SWFWM District Funds Researchers to release Biocontrol agent on Tropical Soda Apple Solanum viarum on District Lands

Author: Joel Deangelis, Senior Land Management Specialist, Southwest Florida Water Management District

Tropical soda apple (TSA) Solanum viarum is an invasive perennial shrub. Native to southeastern Brazil, northeastern Argentina, Paraguay, and Uruguay, it was first found in Glades County, FL in 1988. It is currently found throughout Florida. The rapid spread of TSA in Florida can be partially attributed to the plant’s great reproductive potential and highly effective seed dispersal by cattle and wildlife (deer, raccoons, feral hogs, birds) that feed on the fruit. This exotic weed was placed on the Florida and Federal Noxious Weed Lists in 1995.

Tropical soda apple is primarily managed by herbicide applications and mechanical techniques (mowing/tilling). These activities are expensive and often difficult to employ in remote and/or inaccessible areas. Additionally, control activities most often stop at the property line even though an infestation may be shared with adjoining property owners.

A biological control project targeting TSA was initiated in 1997 by Dr. Julio C. Medal, (medal@ufl.edu) University of Florida- Entomology and Nematology Department in collaboration with Brazilian and Argentinean researchers. See http://edis.ifas.ufl.edu/pdffiles/IN/IN48700.pdf. The South American leaf-feeding beetle Gratiana boliviana was approved for field release in Florida in the summer of 2003. Since then, at least 120,000 beetles have been released in 29 Florida counties. The beetles have established populations where released and populations have also been detected away from known release sites. The beetles are impacting TSA populations by defoliating plants and reducing fruit production.

To help manage TSA populations on conservation lands managed by the Southwest Florida Water Management District (SWFWMD), a project supporting the general implementation of the TSA bio-control effort was begun with Dr. Medal in June 2008. The project included the mass rearing of G. boliviana at the UF-Entomology & Nematology Department.
rearing facility in Gainesville, the release of at least 10,000 beetles on SWFWMD properties, post-release evaluations of the impact of the beetles on TSA populations and general training to allow a District employee to field collect, release and monitor the beetles to enable the District to effectively collect and spread TSA leaf-feeder beetles to other properties (areas) as appropriate.

During 2008 and 2009, a total of 11,200 beetles were released at twenty-six sites on District-managed lands in Hillsborough, Lake, Pasco and Sumter counties. Post-release evaluations detected beetles within or near all of the release sites and variable rates of defoliation from 10% to 90%. At two release sites in Sumter and Lake Counties, a random sample of 15 TSA plants at each site revealed estimated defoliation rates from 20-60%. On average, 11 beetles (adult, pupae and larvae) and less than two (1.6) fruits were found on each plant.

Presenting Awardees of the M.S. Fellowships in Adaptive Forest Management!

Author: Melissa Kreye, CFEOR Coordinator

In 2009 CFEOR and UF School of Forest Resources and Conservation launched a graduate student fellowship program to help promote diversity in the forestry professions. So far two outstanding undergraduates have been awarded the M.S. fellowships and enrolled at UF in Fall 2009 and Spring 2010.

Sparkle Malone’s master thesis project examines the relationship between fire size and severity on subsequent fires using difference normalized burn ratios. The study area is the Osceola National Forest in north Florida. Within her project she also aims to simulate fire behavior and monitor invasive species movement within a 30m buffer zone to determine the suitability of mastication as a fuel treatment.

Emily Rodriguez is interested in native plant restoration and would like to conduct her thesis on ground cover restoration in pine flatwoods. Rodriguez hopes to get a job managing public lands and is grateful to CFEOR and the USDA for helping her achieve this goal with the National Needs Fellowship.

CFEOR looks forward to working with both Sparkle and Emily as they build their professional careers.
Evidence for Year-round Reproduction in the Gopher Tortoise (*Gopherus polyphemus*) in Southeastern Florida


In north Florida and Georgia, gopher tortoises (*Gopherus polyphemus*) were originally reported courting from April to June, laying eggs from May to June, and producing hatchlings in August and September. We report on seasonality, courtship, nesting and hatchlings at a site in South Florida. Courtship behavior occurred in every month of the year and mounting was observed in summer, fall and winter. Very young tortoises of sizes close to hatching were encountered throughout the year. Freshly depredated nests were found in fall and winter. This suggests that the reproductive season may be more extended in the southern end of this species' geographic range.

Copy right. To read the full article members click [here](http://example.com).

---

Getting to know CFEOR

**Kathryn E. Sieving**, is a CFEOR affiliated faculty member and professor in the Department of Wildlife Ecology and Conservation, at the University of Florida. Her core research program focuses on conserving and restoring forest biodiversity, especially songbirds, in disturbed, fragmented, and otherwise human-dominated landscapes in historically forested biomes. Her work is rooted in community, behavioral, and landscape ecology of small forest passerine birds. Current international research projects are evaluating bird and other vertebrate community responses to forest disturbance (fire, logging, industrial tree plantations, etc. in Sumatra, Brazil, Chile, and Florida). Local (NC Florida) investigations explore anti predator communication system of the tufted titmouse (*Baeolophus bicolor*) and use of this species’ alarm calls by various forest bird species in spatial decision-making (homing, exploratory behavior, and gap-crossing) in heterogeneous landscapes. For more information and a full list of publications please visit [http://www.wec.ufl.edu/faculty/sievingk/](http://www.wec.ufl.edu/faculty/sievingk/). You can also contact her office at 320 Newins-Ziegler Hall, Gainesville FL, 32611, by phone: 352-846-0569 and email: chucao@ufl.edu.

**Samantha (Sammy) McGee** is an Environmental Specialist I, otherwise known as a park biologist, at the St. Sebastian River Preserve State Park (SSRSP) in Brevard and Indian River Counties on the east coast of Florida. The SSRSP is a beautiful and diverse 23,000 acre preserve managed by the Florida Park Service which is comprised of 22 distinct natural communities and provides habitat for 74 listed species. Her job duties include upland habitat restoration, wetland habitat restoration through participation in the mitigation program, exotic/invasive species treatment and eradication, protected species management and monitoring, such as Red-cockaded woodpecker and Florida Scrub Jay, participation on the park’s prescribed fire team, and public outreach and education. Some recent projects include the removal of overgrown hardwoods and sand pine in degraded scrub and the translocation of 10 Red-cockaded woodpeckers from Ft. Stewart, GA to St. Sebastian River Preserve State Park. Feel free to contact Sammy via email at Samantha.mcgee@dep.state.fl.us or by phone at 321-953-5005. You can also visit the parks website at [http://www.floridastateparks.org/stsebastian/default.cfm](http://www.floridastateparks.org/stsebastian/default.cfm).
Upcoming Events

- **Colloquium on Plant Pests of Regulatory Significance**  
  Jan. 6 – April 21, 2010. Wednesdays at 4:00 PM. The colloquium is part of the Certificate in Plant Pest Risk Assessment and Management coordinated by the UF-IFAS Plant Medicine Program. The Colloquium and Certificate are available via distance education (Polycom) and/or web; contact IT Specialist Kamin Miller (kaminm@ufl.edu; 352-392-3631 Ext. 360) for information about Polycom access.

- **Wood to Energy Supply/Demand /Growth Forum**  
  Jan. 11, 2010. This roundtable forum will assess supply/demand projections for wood in the U.S. and will explore technologies that should extend, increase, and expand existing and future wood supplies for new and traditional uses.” Lunch provided. Contact Fred Deneke at (928) 642-8947 or fjdenke@yahoo.com.

- **Florida Arbor Day**  
  Jan. 15, 2010 (Friday)

- **The Florida Natural Resources Leadership Institute: Extension Education in Natural Resource Dispute Resolution and Collaborative Decision-Making**  
  Jan. 27, 2010 at 1:55 - 2:45 PM. Dr. Laila Racevskis, UF Department of Food and Resource Economics. 112 Newins-Ziegler Hall, Gainesville, FL.

- **Florida Native Plant Society Call for Papers and Posters**  
  **FNPS 2010 Conference First Notice** The 2010 Annual Conference of the Florida Native Plant Society will be held in Tallahassee, Florida May 20-23. Scientific paper and poster sessions will be held Friday May 21 and Saturday May 22. The Call for Papers and Posters is attached. Please note that the deadline for abstracts is **February 1, 2010**. Contact Paul Schmalzer at paul.a.schmalzer@nasa.gov

- **Sustainable use and depletion of natural resources: lessons for the energy system**  
  Feb. 24, 2010 at 1:55 - 2:45 PM. Dr. Stephen Humphrey, UF School of Natural Resources and Environment. 112 Newins-Ziegler Hall, Gainesville, FL.

- **Forest Stewardship Property Tour at Saturiwa Conservation Area, Property of Mike Adams, 2009 Forest Stewardship Landowner of the Year, St. Johns County**. Feb. 25, 2010. Call the St. Johns County Extension Office at (904) 209-0430 to register.