

## Update on *Lumnitzera racemosa*

On March 23, 2011, the Everglades Cooperative Invasive Species Management Area (ECISMA) gathered 23 people from 10 organizations to descend upon the “lowlands” of Fairchild Tropical Botanic Garden (FTBG) in Coral Gables, Florida. The group continued work to remove the invasive Asian mangrove, *Lumnitzera racemosa*. The property was surveyed by land and boat and approximately 100 plants were removed. Most were small enough to be hand-pulled. In addition to volunteer efforts through ECISMA, a private company has been hired to treat the densest part of the infestation, which FTBG shares with a neighboring Miami-Dade County Park, “Matheson Hammock Park.” The March 23<sup>rd</sup> event was one of many in the quest to eradicate *Lumnitzera racemosa* from the area since the infestation was discovered in late 2008. So far, all indications are that the population is limited to about 20 acres, and eradication in the next few years is imminent.

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Dennis Giardina treats an invasive Asian mangrove, *Lumnitzera racemosa*.

## The Poisoning of Toomer's Oaks at Auburn University

by Stephen Enloe and Gary Keever

On January 27, 2011, a very disturbing admission of wrongdoing was broadcast on the Paul Finebaum radio show. A caller claimed he had poisoned Auburn University's famous 130 year old Toomer's oak trees with the herbicide Spike 80DF. Auburn University officials took the wild claim seriously and quickly collected soil samples for testing. On February 9<sup>th</sup>, the poisoning was confirmed when concentrations of tebuthiuron ranging from 0.78 to 51 parts per million were found in the soil around the base of each of the two trees. These levels equate to an extremely high dose of tebuthiuron as 100 parts per billion will kill many species of oaks. A university task force was rapidly assembled with horticulture, forestry, agronomy, weed science, soil science, chemistry, biochemistry, and civil engineering experts from across campus. After a speedy literature review and consultation with numerous industry experts, the task force concluded that there are no antidotes for tebuthiuron and no methods to rapidly degrade it chemically that would not be dangerous to the trees. Additionally, there are no rapid microbial solutions as tebuthiuron is very persistent in soil, with a half life of 12 to 15 months across much of the southeast. The task force then opted to apply liquid activated

carbon around each tree to adsorb as much of the herbicide as possible, and then physically remove as much of the tebuthiuron contaminated soil from around the base of each tree as could safely be done. The soil removal occurred in two separate excavation events that utilized an air-spade and a high-pressure water application to safely loosen soil from the roots. Both methods used a heavy-duty vacuum system to remove the soil and water applied. The contaminated soil was then replaced with new soil and more activated carbon. The trees are currently being monitored weekly and have recently begun showing symptoms of the herbicide. On the larger tree, many leaves have yellowed and fallen. The smaller tree appears to be doing better but it is too early to determine the outcome as tebuthiuron works very slowly. The trees could potentially experience a few cycles of leaf-out and subsequent leaf-drop before death. The task force will continue to monitor the situation and evaluate additional measures that might be used to help save the trees. For more information, go to [www.auburn.edu/oaks](http://www.auburn.edu/oaks).

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