Air Potato

Dioscorea bulbifera (L.)

Dioscoreaceae

Biology

- Herbaceous climbing vine
- Native to tropical Asia, but introduced to U.S. from Africa in early 1900's
- Member of the Yam family
- Comprises two species – D. bulbifera and D. alata
- Both species are highly toxic!

Background

Economic Uses

- Cultivated as an ornamental
- Attractive green foliage, large leaves

D. bulbifera vs. *D. alata*

- *D. bulbifera* – air potato (more problematic)
  - Alternate leaf arrangement
  - Smooth bulbils
  - Greater vine length >70 feet
- *D. alata* – winged yam
  - Opposite leaf arrangement
  - Rough, prickly bulbils
  - Shorter vine length ~ 30 feet
  - Frills or wings on stem

Distribution

- Found throughout much of Florida
- Commonly found along roadways and disturbed areas, forest edges, waterways
- Can also be found invading undisturbed habitats
- Isolated infestations in other areas of the southeast – Georgia, Tennessee

Air Potato Distribution in Florida

Impacts

- Category 1 invasive species (FLEPPC)
  - Ability to spread into undisturbed sites
- Extremely fast growth > 8 inches/day
- Smothers trees and native understory species
- Spreads rapidly through massive production of bulbils

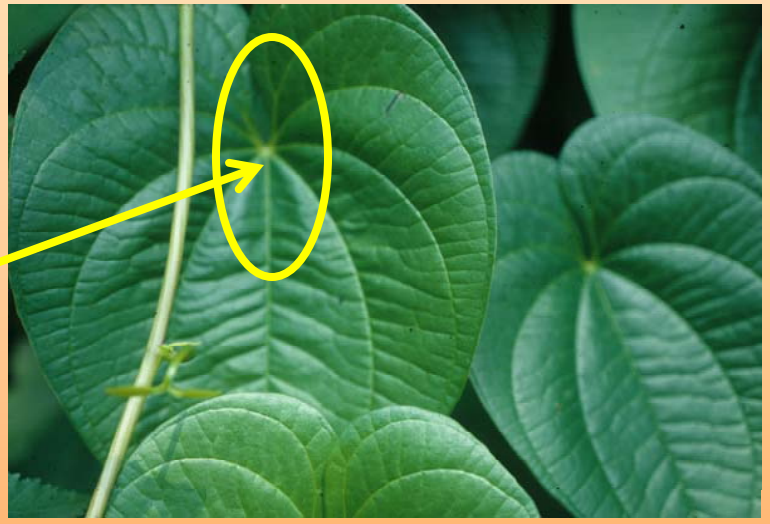
Identification

Mature Plant

- Rapidly climbing, twining herbaceous vine
- Vines killed by frost
- Regrowth from underground tubers

Leaves and Flowers

- Leaves cordate
- All leaf veins arise from leaf base
- Flowers are inconspicuous, arise from panicles from leaf axils



Bulbils

- Aerial tubers, borne in leaf axils
- Generally roundish, smooth and gray to brown in color
- Primary means of spread

Management

Preventative

Cultural

Mechanical

Biological

Chemical

Preventative

1. Limit planting as an ornamental
2. Remove existing plants, including resprouts and before bulbils are produced
3. Avoid spread through contaminated debris, brush or soil
4. Clean mowers and other brush-cutting equipment

Cultural

1. Programs to educate homeowners about the problems associated with air potato and proper identification
2. Remove populations along waterways
   - Bulbils will float to new areas
3. Gather bulbils in fall after frost (Gainesville Air Potato Roundup)

Biological

1. There are no known biological control agents available for air potato management in Florida or the southeastern U.S.

Mechanical

1. Hand pull young seedlings, including all roots, dig up tubers
2. Mowing is effective, but must be repeated *and may spread bulbils*
3. Burning is not a viable option – fire ladders into canopy of trees

Chemical

1. Over-the-top applications before bulbil formation, during spring and summer
2. Thoroughly wet leaves with herbicide
   - ✓ Triclopyr – 2% solution
   - ✓ Glyphosate – 2 to 3% solution
   - ✓ Use surfactant at 0.25%
3. Retreatment necessary to kill tuber and resprouting bulbils


HABITAT RESTORATION
To preserve South
native plant heritage. we
are removing undesirable
exotic plants and replacing
them

Useful Links

- Center for Aquatic and Invasive Plants Web Site: http://www.plants.ifas.ufl.edu
- Nature Operations Division, Gainesville Parks and Recreation: http://www.natureoperations.org/
- Florida Exotic Pest Plant Council: http://www.fleppc.org/

Literature Cited

- Langeland, K.A. 2003. Natural Area Weeds: Air Potato (*Dioscorea bulbifera*). IFAS Publication SS AGR 164. Florida Cooperative Extension Service, Agronomy Department, University of Florida.
- Langeland, K.A. and K. Craddock Burks. 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. IFAS Publication SP 257. University of Florida, Gainesville. 165 pp.
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