



Skunk vine (*Paederia foetida*) has naturalized in Florida, Alabama, Georgia, Louisiana, Mississippi, South Carolina, Texas and Hawaii. Photos by S. Dickman.

## SKUNK VINE: Stinking up Florida

By: Jennifer Possley and Dorothy Brazis

Skunk vine (*Paederia foetida*) is an aptly named exotic twining vine native to East and Southeast Asia. It gets its name because of the stinky odor it emits. Introduced into Florida before 1897 as a potential fiber crop, it is now spreading throughout the state at alarming rates. Its dispersal agent is presumably birds, although no one has confirmed nor denied this, but it also reproduces vegetatively. Because of the ease with which it roots at nodes, the dumping of yard waste may have aided in its spread. In addition to Florida, it has also naturalized in Alabama, Georgia, Hawaii, Louisiana, Mississippi, S. Carolina, and Texas. Skunk vine can inhabit sites ranging from relatively wet floodplains to sandhills.

The skunk vine problem is ecological as well as economic. Skunk vine is capable of climbing into tree canopies, often by using other vines as ladders. The competition and me-

chanical damage it causes will often result in the eventual death of its host. It is of economic importance because large amounts of money and energy will be needed to combat it on conservation lands.

To address this spreading scourge, Hillsborough County Parks and Recreation Department (HCPRD), Florida Exotic Pest Plant Council (FLEPPC), Southwest Florida Water Management District (SWFWMD), and UF/IFAS Center for Aquatic and Invasive Plants (CAIP) sponsored a free Skunk Vine Management Workshop on September 9, 1998. The workshop resulted from the vision and labors of Sheryl Bowman of HCPRD. Land managers, researchers, and others interested in the Florida skunk vine problem attended the workshop, which was appropriately held in Brooksville, where skunk vine's first introduction may have occurred, and where it is now a serious invasive pest plant.

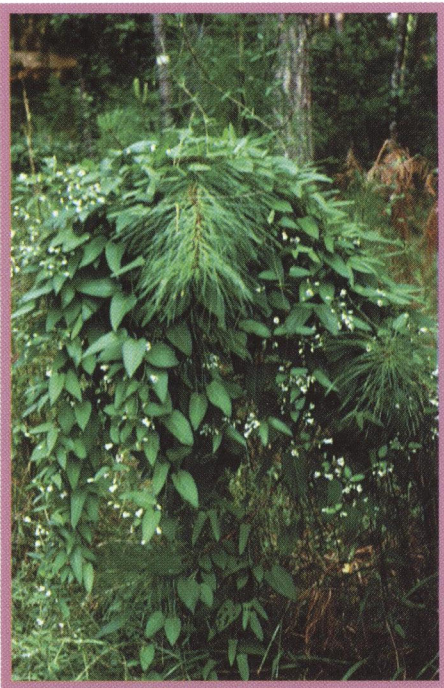
The workshop was moderated by Dr. Randall K. Stocker,



director of the CAIP. Seven speakers gave presentations on a variety of topics ranging from control to ecology. The presentations were followed by a group discussion in which the participants stated their desires for the future direction of skunk vine work.

The first speaker was Ken Langeland, professor with the CAIP. Dr. Langeland addressed several herbicide issues, including how to choose an appropriate herbicide, how to read an herbicide label, as well as safe and effective use of herbicides. He recommended glyphosate and triclopyr (amine or ester) products for skunk vine control. Following him was Dorothy Brazis, a master's student at the University of Florida. She discussed on-going research being done by the CAIP and funded by the SWFWMD. Ms. Brazis is studying skunk vine for her masters research at UF, and she reported the results of her control studies, in which she has investigated flooding, herbicides, and manual removal. Flooding and manual removal have been virtually ineffective. Preliminary field trials have shown glyphosate and triclopyr containing herbicides to be effective at label rates.

Tony Richards, of SWFWMD then spoke about the current status of biological control efforts for skunk vine. A



Skunkvine weighing down a young pine tree in Hernando County, Florida. Photo by Brian Nelson.

two-year study on this topic is about to get underway by Bob Pemberton of the United States Department of Agriculture (USDA), in cooperation w/ SWFWMD. Initial scouting in Asia has shown that skunk vine is a good candidate for biological control because there are many insects that feed on it and keep its population in check in its native Japan.

Brian Nelson, of SWFWMD, reported on the status of skunk vine control on district-owned lands. He told of the massive damage being done by skunk vine on District lands, where the vine blankets much of the natural landscape, as well as lawns and even an orange grove. Of special concern are two plants federally listed as threatened species in this same area: the Brooksville bell flower (*Campanula robinsiae*), and Cooley's water willow (*Justicia cooleyi*). The district's current strategy is to contain and eradicate new and/or small infestations, contain the large infestations, determine the extent of the infestation, and pursue more effective control methods. Currently, the district cuts ascending vines, treats initially with .5% GARLON 3A, and spot retreats with .5% GARLON 4. Because the range of skunk vine is probably greater than her-

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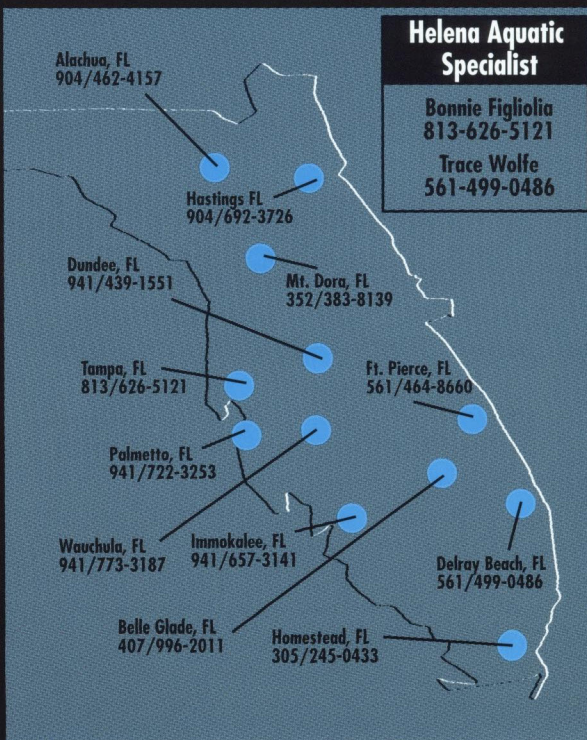
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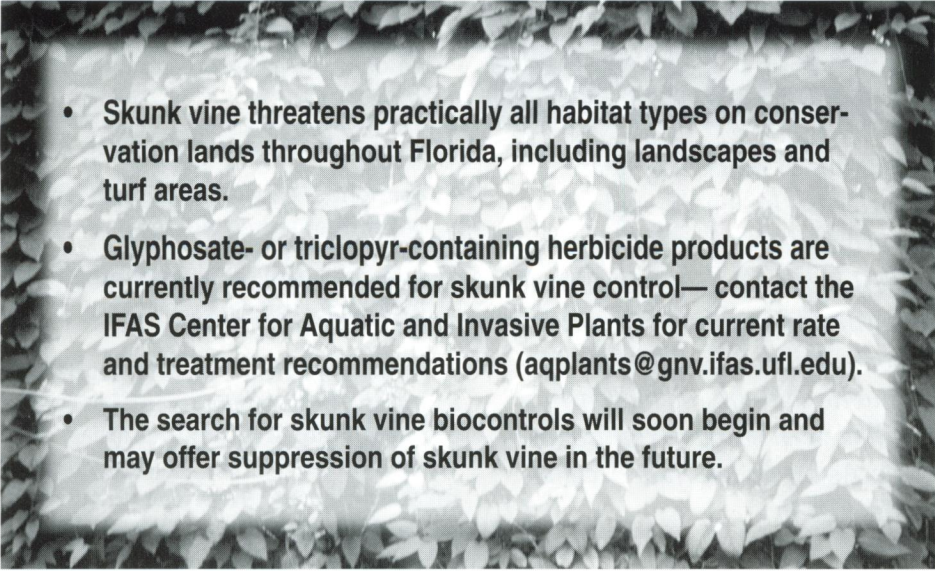
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- **Skunk vine threatens practically all habitat types on conservation lands throughout Florida, including landscapes and turf areas.**
- **Glyphosate- or triclopyr-containing herbicide products are currently recommended for skunk vine control— contact the IFAS Center for Aquatic and Invasive Plants for current rate and treatment recommendations (aqplants@gnv.ifas.ufl.edu).**
- **The search for skunk vine biocontrols will soon begin and may offer suppression of skunk vine in the future.**

barium specimens show, Mr. Nelson encouraged workshop attendees to send in EPPC field reporting forms and herbarium specimens if they see skunk vine so that its actual locations can be documented.

Another method of controlling skunk vine was addressed by Dr. Doria Gordon of The Nature Conservancy (TNC). In her experiments with George Gann (of the Institute for Regional Conservation) on TNC lands over the past six years, Dr. Gordon has shown fire to be an effective means of skunk vine control in fire-adapted habitats. Over three successive years, she and her staff burned half of an upland sandhill in TNC's Janet Butterfield Brooks preserve. For the next three years, the area was left unburned. Her data showed a statistically significant reduction in live skunk vine stems in the burned area, while native species were able to rebound. Fire is not a control option in many areas, but it could become an effective part of control efforts where appropriate.

One of the workshop's farthest travelers, Sandra Vardaman, came from the Metro-Dade Park and Recreation Department (MDPR) where she works in the Natural Areas Management Division. Ms. Vardaman spoke of controlling skunk vine's cousin, sewer vine (*Paederia cruddasiana*) in Miami-Dade County's natural areas. Sewer vine covers extensive areas of pine rockland in about ten sites in Miami-Dade County. MDPR has used heavy machinery to bulldoze areas where sewer

vine lies in mats several feet thick. They have also chainsawed vines and piled them up to dry. GARLON 4 was used as well, in successive applications because one application would only kill the top of the mat. All three methods have proven successful. MDPR keeps on top of the sewer vine by surveys and by cutting a break in vegetation between sewer vine monocultures and native vegetation, so the vine cannot advance further.

The final speaker of the workshop was Kathy Craddock Burks of the Florida Department of Environmental Protection. Ms. Craddock Burks overviewed the history of the vine in Florida and its worldwide distribution, as well as some of its major taxonomic characteristics.

During the post-workshop discussion, it was clear that many attendees felt very strongly that the coming together of land managers to discuss the skunk vine problem is a crucial part of getting the pest under control in Florida. Everyone agreed that communication is key. The workshop concluded with a field trip to the odiferous skunk vine infestation site where Ms. Brazis has the herbicide test plots in the Upper Hillsborough Wildlife Management Area. Interest of workshop participants was not dampened by persistent drizzling rain, wet feet, and *eau de skunk vine*.

*Jennifer Possley and Dorothy Brazis are graduate students at the University of Florida's Center for Aquatic and Invasive Plants in Gainesville.*

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