



Everglades Cooperative Invasive Species Management Area

2018 EVERGLADES INVASIVE SPECIES SUMMIT



Invertebrate Update



Cooperative Agricultural Pest Survey



MISSION:

The **Cooperative Agricultural Pest Survey** Program is a combined effort by state and federal agricultural agencies to conduct surveillance, detection and monitoring of exotic plant pests of agricultural and natural plant resources before becoming established.

Survey targets may include plant diseases, insects, weeds, nematodes and other invertebrate organisms.



2018-2019 CAPS Workplan

Exotic Woodboring Bark Beetles

Agrilus planipennis
Anoplophora glabripennis
Anoplophora chinensis
Megaplatypus mutatus
Tomicus destruens
Hylobius abietis
Monochamus alternatus
Monochamus urossovii

Nursery

Spodoptera litura
Lymantria dispar asiatica
Lymantria mathura
Helicoverpa armigera
Thaumatotibia leucotreta
Oxycarenus hyalinipennis
Bagrada hilaris

Corn

Chilo partellus
Helicoverpa armigera
Thaumatotibia leucotreta
Harpophora maydis
Peronosclerospora maydis
Peronosclerospora philippinensis
Sclerophthora rassiae var. *zeae*
Phyllachora maydis
Monographella maydis
Diabrotica speciosa

Mollusk

Belocaulus spp.
Cernuella spp.
Cochlicella spp.
Colosius spp.
Laevicaulus spp.
Lissachatina fulica
Meghimatium pictum
Monacha spp.
Sarasinula spp.
Semperula spp.
Veronicella spp.



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Asian Longhorned Beetle (*Anoplophora glabripennis*)



5480755



5392768

Kenneth R. Law, USDA APHIS PPQ, Bugwood.org



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University of Illinois at Urbana-Champaign, Bugwood.org



Michael Smith USDA



UGA1193003

Jake M. Farnum FDACS-DPMAP, Health Canada, Bugwood.org



Cotton seed bug (*Oxycarenus hyalinipennis*)

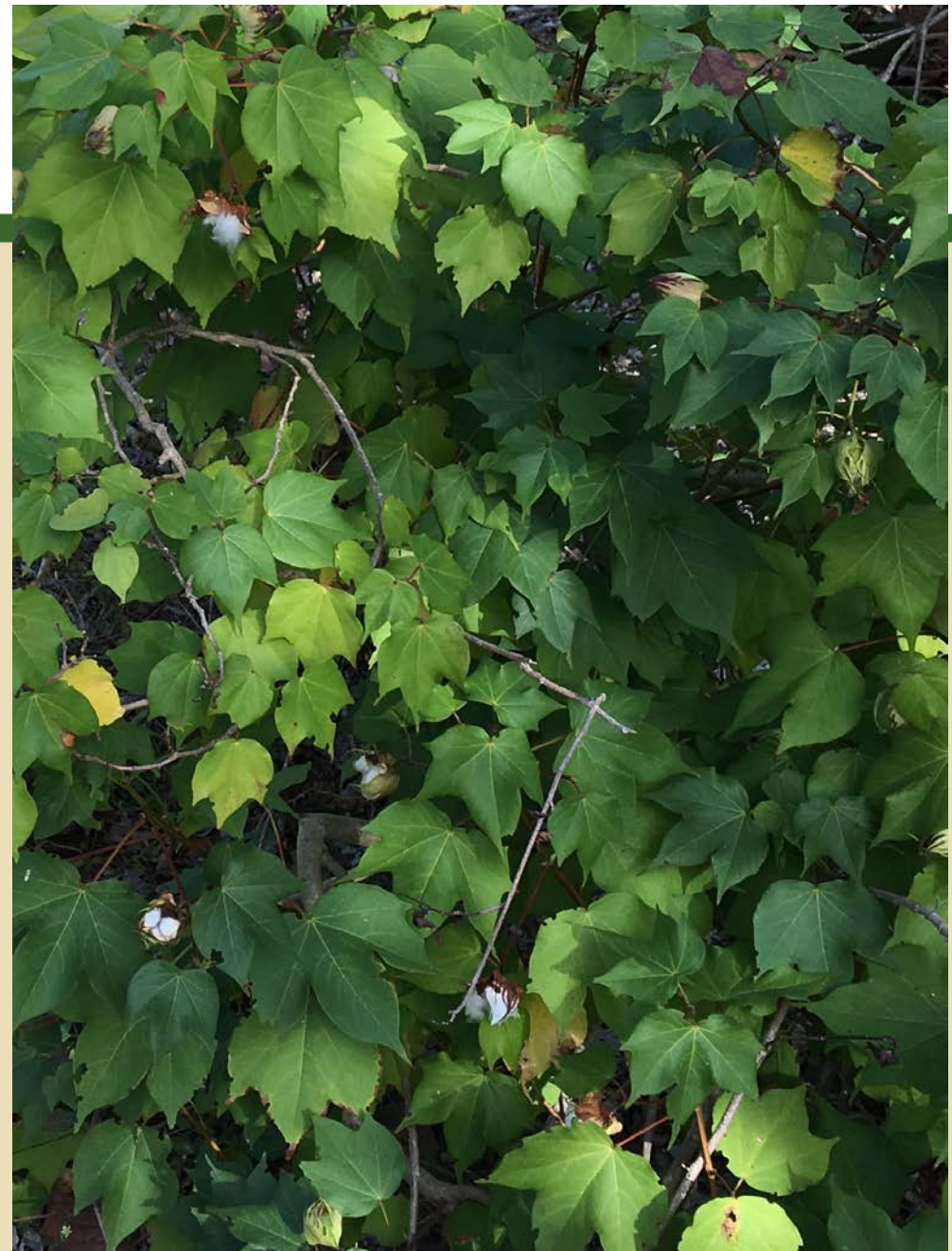


Julieta Brambila USDS/APHIS

- Black with translucent white wings, 4-5 mm in size
- Hosts: Malvaceae family (Cotton, Okra, Hibiscus)
- Found worldwide, excluding N. America



Karolynne Griffiths USDA



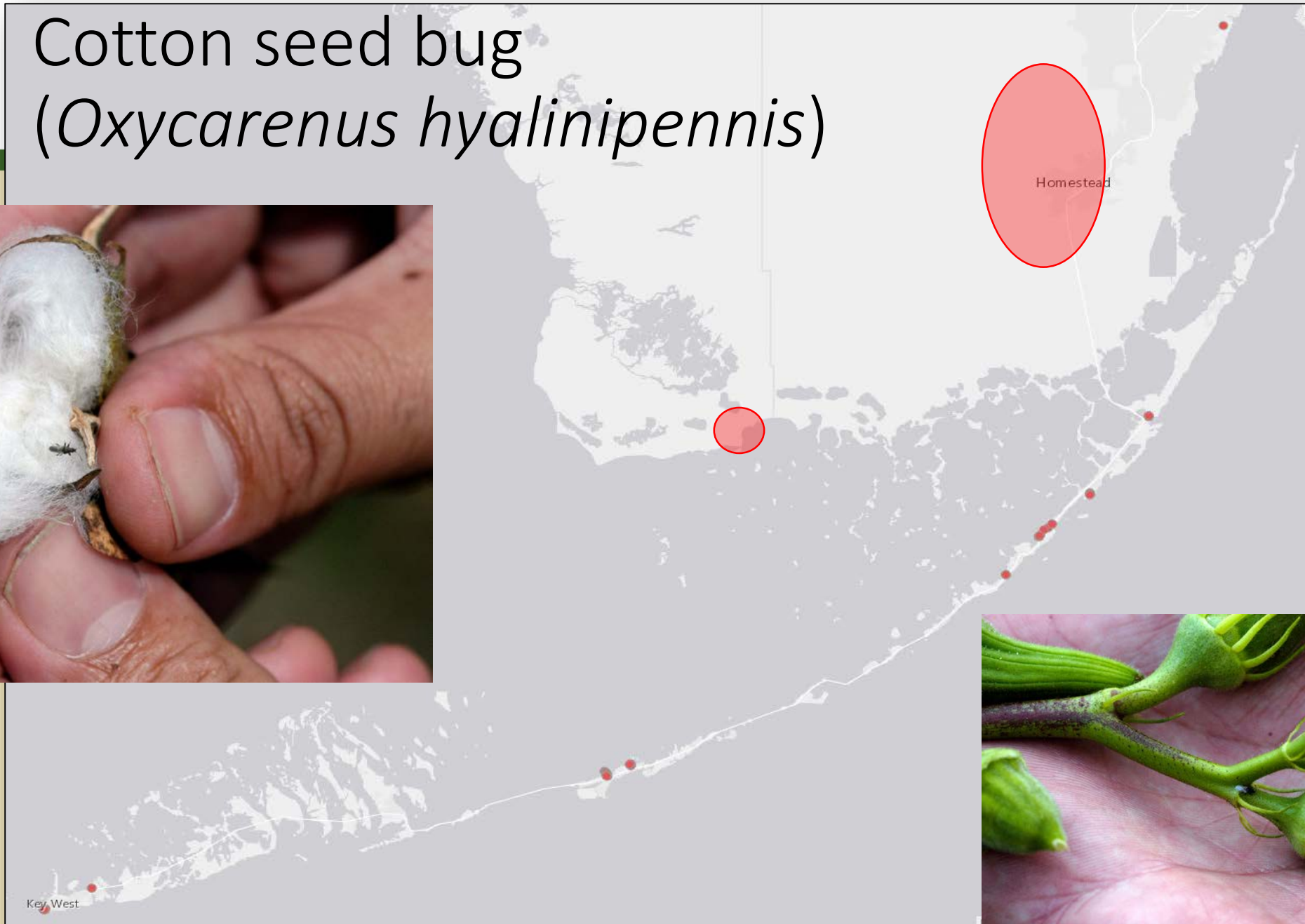
Jake M. Farnum FDACS-DPI-CAPS



Cotton seed bug (*Oxycarenus hyalinipennis*)



Julio A. Navarro USDA/APHIS



Julio A. Navarro USDA/APHIS



Mollusk Blitz



David Robinson, USDA

David Robinson, USDA

Bill Frank,
<http://www.jaxshells.org>



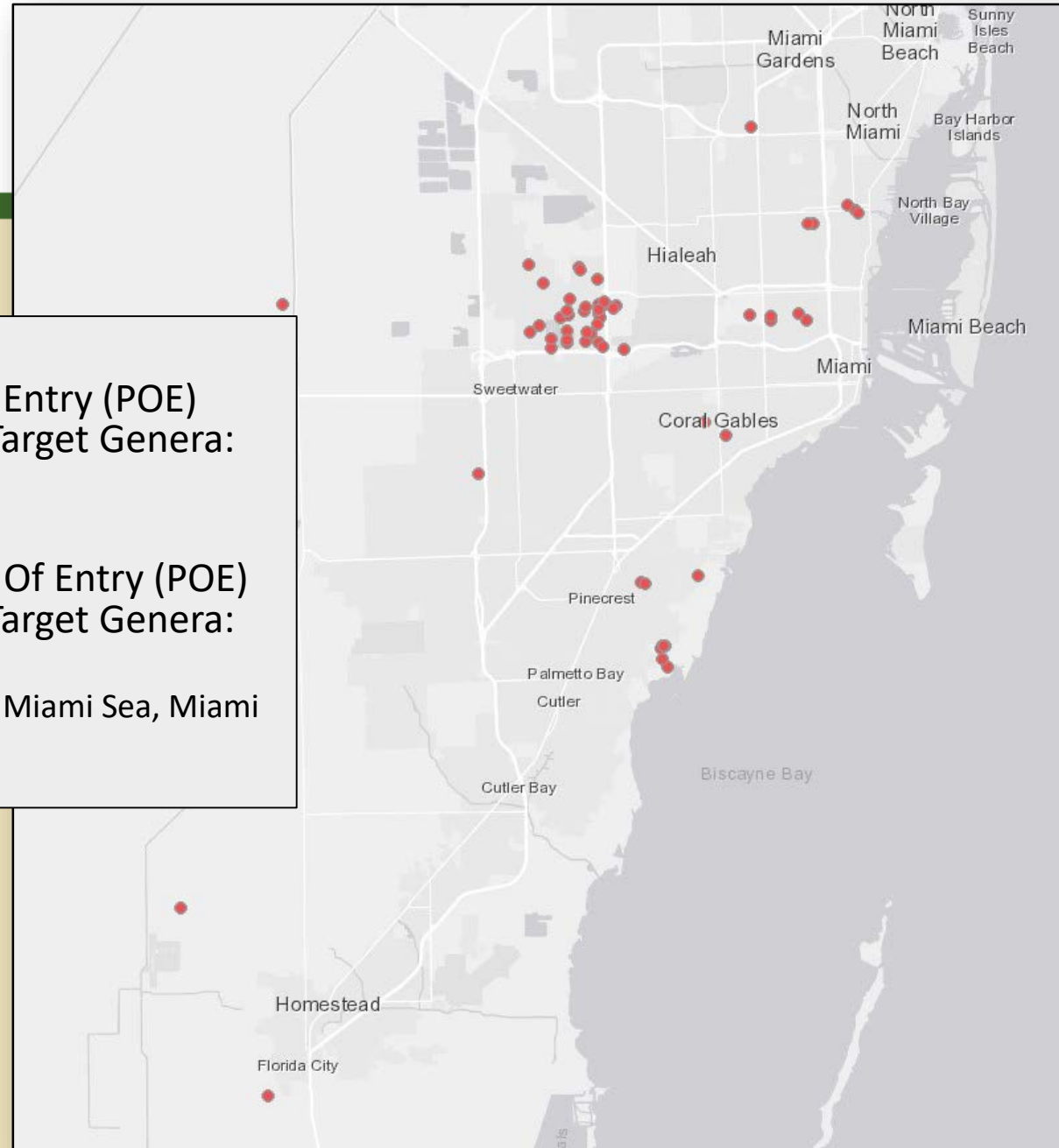
Joe Beckwith USDA

• 2012-2017

- Total U.S. Port Of Entry (POE) Interceptions of Target Genera: **6581** (AQUAS,ARM 2017)
- Total Florida Port Of Entry (POE) Interceptions of Target Genera: **956** (AQUAS,ARM 2017)
 - Port Everglades, Miami Sea, Miami Air, Miami PIS

67 sites were surveyed

No targets were found





Early Detection Rapid Response (EDRR)

Nationally-coordinated survey

Urban forests (pines and hardwoods)

Targeting all non-native
bark and ambrosia beetles

Hylurgops palliatus

Hylurgus ligniperda

Orthotomicus erosus

Ips sexdentatus

Ips typographus

Tomicus minor

Tomicus piniperda

Trypodendron domesticum

Xyleborus and *Xylosandrus* spp.



Jake M. Farnum FDACS-DPI-CAPS

Lindgren funnel trap



Bean pod borer (*Maruca vitrata*)



Bradley Danner FDACS-DPI-CAPS



James Hayden FDACS-DPI



Bradley Danner FDACS-DPI-CAPS

Survey

Big Pine Key through
Sugarloaf Key

No targets found



Ko Ko Maung, Bugwood.org

Damage

Feeds on buds,
flowers & seed pods

Hosts: Fabaceae
79 species in Keys



Ko Ko Maung, Bugwood.org

Pods with a hole,
extruded frass, or
signs of internal
decay.

Put larvae and pod
into 70% alcohol.



How to help

JAKE.FARNUM@FRESHFROMFLORIDA.COM

CELL: (786) 792-0561

DPI HELPLINE: (888) 397-1517

Cooperate with surveys

- Blitzes, Traps, Visual

Report hosts (i.e. wild cotton, red maple, etc.)

Submit a sample

<https://www.freshfromflorida.com/Divisions-Offices/Plant-Industry/Business-Services/Submit-a-Sample-for-Identification>

Stay informed

PEST ALERT



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Be On the Lookout: Conehead Termites



July 17-18, 2018

EvergladesCISMA.org



What is a 'conehead'?

- *Nasutitermes corniger*
- Social insect
 - Very large colonies with multiple castes and often more than one reproductive pair
 - Fast growth
- Arboreal termite
 - Nest in trees, on the ground, in debris, etc.
- Eat anything made of cellulose
 - Very broad feeding preferences



Conehead termite queens and soldiers



What do they look like?



Photo © B.L. Thorne

Soldier

Conehead soldiers have dark, teardrop-shaped heads

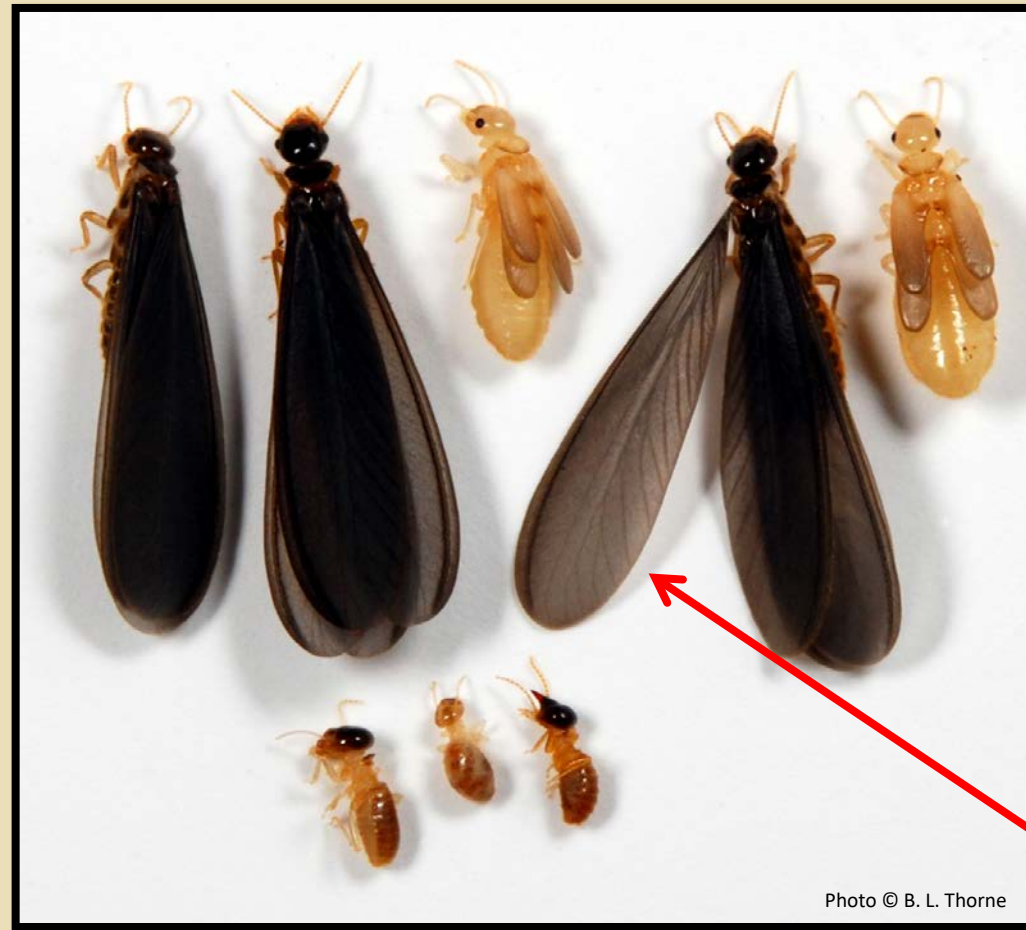


Photo © B. L. Thorne



Photo © B.L. Thorne

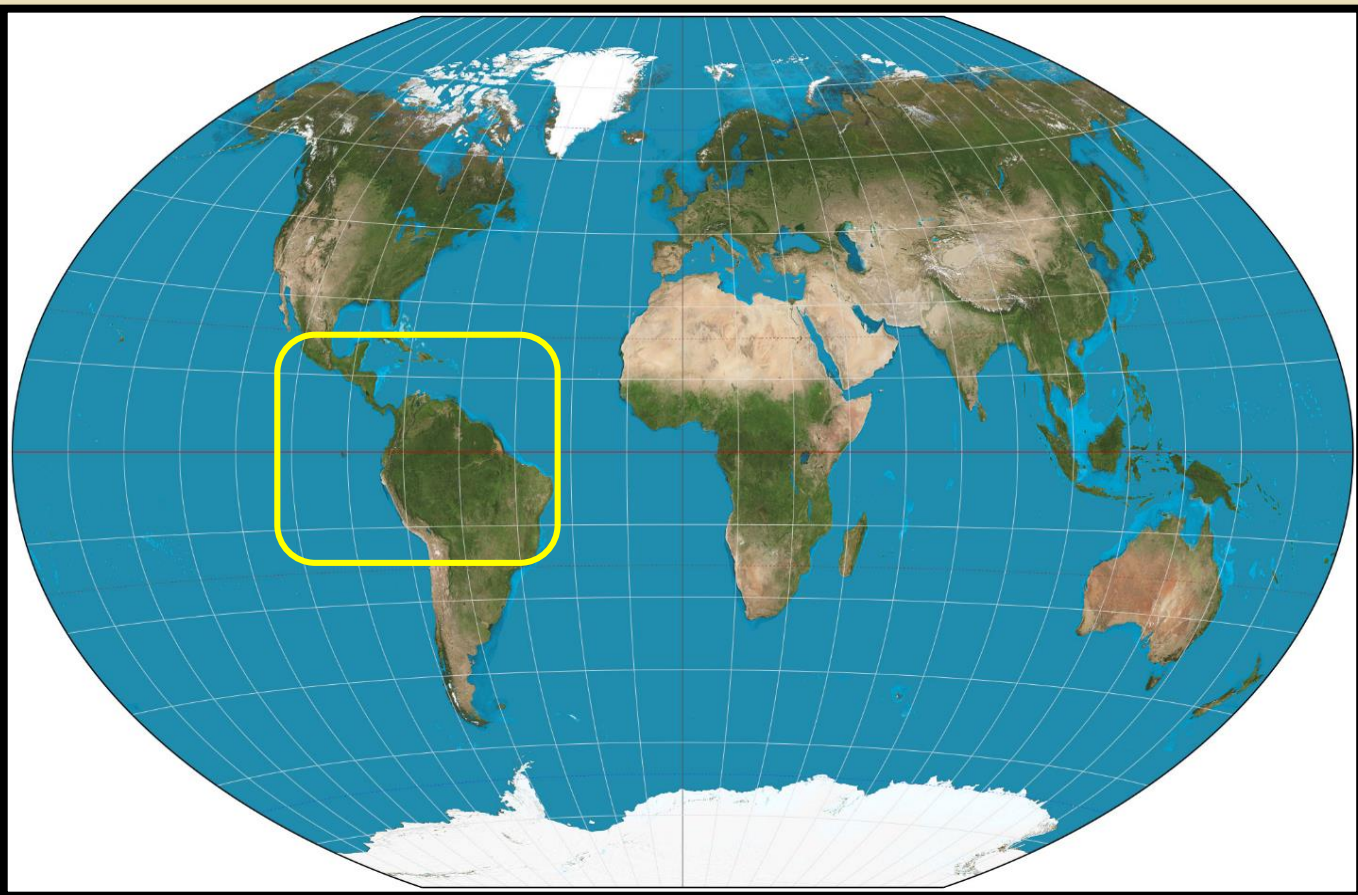
Worker

Conehead swarmer have dark, charcoal-colored wings



Where are they found?

Conehead Termite Native Range





Where are they found?



The only known populations of Conehead Termites in the continental United States are in two locations in Broward County, Florida



History of Coneheads in Florida

- **May 2001** – First find near private marina in Dania Beach, FL.
- **2003 to 2010** – Aggressive interagency eradication campaign to remove coneheads from local area. Colonies in neighborhood were found and treated.
- **July 2011** – Large infestation was discovered outside of previously known areas in commercial building and adjacent wetlands. Follow up surveys find many more properties infested outside of originally treated area.
- **May 2012** – FDACS rebooted eradication efforts in all newly found infested areas.
- **January 2016** – Conehead infestation discovered in Pompano Beach, FL approx. 13 miles north of Dania Beach



Our Goal - Eradication!

- Progress (2012 to date)
 - 90 properties in Broward County have been infested
 - ~ 55 total acres of land
 - Currently (July 2018) we have ***only 1 actively known property***
- Achievable goal - *We can find them*
 - Nest above ground
 - Build conspicuous tunnels





Human Transport

- Main concern for eradication is transport by humans!
 - Examples – Davie, Pompano
- Nesting habits make for easy transport
- Could be elsewhere already
 - Need more eyes in the field!





Pest Status and Damage

- In its native range, the conehead termite is well known as a pest of structures, fruit trees (including citrus) and other agricultural plants (e.g. sugar cane)
- In residential neighborhoods and natural areas in Florida conehead termites have been found infesting fruit trees (citrus, mango, avocado), landscape shrubs, Fakahatchee grasses, sabal palmettos, etc.
- **The largest infestations found to date in our area have been in heavily overgrown urban wooded areas, indicating that natural landscapes and open spaces (State Parks, Big Cypress, Everglades) are prime for potential colonization by coneheads.**



How to Identify Coneheads in the Field

Tunnels



Nests



Soldiers



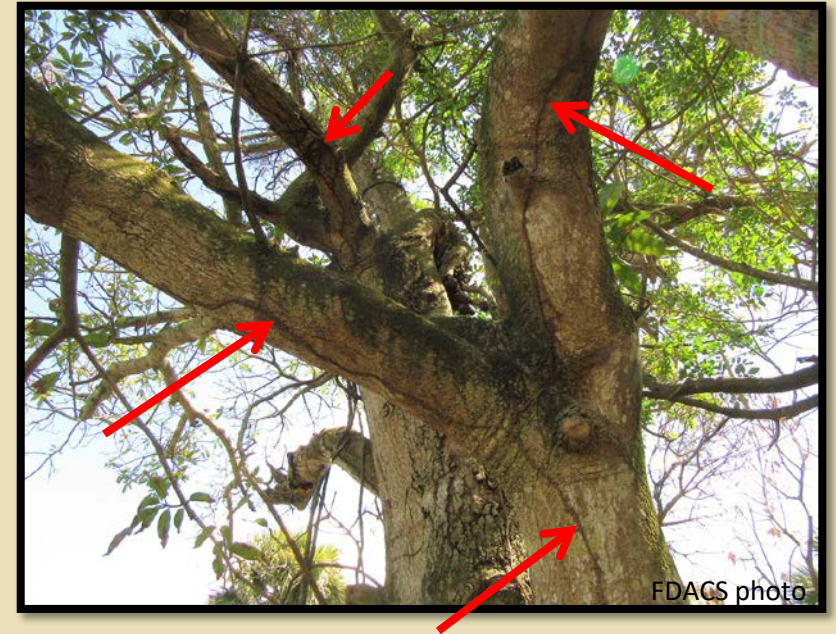


Tunnels

~1/2 in wide

Hollow, mud-like tubes or
“straws”

Hold their shape when broken





Nests

Nests can be 'easy' to locate





Nests

Or, they can be harder to locate

- Hidden in and under objects, under vegetation or in debris





Feeding Preferences – very broad



Photo © B. L. Thorne



FDACS photo



Photo © B. L. Thorne



FDACS photo



FDACS photo



How to report them

REPORT CONEHEADS!

- ✓ Sue Alspach – 850-597-3780
- ✓ FDACS DPI Helpline – 888-397-1517
- ✓ UF-IFAS Davie – 954-577-6300

Quick response and correct treatment is critical

FreshFromFlorida.com and search “conehead”

More info and online conehead report available



Thank you!

