

Invasive Insects in Florida

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What is an Invasive Insect?

- As defined by Thomas 2004
 - “non-native species which threaten ecosystems, habitats or species”
 - He further breaks this down into two subsets
 - Pests
 - Adventive species...non-native.
 - As high as 75% arrived un aided by humans! They flew, walked, swam or drifted here!

Constant Threat!

- Every month, a new exotic arthropod is detected in Florida!
- Some become serious pests!
 - Asian citrus psyllid
 - Red Bay Ambrosia beetle
- Some are not an issue at all!

How many?

- Insects have been arriving in Florida for thousands of years!
- There are at least 12,500 insect species in Florida.
- Only well documented over the past 30 years.
- About 10 species per year arrive and establish.
- One species every five weeks!

From where?

- The rate of immigration has been steady... but the origins have changed ...
- New world Tropics (Caribbean, Central and South America)
- During the 1990's increase from other parts of the world, especially Asia!
- Due to relaxation of trade barriers this trend will continue.

Some species to note

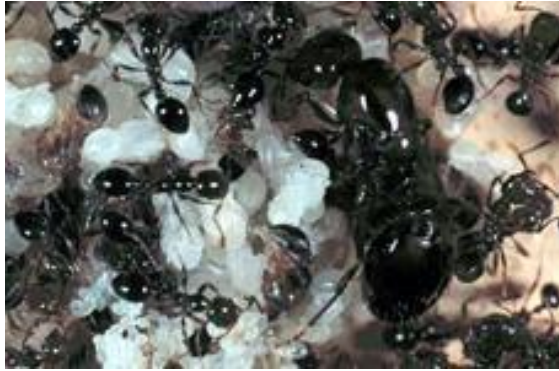
- Africanized Honeybees
- Imported Red Fire ant
- Bromeliad Weevil
- Red Bay Ambrosia Beetle
- Lovebugs

Africanized Honeybee



- First found in FL in 2001 in Tampa area.
- Same species as European Honeybee.
- Can not be told apart by looking at them.
- The sting of AHB is not more toxic than EHB.
- In 2008 the first human death due to AHB in Okeechobee county.
- Will nest in the open on tree branches.
- <http://www.freshfromflorida.com/pi/plantinsp/ahb.html>

Red Imported FireAnt



- Arrived in 1930's in Mobile, AL.
- 75 years after introduction there are 5x RIFA in US than in SA!
- Life stages: egg, larvae and 1+ queens.
- She produces 1600 eggs /day and live up to 7 years!
- Colonies contain in excess of 250,000 ants!
- New colonies in 6 months.
- Only RIFA makes the mounds.
- Open and exposed areas.
- <http://edis.ifas.ufl.edu/uw242>

Mexican Bromeliad Weevil



- First found in 1989 in Broward co.
- Thought to have come in on bromeliads from Mexico.
- 1991 in 4 counties and 12 counties by 1999.
- Adults and larvae feed on native species of Tillandsia.
- Has resulted in 2 FL species of Tillandsia now on endangered list.
- 10 weeks from egg to adult.
- Larvae tunnel at base of plant.
- Plants will dislodge from tree and center will pull out.
- Biological control may be best solution.
- <http://edis.ifas.ufl.edu/in318>

Redbay Ambrosia Beetle Laurel Wilt Disease



- Beetle first detected in US in 2002 in coastal GA.
- 2005 in Duval co.
- Spread through natural areas is 15-34 miles / year.
- Beetles collected in Miami-Dade co.
- Adults are attracted to volatiles emitted by healthy and stressed trees.
- Adults bore into host and form galleries for larvae.
- Egg to adult 7weeks to 3 months.
- The fungus is carried in special pouches in the beetle's mouthparts.
- Tree death occurs in 21 – 90 days after infection.
- Look for small strings of compacted sawdust coming from host.
- <http://edis.ifas.ufl.edu/hs1179>

Lovebug



- A bibionid fly, two species in FL.
- Described in 1940 in TX.
- Found in FL in 1949.
- NOT introduced by UF entomologists!
- Collected as far north as NC.
- Males live for 2-3days, females for a week.
- Larvae feed on decaying plant material. Need moist, damp conditions.
- Two peaks per year. April-May and August-September.
- Really no control measures.
- <http://edis.ifas.ufl.edu/in204>

Conclusions:

- Florida is under constant siege from alien insects!
- Some become pests, but most are benign.
- Most species get here without man's help!
- If you see an interesting insect, collect it! Don't just take a picture. A specimen is a much better record and allows for better ID!
- Keep your eyes open.

Thanks to Dr. Mike Thomas
FSCA, Gainesville.