

Invasion of the *Dioscorea bulbifera* in Highlands County

If I were to tell you that Highlands County had a problem with *Dioscorea bulbifera*, you probably would not know what I'm talking about. But what if I told you there is a living organism that is invading our environment and if we don't do something about it, we're going to see some drastic changes in our natural areas, yards and parks? *Dioscorea bulbifera* is the scientific name for air potato. Although it is an attractive plant, it has caused severe damage to many natural areas and it costs taxpayers millions of dollars a year to control.

Exotic plants and animals are species that have come from other areas and do not belong in the area they are now in. Invasive species are the subset of introduced species that have a negative impact on the ecosystem or cause economic damage. Invasives cause an estimated \$137 billion per year in losses in the United States alone (Pimental *et al* 2000). (If you stood 137 billion \$1 bills end-to-end it would go from earth to the moon 54 times!) In addition, the effects of invasives on native species are staggering; of the 958 species listed under the Endangered Species Act as threatened or endangered, approximately 400 are at risk due to invasive species (Wilcove *et al* 1998). Control of invasive species is expensive and at times very difficult; therefore the most effective and least expensive way to control invasions is to prevent them. Everyday decisions made by ordinary citizens are critical in the fight against these pests.

Air potato, *Dioscorea bulbifera*, a native of Asia and sub-Saharan Africa, was first introduced to Florida in 1905. It is a member of the yam family and it is speculated that it was brought into the Americas with slave ships from Africa. Since those early days, air potato has spread throughout Florida and it is also found in Mississippi, Louisiana, Texas, Hawaii and Puerto Rico. It is considered one of the most serious exotic plant invaders in the state. Therefore, it is illegal to propagate, transport or possess. Due to its ability to displace native species and disrupt natural processes such as fire and water flow, air potato has been listed as one of Florida's most invasive plant species since 1993, and was placed on the Florida Noxious Weed List by the Florida Department of Agriculture and Consumer Services in 1999.

Air potato invades a variety of natural areas in Florida including pinelands and hammocks. It rapidly grows to the tops of tree canopies and forms a vine mat which weighs down and shades native vegetation. Once air potato invades an area, it is difficult to eliminate due to the prolific production of aerial tubers.

Air potato can grow extremely quickly, roughly 8 inches per day. New plants develop from bulbils (little potato like objects) that form on the plant and these bulbils serve as a means of dispersal. The aerial stems of air potato die back in the winter, but resprouting occurs from bulbils and underground tubers. The primary means of spread and reproduction are via bulbils. The smallest bulbils make control of air potato difficult due to their ability to sprout at a very small stage.

Air potato is easy to recognize. It is a twining herbaceous vine with stems growing as long as 60 feet in length. The vines are round and slightly angled in cross section. They produce a bulb (tuber) that looks similar to a potato. It is generally a tan color and can be small or large. The leaf is green, heart shaped, basally lobed and it quickly tapers to a point at the leaf tip. You have most likely seen this plant in your neighborhoods or in some of the parks here in the county.

The foliage of air potato can be treated with herbicide; however every “potato” that hits the ground will most likely produce a new plant. Therefore, getting these bulbils off the ground is a good start to eliminating this invader of our natural world.

The Florida Exotic Pest Plant Council has awarded Highlands Soil and Water Conservation District (HSWCD) a grant to help reduce the amount of this problematic plant. In the near future, staff from HSWCD will be offering free seminars to educate the citizens of Highlands County about air potato as well as other problem species. These seminars will offer information on ways to recognize the plant, methods of eradication, instructions on treatment and general tips on why these invasive exotic plants and animals are so bad for our natural world.

In January, with the funds from the Florida Exotic Pest Plant Council grant, HSWCD will hold an “Air Potato Exchange Day.” This will be a time when you can bring in a bag of air potato bulbils and receive a free native plant. If you don’t have any air potatoes in your neighborhood, don’t worry. We’ve thought of that. You will be able to obtain a pass from Highlands Hammock State Park and instructions on where to find the plant in their boundaries.

You can make a difference and help fight this invasive alien! Get involved, be part of the solution. Tame your exotic side: become native.