The Lily Pad

The Pine Lily Chapter of the Florida Native Plant Society

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

April 2009

Rosalind Rowe is our speaker this month. She is the Central Florida Invasive Plants Coordinator and currently manages the Central Florida *Lygodium* Strategy (CFLS). CFLS is a public-private partnership administered by The Nature Conservancy that makes it possible for private property owners to get assistance controlling the highly invasive Old World climbing fern, *Lygodium microphyllum*, along its northern line of advancement. She came to TNC from the Marie Selby Botanical Gardens in Sarasota, where she worked on the living plants collection database and inventories, and also implemented the vegetation surveys the Gardens did for Sarasota County's Environmentally Sensitive Lands Program. She currently serves as editor for the Florida Native Plant Society's newsletter, "The Sabal Minor". She has a work history that ranges from computer programming to education technical writer for a major software company, to grants writer and manager, bookkeeper, interpretive guide for an environmental education facility, teacher, and artist. In her presentation, "Of Spores and Sprays - the Northward March of *Lygodium microphyllum*", she will explain how this very aggressive invasive plant species is a serious threat to Florida's natural areas.

In Bloom:

Pitcher plant (*Sarracenia minor*) bloom in wet savannahs in April. A good month to key out all those blue-purple flowers!

WEED ALERT!

Japanese climbing fern (*Lygodium japonicum*)

Native to eastern Asia and tropical Australia, Japanese climbing fern (*Lygodium japonicum*) is a fern with climbing fronds that was first introduced into the United States during the 1930s for ornamental purposes. It can reach lengths of 90ft.(30 cm) with thin, wiry, green to orange to black vines that usually die back in the winter.

The fronds (leaves of a fern) are opposite, compound, usually triangular in shape, 3-6 in. (8-15 cm) long, 2-3 in. (5-8 cm) wide and finely dissected appearing lacy. Fertile fronds bear sporangia (spore producing dots), usually smaller segments with fingerlike projections around the margins, that can be transported long distances by wind and even by vehicles.

What looks like a stem is actually a climbing, freely branching, leaf (frond) which may become as much as 100 feet long, mostly deciduous in late winter. The leafy branches off the main stem are 4-8 inches long. The leaflets of Japanese climbing fern are lobed, dissected on stalks, generally triangular in outline. Some of the leaflets look somewhat compressed - these are the leaflets that produce two rows of sporangia along the margin. Sporangia produce spores which lead to the development of gametophytes. Gametophytes are separate small plants that produce sexual cells, which unite to form an embryo and ultimately a new climbing fern. This alternating of vegetative and reproductive plants as separate generations is typical of most ferns. The reproductive plants (gametophytes) are usually very small, and rarely seen. It could be confused with its cousin, Old World climbing fern (*Lygodium microphyllum*) - a major invasive pest in southern Florida – or the Florida native American climbing fern (*Lygodium palmatum*), both of which are distinguished by five to seven palmately lobed, finger-like fronds.

Source: Center for Aquatic and Invasive Plants, University of Florida, IFAS
http://www.invasive.org/species

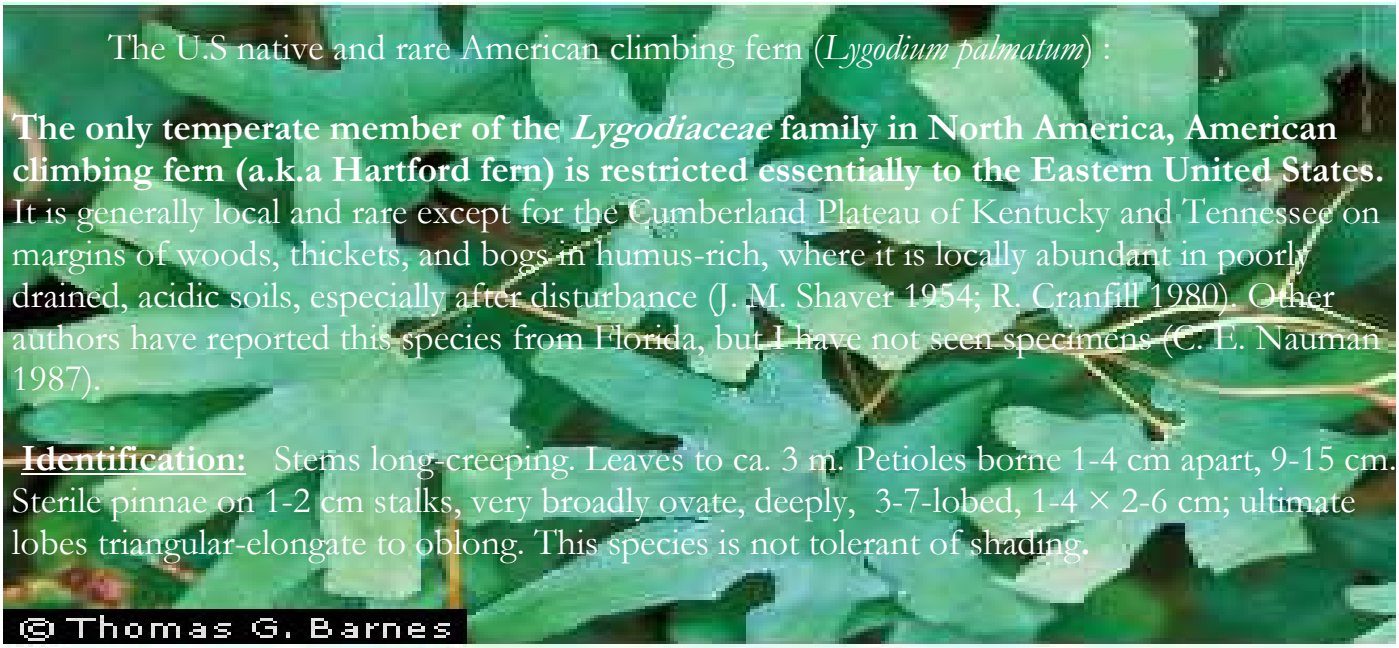
Japanese climbing fern often invades disturbed areas such as roadsides, ditches, along highway right-of-ways, especially under and around bridges moving into natural areas. It forms dense mats in open forests, forest road edges, and stream and swamp margins, overtopping forest trees, shading-out and killing them.

It is often found as a tangled mass over shrubs and fence lines, smothering understory vegetation, shrubs, trees and tree seedlings. Even though its leaflets are killed by winter frost, the rhizomes live on, with dead vines providing a trellis for reestablishment. It is believed to prefer damp places.

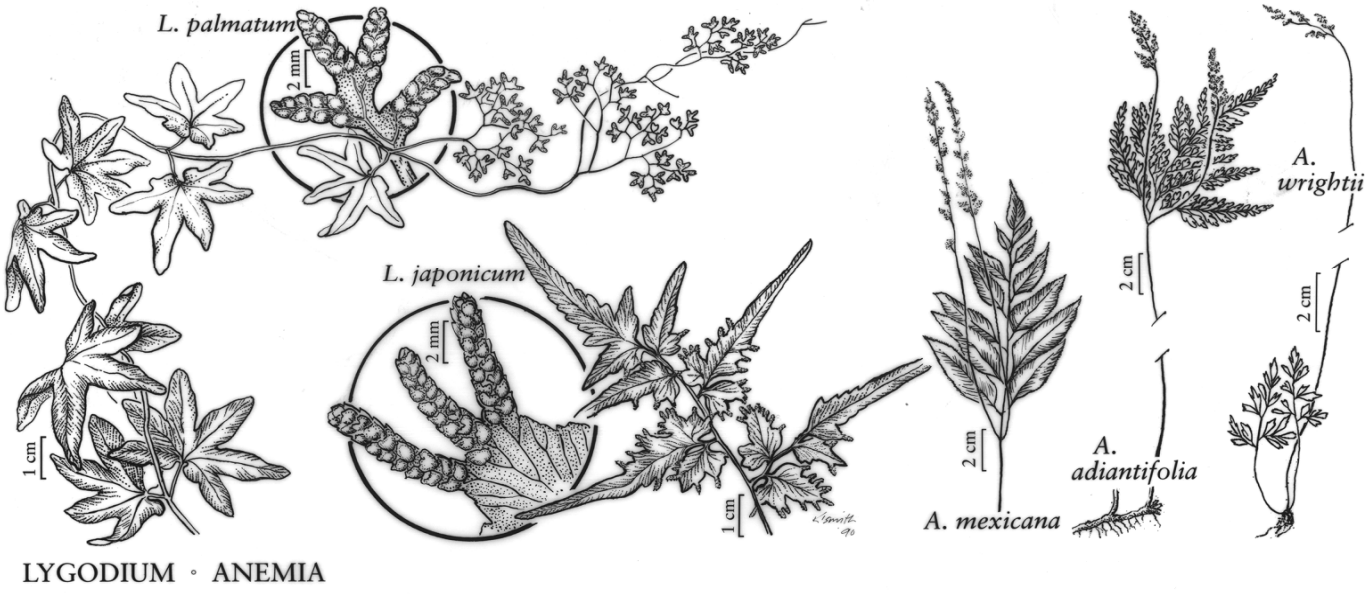
Right: Japanese Climbing fern infestation in Tift County, GA. Photo by Chris Evans, River to River CWMA, Bugwood.org

Fertile fronds of Japanese climbing fern. Photo by Chris Evans, River to River CWMA, Bugwood.org

Source: Center for Aquatic and Invasive Plants, University of Florida, IFAS
http://www.invasive.org/species



©Thomas G. Barnes. Barnes, T.G., and S.W. Francis. 2004. *Wildflowers and ferns of Kentucky*. University Press of Kentucky.



LYGODIUM · ANEMIA

Source: http://www.eFloras.org / http://plants.usda.gov

Old World Climbing Fern: A threat to Florida's natural areas

Old World climbing fern (*Lygodium microphyllum*), native to Africa, Asia, and Australia, is a newcomer to Florida that has spread at an alarming rate since its introduction. The first record in Florida was collected from a plant in cultivation at a Delray Beach nursery in 1958 (University of Florida Herbarium record). Subsequently, a collection was made from the wild in Martin County in 1960 (Florida State University Herbarium record), and two additional collections from the wild in Martin County in 1965 (University of Florida Herbarium record). By 1978, it was well established and had already affected native vegetation by smothering shrubby and herbaceous plants in southern Florida (Nauman and Austin 1978). Owing to the fern's ability to reproduce by wind-dispersed spores, new populations are found in remote areas far from existing populations. Spores are produced year round in south Florida, and a single fertile leaflet can produce up to 28,600 spores with each spore potentially capable of starting a new population of the fern at a distant location (Lott et al. 2003; Volin et al. 2004). Area coverage of the fern increased from 27,000 acres in 1993 to 122,787 acres in 2005 (Amy Ferriter, SFWMD, personal communication). In 2005, the most northern distribution of the fern in peninsular Florida was recorded in Orange County about 5 miles east of Orlando (Pemberton 2003). In 2005, Old World climbing fern is found on both the Atlantic and Gulf Coasts of Florida as far North as Hillsborough and Brevard Counties (Wunderlin and Hansen 2004).

Old World climbing fern is climbing into trees and shading out native vegetation in hundreds of acres in east-central Florida. It has the ability to "resprout" from almost anywhere along **each climbing leaf**. Dense growth of the plant can also be a fire hazard, frequently enabling small ground fires to reach into tree canopies where it can kill the growing branches. Invasive exotics can thus change the effects of physical processes in plant communities.

Old World climbing fern is a fern with climbing fronds. What looks like a stem is actually a climbing, freely branching, leaf (frond) which may become as much as 100 feet long. The leafy branches off the main stem are 2-5 inches long. Old World climbing fern has two types of leaflets on its climbing leaf. The leaflet with the simple, unlobed outline (Figure 1) is a normal vegetative leaflet. The more convoluted leaflet has sporangia along its margin, which produce spores leading to the development of gametophytes (Figure 2). Gametophytes are separate small plants that produce sexual cells, which unite to form an embryo and ultimately a new climbing fern. This alternating of vegetative and reproductive plants as separate generations is typical of most ferns. The reproductive plants (gametophytes) are usually very small, and rarely seen without considerable detective work.

Old World climbing fern climbs into the tree canopy where it competes with canopy trees and understory vegetation for light. It can completely engulf Everglade tree islands, pinelands, cypress swamps and spreads across open wetland marshes. It can kill mature trees along with their associated epiphytic orchids and bromeliads and smother understory vegetation, preventing regeneration of the native plant community. As time progresses, a thick mat of old fern material accumulate on the ground that severely alters the habitat. When fire occurs, the fern carries fire into the tree canopy, causing greater damage and carrying fire through wet areas, which would otherwise present a boundary to spread of fire.
Rare plant species, such as the tropical curlygrass fern (*Actinostachys pennula*) and thin-leaved vanilla orchid (*Vanilla mexicana*) are threatened in their last remaining habitats, such as northern

Everglade tree islands and coastal bay swamps. However, the potential for the most significant damage to native plant populations is highest in areas such as Faxahatchee Strand State Preserve and Big Pine Key National Wildlife Refuge, where numerous rare plants occur.

Fig 1 - Leafy branches (pinnae) of Old World climbing fern are 2 to 5 inches long with several pairs of leaflets (pinnules). Photo by Richard Roberts.

Fig 2 - Fertile leaflets (pinnules) of Old World climbing fern are fringed with tiny lobes of enrolled leaf tissue along the leaf margin, which cover the reproductive tissues. Photo by Richard Roberts.

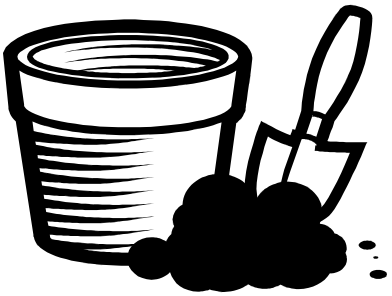
Underside of spore-bearing leaflets of Old World climbing fern. Some leaflets produce spores, others don't. Spores can be carried by the wind to start new infestations.
Photo by Peggy Greb, USDA Agricultural Research Service

Identification: Old World climbing fern plants consist of long fronds (to 90 feet long) that spread along the ground, over shrubs, or climb by twining around other structures, such as trees and other vines. Underground stems (rhizomes) and main stem of the frond (rachis) are dark brown to black and wiry. Leafy branches (pinnae) off the rachis are 2 to 5 inches long with several pairs of leaflets (pinnules). Fertile leaflets are fringed with tiny lobes of enrolled leaf tissue along the leaf margin, which cover the reproductive tissues.

Citizens who want to help protect Florida's natural areas from Old World climbing fern should become familiar with how to identify it, be on the lookout, and teach others about the problem. If you find new populations of Old World climbing fern on public property, you should contact the property manager, or appropriate agency such as a county Environmental department, a Water Management District, or a Florida Department of Environmental Protection Biologist. If you find Old World climbing fern on your own property, pull it up by the roots or spray it with herbicide. Homeowners can purchase glyphosate-containing herbicide in small quantities from retail garden supply stores. Do not dispose of Old World climbing fern in such a way that will cause further spread. Monitor and re-treat if regrowth occurs.

Left: Entomologist Robert Pemberton observes invasive Old World climbing fern overtaking cypress trees in southern Florida. Photo by Peggy Greb, USDA Agricultural Research Service

Infestation in Loxahatchee National Wildlife Refuge, Florida
Photo by Tony Pernas, USDI National Park Service, Bugwood.org



Events around town

Osceola County Master Gardeners Plant Sale

KVLS Building, Osceola Heritage Park
Fri, April 10 - 9am to 5pm and Sat, April 11 - 9am to 3pm
Palms, Hybrid Hibiscus, bromeliads, perennials, annuals, herbs and natives and 100% melaleuca mulch. Master Gardeners will be available both days for questions and advice. Osceola Heritage Park is located at 1911 Kissimmee Valley Lane, Kissimmee. For more information, call 321-697-3000

Annual Spring Wildflower Tour at The Disney Wilderness Preserve

Sat, April 18th from 9:00am - 12:00pm
Botanist Danny Husband will be leading a tour throughout the preserve where we will explore Florida's gorgeous wild flowers. Great opportunity to see beautiful restored Long Leaf Pine Flatwoods and wildlife. This is a no-cost trip. Seating is limited. For more information and to sign-up, please contact Danny Husband dhusband@tnc.org or call (407)935-0002 (ext.110).

Tibet-Butler Preserve

Sat, April 18th - 10am
Everglades "River of Grass"
Discover Florida's natural treasure and the importance of water in a variety of wetland habitats. Take part in activities that emphasize how man has affected the entire Everglades ecosystem. Recommended from ages 7 to adult; limited to 30 participants. Call the preserve (407)876-6696 to reserve your space or for more info.
Sat, April 25th - 10 am
Orienteering
Learn the fundamentals of orienteering with our gusts from Florida Orienteering. Using provided materials, explore how to use a map and compass. Find your way on a white course laid out on Preserve trails. Recommended from ages 7 to adult; limited to 30 participants.

6th Annual Dark Sky Festival at Harmony

Sat, April 25th - 6pm to 11pm
Learn about the marvels of astronomy and the importance of protecting dark skies, not only for astronomy purposes, but also the value of darkness for wildlife. The evening will include discussions and live performances. Attendees are encouraged to bring blankets and chairs for lawn use in the amphitheatre area.
3500 Harmony Square Drive West Harmony, FL 34773
For more info call (407) 891-8358 or visit www.darkskyfestival.com

Lake Amory Restoration Project

Sat, April 25, 2009 - 9:00 am to 2:00 pm

Work alongside Seminole County biologists as you plant native shoreline species and help restore ecosystem function. This is a fun way to learn about our environment and to make a difference! Please bring hat, sunscreen, old clothes and closed-toed shoes. ***Plan to get muddy and wet!*** Meet at 400 W. Crystal Drive, Sanford, Florida 32773. Call Natalae Wilson at 407-665-2457 or email wavsem@seminolecountyfl.gov

Lake Lotus Earth Day Celebration

Sun, April 26, 2009 - 10:00am to 3:00pm

Help remove air potato and other invasive plant species during the Lake Lotus Earth Day Celebration. Or help out at the WAV booth during this fun festival. Lake Lotus Park, 1153 Lake Lotus Park Road, Altamonte Springs, FL 32714. Call Natalae Wilson at 407-665-2457 or email wavsem@seminolecountyfl.gov to register.

Joe Overstreet Landing & Three Lakes Wildlife Management Area

Sun, April 26, 2009

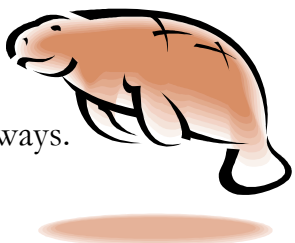
On Joe Overstreet Road, Whooping Cranes, Sandhill Cranes, Swallow-tailed Kites, and Crested Caracaras are possible, and at Lake Kissimmee (the "Landing"), you may see Bald Eagles, Snail Kites, and lots of wading birds. Three Lakes WMA provides several habitats to see Flycatchers, Meadowlarks, Bluebirds, and perhaps Red-cockaded Woodpeckers! For more info go to www.kissimmeeaudubon.org

Trip to Nicaragua's Ecological Areas

A unique trip designed for FNPS sponsored by Latin American Adventures, LLC. www.latinamericanadventuresllc.com For questions: raimundochavarria@yahoo.com or 954-662-1539. The $2,995.00 cost includes all meals, lodging, all ground transportation, air transportation to Nicaragua, air travel within the country and all activities (entrance fees to parks, reserves and preserves). Limited to the first 20 people to register.

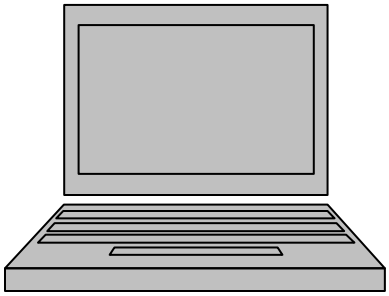
Very special events going on throughout April in FL:

Indigo buntings, Mississippi kites, eastern kingbirds, grosbeaks, warblers, tanagers, orioles and thrushes begin returning to North America. Wood storks in north Florida begin nesting. Florida sandhill crane chicks become old enough to begin foraging in open habitat. Manatees are dispersing around Florida's coastal waterways. Seasonal manatees speed zones change in Florida's waterways.



Cyber Updates

(by Loret Thatcher)



Our Chapter page on www.fnps.org is up and running. Choose Pine Lily from the "Chapters" drop down menu on the lower left hand side to view our events calendar, announcements and past issues of The Lily Pad.

We have a new information email address PineLilyFNPS@aol.com. Meeting and special event announcements will be sent from this email address. Be sure to add it to your email contacts so we don't wind up in your spam folder. If you change your email address, please notify us at this address (in addition to changing it at fnps.org)

Do you tweet? The Pine Lily Chapter is now on twitter. www.twitter.com/PineLilyFNPS. Twitter is a service for friends, family, and co–workers to communicate and stay connected through the exchange of quick, frequent answers to one simple question: What are you doing? In addition to being posted on the chapter website, meeting, field trip and other quick announcements will be available here.

Pine Lily in the news! Press releases (including pictures) regarding Chapter activities are available at http://www.americantowns.com/fl/kissimmee. Information can be found under the "Local Events", "Community Corner" or "Clubs and Organizations" tabs. Just choose "Clubs and Organizations" from the "Sort by Category" pull down menu on any of these pages to see what's been going on in our Chapter. We might even be "front page", so look there too!

Q & A:

Q. Do Wax Myrtles prevent fleas?

A. The aromatic compounds present in wax myrtle foliage seems to repel insects, particularly fleas. It was traditionally planted around southern homes to help keep living spaces pest free. A sprig of wax myrtle in a closet or drawer is reputed to keep cockroaches out!
(source: http://www.floridata.com/plant1/plantbynumber.cfm?FDID=70)

A. **Cedar chips** and **leaves from wax myrtles** may have some repellent properties (some people swear by them!), but have not been scientifically proven.
(source: University of Florida IFAS Extension http://edis.ifas.ufl.edu/IG132)

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

Don't forget our Next Meeting is on April 16th at 6:30 p.m. at First United Methodist Church in Kissimmee. Located at the corner of Dakin and Church.

We are always looking for people to help make our chapter everything it can be. If you ever feel you would like to lend a helping hand please just contact any of our board members.

The Board of Directors, Committee Chairmen, and Contacts

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Florida Native Plant Society Membership Application

Membership in the Floirda 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 Full time student $15
w Library subscription $15
w Family or household $30
w Contributing $40
w Supporting $250
w Not-for-profit organization $50
w Business or corporate $100
w Donor $250

Make check payable to: **FNPS**
Detach and mail to:
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