervirens), winged sumac (Rhus copallinum), black locust (Robinia pseudoacacia), tall redtop grass (Tridens flavus), parsley haw (Crataegus marshallii), and American snowbell (Styrax americanus). A large colorfully flamboyant bed of flowers greets us in the back - narrowleaf sunflower (Helianthus angustifolius), Mexican coral vine (Antigonon leptopus), mistflower, Bidens, Pentas, and a tall grass that we learn from David Hall is Florida jointtailgrass (Coleorachis tuberculosa). Very tall bamboo poles, harvested from a large bamboo clump, support the vines, and Paul tells us that the poles sometimes will sprout and grow there!

Paul grows a lot of fruit trees - citrus, persimmon, mulberry, jujube, and others, and he points out examples of fruit trees that he has grafted onto hardy rootstock, and others - mandarins - that he has grown from seed. Although his specialty is blueberries, he learned right away that they will not grow on this soil. But he found that by creating a mound of different soil, he could proceed with some of his experimentation in interbreeding various Vaccinium species.

We move on now toward the citrus grove. Along the way Paul points out three types of yaupon (Ilex vomitoria) varieties growing together, all of which are...
October yard tour (con't from page 5)

female. Since *Ilex* are dioecious, Paul has placed a male yaupon in a pot next to them. The first year he got a large crop, then very little - (what’s up? he wants to know). We pass frostweed (*Crocanthemum carolinianum*), firebush (*Hamelia patens*), mulberry (*Morus sp.*), juba’s bush (*Iresine diffusa*), *Bidens*, hemp sesbania (*Sesbania herbacea*), lyreleaf sage (*Salvia lyrata*, which grows throughout the grasses here), rattlebox (*Crotalaria sp.*), spiderwort (*Tradescantia ohioensis*), elephant’s foot (*Elephantopus elatus*), dayflower (*Commelina sp.*), guinea hen weed (*Petiveria alliacea*), beautyberry (*Callicarpa americana*), and hammock snakeroot (*Ageratina jucunda*) which is about to burst into bloom.

And this is the end of our tour since we’re told that the lower part of the property, the natural part, may be harboring snakes that are fleeing higher water levels!

Thank you, Paul, for all you have taught us, and for your hands-off care of the sensitive lands that you own.

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## Plant ID Workshop for October 2017

### Compiled by Paul Cohen and Rob Garren

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Family</th>
<th>Status</th>
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<tbody>
<tr>
<td>Bidens mitis</td>
<td>SMALLFRUIT BEGGARTICKS</td>
<td>Asteraceae</td>
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<td>Calyptocarpus vialis</td>
<td>STRAGGLER DAISY</td>
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<td>Carica papaya</td>
<td>PAPAYA</td>
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<tr>
<td>Commelina erecta</td>
<td>WHITEMOUTH DAYFLOWER</td>
<td>Commelinaceae</td>
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<tr>
<td>Conoclinium coelestinum</td>
<td>BLUE MISTFLOWER</td>
<td>Asteraceae</td>
<td>Native</td>
</tr>
<tr>
<td>Physostegia virginiana†</td>
<td>OBDIENT PLANT</td>
<td>Lamiaceae</td>
<td>Not Native?</td>
</tr>
<tr>
<td>Rhynchospora colorata</td>
<td>STARRUSH WHITETOP</td>
<td>Cyperaceae</td>
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</thead>
<tbody>
<tr>
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<td>Glandularia maritima</td>
<td>COASTAL MOCK VERVAIN</td>
<td>Verbenaceae</td>
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<td>Hibiscus aculeatus</td>
<td>COMFORTROOT</td>
<td>Malvaceae</td>
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<tr>
<td>Kosteletzkya pentacarpos</td>
<td>VIRGINIA SALTMARSH MALLOW</td>
<td>Malvaceae</td>
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<tr>
<td>Monarda punctata</td>
<td>SPOTTED BEEBALM</td>
<td>Lamiaceae</td>
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<tr>
<td>Salvia misella</td>
<td>SOUTHERN RIVER SAGE; RIVER SAGE</td>
<td>Lamiaceae</td>
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<td>Sorghastrum secundum</td>
<td>LOPSIDED INDIANGRASS</td>
<td>Poaceae</td>
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<td>Spigelia marilandica</td>
<td>WOODLAND PINKROOT</td>
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<tr>
<td>Sporobolus junceus</td>
<td>PINEYWOODS DROPSEED</td>
<td>Poaceae</td>
<td>Native</td>
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</tbody>
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† Physostegia virginiana (L.) Benth. has been recorded in Jackson County, Florida in areas where it was unlikely to have escaped from cultivation (Personal communication with Floyd Griffith in Alford, Florida located in Jackson County). Alan Weakley, Director of the University of North Carolina herbarium, feels that *P. virginiana* is native to Jackson County. Prof. William A. Watts (1930–2010) did extensive research on the Palynology of Eastern North America including studies in Florida ([https://www.tcd.ie/Botany/assets/pdf/environmental-sciences/Rev%20P%20%20Bradshaw.pdf](https://www.tcd.ie/Botany/assets/pdf/environmental-sciences/Rev%20P%20%20Bradshaw.pdf)) and has references to the paleo flora of Florida in the Quaternary but so far has not found any evidence of the species in Florida prior to colonialism.

Thank you to everyone who contributed plants and expertise. The workshop is intended to be educational not a plant ID service. Nomenclature adapted from Atlas of Florida Vascular Plants ([http://www.florida.plantatlas.usf.edu](http://www.florida.plantatlas.usf.edu)).
Field Trip Report – Croom Tract, Withlacoochee State Forest

Photo and text by Karen Garren

On a beautiful October morning, a group of Florida native plant enthusiasts followed biologist Colleen Werner to view the autumn wildflower bloom in the Croom Tract of the Withlacoochee State Forest. Beneath a robin’s egg blue sky, a whispering canopy of longleaf pines (Pinus palustris) and hardy turkey oaks (Quercus laevis), golden plumes of lopsided indiangrass (Sorghastrum secundum) waved along the Florida Trail. Scattered shrubs included sand live oak (Quercus geminata), laurel oak (Q. hemisphaericus), bluejack oak (Q. incana), sand post oak (Q. margarettae), sparkleberry (Vaccinium arboreum), and shiny blueberry (V. myrsinites), with summer grape vines (Vitis aestivalis) clambering atop. Winged sumac (Rhus copalimun) added ruby patches of color, pocket gopher mounds dotted the ground and we saw several tortoise burrows. Flowering herbaceous plants included blazing star (Liatris spicata), coastalplain palafax (Palafaxia integrifolia), elephant’s foot (Elephantopsis carolinianus), broomedge bluestem (Andropogon virginicus), bracken fern (Pteridium aquilinum), summer farewell (Dalea pinnata), scaleleaf aster (Symphyotrichum adnatum), white top aster (Sericocarpus tortifolius), dogtongue wild buckwheat (Eriogonum tomentosum), bearded skeletongrass (Gymnopogon ambiguis), and beautiful purple lovegrass (Eragrostis spectabilis). Along Forest Road 5 (FR5) we found coastalplain honeycombhead (Baldinia angustifolia), thin paspalum (Paspalum setaceum), delicate tall jointweed (Polygonum gracilis), and Pluknenet’s flatsedge (Cyperus pluknetii). Centipede grass (Eremochloa ophiuroides) and lanceleaf ratttlebox (Crotalaria lanceolata) are nuisance exotic species in this area.

Colleen described various fire regimes used to maintain the open savannah character. Over decades the area has had many land use changes: turpentine harvest, logging, and cattle ranching, but fortunately has never been plowed so has intact soil structures and seed banks. All longleaf saplings originated from natural regeneration. Colleen told of staff seasonally collecting flowering plant seeds for sale to promote diverse forest ecosystems having more economic value than wood products alone. She interacted with prospective hunters scouting sites for the upcoming season. She talked about the forest’s special wildlife including red-cockaded woodpeckers, gopher tortoises, indigo snakes, pine snakes, short-tailed snakes, and an endemic grasshopper. The forest supports numerous research projects – Colleen enjoys working with graduate students. Dozens of caves are managed at various levels of disturbance: low intensity visitation by the public, entrance by permit only, and completely off limits, in order to protect bat colonies.

Down a seepage slope, unburned late-successional hammock tree canopy now included pignut hickory (Carya glabra), persimmon (Diospyros virginiana), and Florida maple (Acer saccharum subsp. floridanum) while longleaf pines gave way to loblolly and slash pine (Pinus taeda and P. elliottii). Shrub layers included spotted beebalm (Monarda punctata) and Cherokee bean (Erythrina herbacea). At the bottom of the slope, the trail opened onto a spectacular freshwater basin marsh covered with waving splithead bluestem, purple bluestem, and broomedge bluestem (Andropogon ternarius, A. virginicus var. glaucus, and A. virginicus var. virginicus, respectively), with long islands of false fennel (Eupatorium leptophyllum) which resembles yankeeweed (E. compositifolium) but isn’t sticky. There had been an early summer burn but we found regenerating buttonbush (Cephalanthus occidentalis) and purple false foxglove (Agalinis purpurea). Tucked beneath were pale meadow beauty (Rhexia mariana) and fireweed (Erechtites hieracifolius). Along the marsh margin were diminutive Small’s bogbutton (Lachnocaulon minus) and slender flattop goldenrod (Euthamia caroliniana).

We next drove east on Croom Road, parking at a Water Management District monitoring well. Open ground cover included sweet goldenrod (Solidago odora), butterfly milkweed (Asclepias tuberosa), blackroot (Pterocaulon pycnostachyum) in flower, Baldwin’s flatsedge (Cyperus croceus), and under the power line, a dense thicket of lovely red-stemmed cottonweed (Froelichia floridana), a member of the amaranth family, interspersed with coastalplain palafax (Palafaxia integrifolia). On the other side we found great puffy stands of Florida paintbrush (Carpephorus corymbosus), fluffy white clouds against the dark green leaves of hammock snakeroot (Ageratina jucunda), and patches of wiregrass (Aristida stricta) flowering in response to the late summer burn. A reclining legume had everyone stumped, we settled on clutterspike false indigo (Amorpha herbacea) but Rob later confirmed it to be Carolina indigo (Indigofera caroliniana). Our next trip to the forest will be to paddle the river.
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.

**This space available!**

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Contact Goldie at afn49@mindspring.com
Paynes Prairie Chapter
of the Florida Native Plant Society

Please join us for these upcoming events!
(See more details on pages 1 and 2)

November Yard Tour
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Saturday, November 18, 2017

November General Meeting
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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.