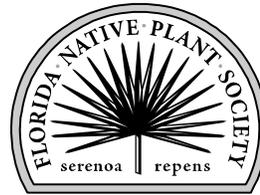




The Lily Pad

The Pine Lily Chapter of the Florida
Native Plant Society



Volume 2, May 2008



Mark's Remarks

At our last meeting, we were reassured by the upswing in attendance and the reception of Jenny Welch's photographic flower identification program. We know summer is around the corner and want to urge you to make sure our meetings are on your calendars (third Thursday of every month); because it is just as important to let our presenters know that their effort has been worthwhile, as it is to provide great programs for our community.

Our goal is to provide opportunities that interest you, as well as that will attract others to our cause and educate the public about it. We hope to have an evening plant walk at an upcoming meeting (although, we'll have a back-up in case of a thundershower) and will work on more Saturday morning walks, as members express an interest.

So, we welcome you to come to our next meeting on Thursday, May 15th. You're welcome to show up late, but we will begin promptly at 6:30. Our new location at First United Methodist Church in Kissimmee will allow you to find an open seat with no problem. So, early or late, we look forward to your participation. Remember, refreshments are provided. If you miss the May 15th meeting, we meet the third Thursday of each month.

Regards, Mark Johnson

May Program

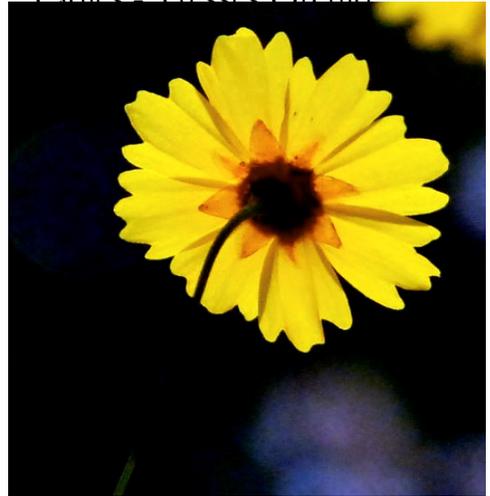
Come join us this month as Claudia Canty (an employee at The Disney Wilderness Preserve)

Beautiful Blooms! Thank You Jenny





Ladies' Tresses Orchid



FLORIDA NATIVE PLANT SOCIETY CONFERENCE AND PLANT SALE

Uplands to Estuaries
Celebrating Florida's Native Plant Heritage

Experience the best natural areas in west central Florida, improve your knowledge of environmentally friendly landscape design, learn about FNPS' conservation

initiatives and what you can do in your communities, enjoy socializing with like-minded native plant enthusiasts.

- Over 50 Sessions to choose from with expert speakers from all over the state
- Over 20 field trips to wonderful natural areas in west-central Florida led by botanists and local plant specialists.
- Walter Taylor as Michaux!
- FNPS Jeopardy -- you don't know what you're missing until you've experienced this!Friday Book Signing Social with environmental authors at the South Florida Museum
- Full children's conference for kids 4-14 on Fri.-Sat. with field trip, nature photography environmental art, and more.
- Native plant sale providing locally grown trees, shrubs and wildflowers throughout the event
- Expansive native plant sale and great vendors of books, artwork, and other items of interest to people interested in nature

WHY: Promote the planting of, preservation, and restoration of the native plants and native plant communities of Florida

WHERE: Manatee Conference Center, Palmetto, FL

Enjoy comederie at our waterfront conference hotel!

Holiday Inn Riverfront, 100 Riverfront Dr., Bradenton, FL 34205.
941-747-3727

WHEN: May 15-18, 2008

Full conference information at www.fnps.org

Please join us for fun and the latest information & research.

Florida Forever Bill

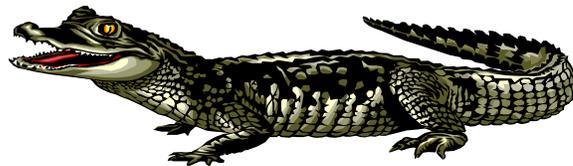


We wanted to give everyone a big thank you for doing their part in making the Florida Forever bill known and heard. The Florida Forever bill was passed unanimously by the House of Representatives. Now we just have to wait for the governor to sign

it. This bill will allow \$300 million dollars per year to be allotted for conservation in Florida until 2020.

Upcoming Event and Volunteer Opportunity

Come visit us at Gatorland on May 17th for Endangered Species Day. Listen, Learn and explore the wilder side of understanding some of Florida's endangered species at the "Alligator Capital of the World." This one-of-a-kind event will feature interactive experiences with some of the countries leading plant and animal experts along with games and education stations sure to capture the attention of even the smallest reptile wrangler. For a complete list of events and prizes visit www.gatorland.com. Events and contests are included with admission to Gatorland.



We are looking for volunteers to help man our booth the day of the event. If you are interested please contact Mark at ecotone.mail@embarqmail.com. Thank you and hope to see some of you there.

2008 Campus and Community Sustainability Conference

“The University of Central Florida is proud to announce that registration has opened for the 2008 Campus and Community Sustainability Conference being held October 19th-21st, 2008 in Orlando, Florida. We are excited that UCF was awarded this opportunity to showcase sustainable practices this fall and have chosen the theme of “The 3 C’s of Sustainability: Communication, Community Involvement, and Campus Environment.

The conference will have over 400 leaders from around the state attending this two-day event which will showcase best practices in sustainable development in Florida and in the nation, highlight new products and innovations, and provide a forum for organizations - public and private - to explore how to best develop a "green" culture. Please visit <http://www.sustainablefloridaconference.org/> for registration and the “Call for Intent” information.”

Guttation *by Danny Husband*



Have you ever noticed drops of “dew” on the tips of a leaf on a cool central Florida morning? These drops may not be dew at all but rather the result of a phenomenon known as *guttation*.

Dew comes from the air. During the day the ground surface is heated by the sun. The heated rocks and soil begin to lose heat after sunset. The heat radiated (lost) by the earth’s surface actually warms the air above it. The result of this radiant heat loss is that the ground actually cools more rapidly than the air above. As we all know, cooling water vapor results in the conversion of the vapor (steam) to liquid water. Water vapor in the warm air precipitates to liquid water when it contacts the cool ground surface; the result is dew (or frost if it is cold enough). The water evident in the picture above, a result of guttation, actually comes from the soil (via the roots), rather than from the air. The water is released from specialized cells at the tips of the leaf known as hydathodes (from the Greek for water-road). Why does this occur? In order to understand guttation we need to understand a bit about how plants obtain water from the soil. Plants have a specialized type of tissue (called xylem) that is essentially made of hollow cells placed end to end to form, in essence, a water-tight straw that leads from the roots, through the stem, and to the leaves. During the heat of the day, water evaporates (evaporation from plants is called transpiration) from the leaves and is literally pulled into the roots and up the stem as a result. In essence the phenomenon is quite similar to drinking through a straw. There is a continuous column of water from the source (the soil), through the roots and stem, to the leaves and then ultimately transpired from the leaves to the air.

Another important aspect of water movement in plants that explains guttation, involves the amount of salt dissolved in plant cells. *Water follows salt*. What happens if you put salt on a slug (not that any of us would do such an awful thing!)? The slug shrivels up, dries out, and dies. What about if you put salt water aquarium fish into a glass of tap water? They swell up and die. What happens in each case? In the case of the slug, the water leaves the slug’s tissues in response to the extra salt you just sprinkled on the poor creature (why would you do such an awful thing?!). In the case of the fish, water entered the fish’s tissues (there is

more salt in the fish's cells than in the tap water, and the water follows the salt). If you drink seawater it won't hydrate you, but dry you out. This is because the seawater has more salt in it than your cells do. Your cells in this case are like the slug. You have, no doubt, heard of people dying from water intoxication (drinking too much water). These deaths are a result of drinking too much pure water (with no dissolved salts). Because your cells have more salt dissolved in them than pure water does, your cells take on the excess water and actually burst. Gatorade has just the right amount of dissolved salts in it, relative to your cells, and therefore does not dehydrate you or cause your cells to burst. The important thing to remember is that water follows salt. Plants can use this to their advantage. One way that plants can get water from the soil (which has varying degrees of salt in it) is to pack their root cells with lots of dissolved salts (and other similar compounds). If the root cells have a higher concentration of salt dissolved in them than does the soil water, then water will flow from the soil into the cells (think about the salt water fish). During the heat of the day transpiration (evaporation) of water from the leaf surface is so rapid that the uptake of water via the "water follows salt" mechanism isn't noticeable. However, during the night, or anytime when transpiration is limited (high humidity and cool temperatures, both characteristics of the morning hours) the phenomenon of guttation can occur. What happens is that the root cells continue to take up water during the evening hours via the "water follows salt" mechanism. The water is literally forced upward as it is continuously drawn into the roots, because there is no where else for it to go. When it reaches the leaves it is discharged from the specialized hydathodes. This prevents over inflation by water and a "blow-out" of the tissues. The water is evident in the morning because it is not yet warm enough to be evaporated off the leaves. As the day progresses the water evaporates and the "straw mechanism" of water uptake overtakes the "water follows salt" mechanism.

So next time you see water on leaves in the morning look closely. Is it coming from the tips of leaves, or is it in rows, etc...? If so it is likely not dew but a result of guttation.

We have a diverse constituency and want to make sure we are doing our best at meeting your needs. If you have ideas for program topics, speakers or field trips, please feel free to send an email to mjohnson@ecotonelanddesign.com

We Need You!



Would you like to take a leadership role in the chapter? We have a few open spots to serve as board members. If anyone would like to serve as an officer, we have an opening for Membership Chair, Conservation Chair, Publicity Chair, and Education Chair. We also need a Historian and Hospitality Chair. If you are interested, any present officer would be glad to discuss these opportunities with you.

Don't forget our Next Meeting is on May 15th at 6:30 p.m. at First United Methodist Church in Kissimmee. Located at the corner of Dakin and Church.

The Board of Directors, Committee Chairmen, and Contacts

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Florida Native Plant Society Membership Application

Membership in the Florida Native Plant Society enables you to receive their wonderful quarterly magazine *The Palmetto*. Joining the FNPS also entitles you to membership privileges in the Pine Lily Chapter of the FNPS and a subscription to their monthly newsletter *The Lily Pad*.

w New Member w Renewal

Name _____

Business name or organization _____

Address _____

City, State and Zip _____

Home phone _____

Work phone _____

Check pertinent category

- | | |
|-----------------------------|------------------------------------|
| w Individual \$25 | w Not-for-profit organization \$50 |
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| w Family or household \$30 | |
| w Contributing \$40 | |
| w Supporting \$250 | |

*Make check payable to: FNPS
 Detach and mail to:
**Pine Lily Chapter of
 Florida Native Plant Society
 P.O. Box 278
 Melbourne, FL 32902-0278***