

# Internodes

## Mark Your Calendar

- 48th Annual Meeting, Aquatic Plant Management Society, Charleston, SC. July 13-16, 2008. [www.apms.org](http://www.apms.org)
- Mid-Atlantic EPPC One-Day Hands-On Workshop for Land Managers and Planners, July 30, 2008, Fairfax County, VA. <http://www.ma-eppc.org/>
- 93rd Annual Meeting, Ecological Society of America (ESA), Milwaukee, Wisconsin. August 3-8, 2008. <http://www.esa.org/milwaukee/>
- 35th Natural Areas Conference, "Tuning In to a Changing Climate and Biological Invasion," in partnership with the National Association of Exotic Pest Plant Councils (NA-EPPC), Nashville, TN. October 14 - 17, 2008, [www.naturalarea.org](http://www.naturalarea.org)
- 32nd Annual Training Conference, Florida Aquatic Plant Management Society, Daytona, FL. Oct 13-16, 2008. [www.fapms.org](http://www.fapms.org)
- First statewide Minnesota Invasive Species Conference 2008 – Acting Locally to Protect our Legendary Lands and Waters, Duluth, MN. October 26-28, 2008. <http://www.minnesotaswcs.org/Invasives.htm>
- Weed Science Society of America (WSSA) and Southern Weed Science Society joint annual meeting, Orlando, FL. February 9-12, 2009. [www.wssa.net](http://www.wssa.net)

## Web Sites

Visit the newest website on invasive species from the U.S. Fish and Wildlife Service at <http://www.fws.gov/invasives/>

Visit the beautiful and comprehensive website on Going Native: Urban Landscaping for Wildlife with Native plants at [www.ncsu.edu/goingnative](http://www.ncsu.edu/goingnative).

A large collection of material on Florida's Everglades can be found at the Everglades Digital Library, <http://everglades.fiu.edu/> You might want to ask the Everglades librarian for help in using this densely populated website. "Some Plant Reminiscences of Southern Florida" includes notes on the introductions of invasive plant species, and the "Everglades Natural History Journal" is fascinating.

Stopping the Silent Invasion – Leadership, Coordination and Action – Protecting Hawaii from Invasive Species. This website has a pest hotline, and features cabinet-level work on invasive species, management level coordination and initiatives, island based

response and control programs, and Hawaii's high profile invasive species. <http://www.hawaiiinvasivespecies.org/>

View "climate match" maps to see where climate in the U.S. is similar to places in which Burmese pythons live naturally (from Pakistan to Indonesia) at <http://www.sciencedaily.com/releases/2008/02/080223111456.htm>

The USGS maps can help natural resource agencies manage and possibly control the spread of non-native giant constrictor snakes, such as the Burmese python, now spreading from Everglades National Park in Florida.

Although other factors such as type of food available and suitable shelter also play a role, Burmese pythons and other giant constrictor snakes have shown themselves to be highly adaptable to new environments.

For a colorful commentary on the residents of Uncertain, Texas battling giant salvinia (*Salvinia molesta*), read "Amazon Fern Spurs Fight to 'Stomp It to Death'" by reporter Jim Kennett at: [http://www.bloomberg.com/apps/news?pid=20601103&sid=asJ0zVWS\\_8mE&refer=us](http://www.bloomberg.com/apps/news?pid=20601103&sid=asJ0zVWS_8mE&refer=us)

## White vinegar as herbicide? No!

After an article in the *Orlando Sentinel* described herbicides to control Old World climbing fern (*Lygodium microphyllum*), a reader responded saying she had good results with white vinegar and felt it was a "non-pollutant." Following are responses from members of the FLEPPC listserv:

Vinegar is an acid. Therefore it will tend to drive the soil pH down and allow acid loving plants the competitive advantage. It may also have a detrimental effect on soil microbes and reduce the overall soil biological activity. The acid may also be flushed from the soil and effect the pH in streams, ponds and wetlands if used in large quantities. As far as I know it will be somewhat non-selective. Therefore, you could get severe unwanted effects on non-target species. Why would you apply vinegar instead of a proven herbicide? –Pete Deal, USDA-Natural Resources Conservation Service, Kissimmee, FL

Your reader is using a herbicide too, with vinegar, but it is not registered for use as a herbicide. Acetic acid, which vinegar contains (no matter the color), is a naturally occurring plant constituent and has growth regulator activity in plants. When applied to plant tissue in concentrated solution (I think most household vinegar is 10% acetic acid), it acts as a contact herbicide. There are commercial products containing acetic acid that are labeled as herbicides but household vinegar is not

labeled for that purpose. Vinegar is also non-selective and can be toxic to other organisms. There are numerous scientific articles on the physiological responses of plants to acetic acid and its use as a herbicide. As Pete states, there are many effective, proven, and more environmentally rational registered herbicides that we use in the integrated management of lygodium and other weeds than those that contain acetic acid. –Ken Langeland, UF-IFAS Center for Aquatic and Invasive Plants, Gainesville, FL

## Publications

*Pre-release evaluation of the efficacy of the leaf-sucking bug Carbalhotingis visenda (Heteroptera: Tingidae) as a biological control agent for cat's claw creeper Macfadyena unguis-cati (Bignoniaceae)*, by K.A. Conrad and K. Dhillepan. *Biocontrol Science and Technology* (2007) 17(3):303-311.

*Transfer of invasive species associated with the movement of military equipment and personnel*, by A.F. Cofrancesco, D.R. Reaves and D.E. Averett. U.S. Army Corps of Engineers, Engineer Research and Development Center, Legacy Resource Management Program, Environmental Laboratory, ERDC/EL TR-07-8. July 2007.

*Exotic Plant Management Team Annual Report*, National Park Service, U.S. Department of Interior, Natural Resource Program Center, Biological Resource Management Division (2007), 49 pp.

*Air potato management plan - Recommendations from the Air Potato Task Force*, W.A. Overholt (Chair), Florida Exotic Pest Plant Council (2008), 49 pp. [www.fleppc.org/publications](http://www.fleppc.org/publications)

*A non-invasive crop ideotype to reduce invasive potential*, by N.O. Anderson, N. Gomez, S.M. Galatowitsch. *Euphytica* (2006) 148:185-202. "...we propose that trait-based selection of potential crop species be coupled with species design in the creation of a "non-invasive crop ideotype" as an avenue to reduce invasiveness during domestication."

*Ranking nonindigenous weed species by their potential to invade the United States*, by C. Parker, B.P. Caton, and L. Fowler. *Weed Science* (2007) 55:386-397. "Our objective was to rank the potential invasiveness of weedy or pest plant species not yet naturalized in the United States."

The March 2008 issue of *Diversity and Distributions* Vol. 14(2): 161-439 is a special feature on "Fifty years of invasion ecology – the legacy of Charles Elton" and all 28 papers

are freely available at <http://www.blackwell-synergy.com/toc/ddi/14/2>

Some examples:

*Tolerance to herbivory, and not resistance, may explain differential success of invasive, naturalized, and native North American temperate vines*, by I. W. Ashton and M.T. Lerda

*Estimating the invasion success of introduced plants*, by P. Caley, R.H. Groves and R. Barker

*Consistent accuracy of the Australian weed risk assessment system across varied geographies*, by D. R. Gordon, D. A. Onderdonk, A. M. Fox, and R. K. Stocker

*Predicting invasiveness in exotic species: do subtropical native and invasive exotic aquatic plants differ in their growth responses to macronutrients?* by G. T. Hastwell, A. J. Daniel, and G. Vivian-Smith.

The first issue of *Invasive Plant Science and Management* has been published. This peer-reviewed, quarterly journal focuses on fundamental and applied research about invasive plant biology, ecology, management and restoration of invaded non-crop areas, and educational, sociopolitical, and technical aspects of invasive plant management.

Editor Joseph DiTomaso states that articles will "...include an interpretive summary, which is designed to provide a concise description of the importance of the research to the field practitioner." *Invasive Plant Science and Management* is available in print as well as online to subscribers, or as a benefit of membership in the Weed Science Society of America (WSSA). For more information, go to: <http://www.wssa.net/WSSA/Pubs/IPSM.htm>

Some titles from Volume 1(1):

*Ecological genetics of plant invasion: what do we know?* by S.M. Ward, J.F. Gaskin and L.M. Wilson, pp. 98-109.

*Common reed (Phragmites australis) response to mowing and herbicide application*, by J.F. Deer, pp. 12-16.

*The invasive species assessment protocol: a tool for creating regional and national lists of invasive nonnative plants that negatively impact biodiversity*, by J.M. Randall, L.E. Morse, N. Benton, R. Hiebert, S. Lu, and T. Killeffer, pp. 36-49.

A science group in NEW ZEALAND publishes WHAT'S NEW IN BIOLOGICAL CONTROL OF WEEDS? The quarterly publication often contains information of broad geographic relevance such as, "Can Biocontrol Agents

Cause Evolutionary Changes in Weeds?" (Issue 43, February 2008) The article raises an intriguing point: when a plant species arrives in a new setting free of the pressure of its natural enemy herbivores, it may undergo evolutionary changes. For instance, the relocated plant may allocate more resources to competitive abilities and reproduction, and less towards defensive traits. The article reports on recent trials seeking answers to the relocation phenomenon. <http://www.landcareresearch.co.nz/publications/newsletters/weeds/#control> From J. Wilson-Davey, Landcare Research, NEW ZEALAND.

From *Chemically Speaking*, a monthly newsletter of the University of Florida IFAS Pesticide Information Office. <http://www.pested.ifas.ufl.edu/newsletters/>

On February 18, the FDACS registered the herbicide tropamezone under the experimental use permit EUP No. FL08-EUP-01 for evaluation of control of aquatic weeds in retention ponds, lakes and other non-flowing bodies of water where swimming, fishing, livestock watering, and water used for drinking and irrigation are prohibited. The EPA Reg. No. for the BASF Corp. product is 7969-262. (PREC Agenda, 3/6/08).



## Battle in Bartram's Hammock

by Matthew Saunders, Paynes Prairie AmeriCorps

Many people enjoy visiting the north end of Payne's Prairie Preserve State Park in north-central Florida to walk the La Chua Trail and see the Alachua Sink and all the natural beauty that the prairie has to offer. But behind this beauty, there is a monster lurking. It isn't a rabid coyote or a mutant feral hog – the monster is the invasive exotic plant, coral ardisia.

Coral ardisia (*Ardisia crenata*) is an invasive exotic plant that is native to Japan and northern India. It was initially introduced in Florida as an ornamental shrub in the early 20<sup>th</sup> century. This plant is considered a monster (despite being so beautiful) because the competition it evolved with in its native range isn't found here in Florida and so it grows unchecked. Coral ardisia is an evergreen shrub with dark green, waxy, alternate leaves and bright red berries. The berries have an 80% germination rate and can reach a ground density of greater than 100 plants per square meter. I've seen some ardisia plants over six feet tall with hundreds of berries on them. This massive ardisia growth drowns out 70% of the natural light available to native seedlings and displaces the native ground cover. You can see how this creates a major problem for fauna dependant on native plants.

For the past three months I've been fighting this monster in Bartram's Hammock, a diverse hardwood hammock on the north end of the prairie. If you've been on the Gainesville-Hawthorne Trail and noticed people trampling through the woods with shovels and "body-bags," don't worry

The University of Arkansas and Monsanto have confirmed glyphosate-resistant johnsongrass (*Sorghum halepense*) in a field in southeast Arkansas. In a separate case, Monsanto and specialists at Mississippi State University (MSU) confirmed a case of johnsongrass resistance to glyphosate near Clarksdale, Mississippi. The two cases were investigated over the past several months. In initial greenhouse trials conducted by the University of Arkansas and Monsanto, johnsongrass was not controlled with labeled rates of glyphosate. The field in question has been in continuous Roundup Ready soybeans.

### From the other side

this is how they do it in California ~

From: Doug Johnson

Subject: 2008 Day at Capitol report

On March 12, a crew of natural resource managers attended Weeds Awareness Day at the state Capitol, the fifth year of the event. Thanks to those of you who were able to make the time to come! Some highlights:

- teams of three were able to visit the offices of all 120 legislators, and found broad recognition of the weed problem and of

the importance of funding for the Weed Management Area program.

- associations of County Agricultural Commissioners and of local Resource Conservation Districts presented their collaborative weed management efforts through WMAs.
- departments of Resources and Food & Agriculture are working with the Governor's office on a plan to create an invasive species council to strengthen interagency coordination.

We'll keep you posted on new developments. Thanks for your work in the field and at the capitol!

Doug Johnson, Executive Director  
California Invasive Plant Council  
[www.cal-ipc.org](http://www.cal-ipc.org)

### Gadgets

The Extractigator invasive plant removal tool features a bright orange handle, comfortable foam grip, and an accessory to meet the specific soil type in most environments! Reportedly removes invasives, roots and all. [www.extractigator.com](http://www.extractigator.com)

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– we're the good guys. After a three month fight, I can say with certainty that we've bagged about 80% of the coral ardisia...well, maybe 75%. If it wasn't for the help of Paynes Prairie volunteers and park biologist Jim Weimer, I would literally spend my whole year of AmeriCorps pulling coral ardisia in the same 100 acres of hammock. Together I would estimate that we've pulled thousands of plants and millions of berries. To better understand how much is out there, in a half day of work, we filled a five foot "body-bag" with so many berries (each berry probably weighs a gram) that it took two people to lift it into the dumpster.

The first time Jim Weimer took me out to remove coral ardisia, he had to point out the plant and its characteristic berries several times. Now, after three months and countless hours ripping it from the earth, not only can I see a newly spawned ardisia plant from miles across the hammock, I now see ardisia in my dreams, and can sense an ardisia taproot working its way into the ground.

So, the next time you see the red and green coral ardisia – a plant that reminds me of Christmas – please destroy it. The best way to do this is to pull off all the seeds and place them in a trash bag. Leave the seeds out in the sun for 2-3 days and then throw them away. When you pull the plant, get as many of the roots as you can, as you'll notice that about half of the plant is actually underground. Finally, hang the plant so the roots are completely off the ground. Then you can feel good knowing you are doing your part to help protect Florida's natural ecosystems.

For more information, contact the author at [Matthew.K.Saunders@dep.state.fl.us](mailto:Matthew.K.Saunders@dep.state.fl.us)

Help protect your natural areas from exotic pest plants – join an Exotic Pest Plant Council in your state!

[www.se-eppc.org](http://www.se-eppc.org)

