



eriphyid were collected from papaya in Broward and Miami-Dade counties. In September 2011, eriophyid mites identified as *C. flagelliseta* were collected from a papaya in Miami-Dade County. The original specimens from 2008 were reexamined and confirmed to be *C. flagelliseta*.



***Pharoscyrnus flexibilis***  
Photograph courtesy of Michael C. Thomas, [DPI](#)

***Pharoscyrnus flexibilis*, a Continental USA record.** This is an Indian species that has been recorded from Brazil, but not from North America. It is a generalist predator.

***Cercospora tuberosa* (leaf spot).** an uncommon leaf spot, was found on *Apios tuberosa*, a showy, flowering vine with edible, tuberous roots.



***Apios tuberosa* (groundnut)**  
Photograph courtesy of Denis Gerard, [Atlas of Florida Vascular Plants](#)

***Cordia globosa* (Curaçao bush, bloodberry, butterfly sage).** The common name "bloodberry" might suggest the red, ovoid to oblong red fruit or it could be based on the medicinal uses of the plant as a blood tonic. Several biologically active chemicals have been found within the genus, including antiviral, antifungal and anti-inflammatory agents. The name "butterfly sage" has come into use with the increase in home butterfly gardens and the appearance of this species in them. In the wild, this species is endangered in Florida.



***Cordia globosa* (Curaçao bush, butterfly sage)**  
Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)

***Meloidogyne mayaguensis* Rammah and Hirshamann, 1988,**

**the Guava root-knot nematode,** was found infecting the roots of *Ilex x meserveae* (blue holly), a new host species for this nematode.



***Ilex x meserveae* (blue holly)**  
Photograph courtesy of Christopher J. Starbuck, [University of Missouri](#)

#### **Acknowledgements:**

The editors would like to acknowledge the work of all those who contributed information and explanations by providing data, photographs or text and by carefully reading early drafts. We also thank Scott Weinberg for his skillful use of web authoring tools to produce this report.

vegetables reached more than \$1.3 billion, with production on 183,100 acres in 2009. During the 2008-2009 growing season, Florida citrus growers produced 162.4 million boxes of oranges and 21.7 million boxes of grapefruit. Greenhouse and nursery products generate more cash receipts than any other Florida commodity, with the more well-known citrus coming in second. Floriculture and horticulture products make up a large majority of Florida's exports.

From Mediterranean fruit fly eradication to nursery inspections, DPI protects Florida's plant and apiairy industries from pests and diseases, and therefore protects the state's economy. For more information, visit [www.freshfromflorida.com/pi](http://www.freshfromflorida.com/pi).

We welcome your suggestions for improvement of TRI-OLOGY. Please feel free to contact [me](#) or [Dr. Patti Anderson](#) with your comments.

[Dr. Wayne N. Dixon](#), editor  
Assistant Director, DPI



## Botany Section

Compiled by [Patti J. Anderson, Ph.D.](#)

This section identifies plants for the Division of Plant Industry, as well as for other governmental agencies and private individuals. The Botany Section maintains a reference herbarium with over 10,000 plants and nearly 1,400 vials of seeds. Some of the samples received for identification are discussed below:

***Acalypha arvensis* Poepp. (field copperleaf, cordiemento)**, from a genus of about 450 species native to warm or tropical areas. Euphorbiaceae. This monoecious annual grows to 50 cm tall. The stem is covered with curved white hairs, but not the glandular hairs found in other members of this genus. The petiolate leaves are ovate-lanceolate to rhombic with an acute apex and crenate to serrate margins. The leaf blades are usually pubescent with five prominent veins from the base. The linear to triangular stipules are setaceous with one or more longer, straight hairs at the tip. Inflorescences are axillary, with staminate spikes 4-6 cm long, while pistillate ones are 1.5-2.5 cm in length. The fruits are hispid capsules about 2 mm wide containing ovoid to ellipsoid seeds. This species is occasionally found in disturbed sites, scattered from Leon County through the peninsula to Miami-Dade County. It is native from the Caribbean and Southern Mexico to Bolivia. In Latin America, decoctions of this plant are used medicinally for topical infections, inflammation, sores, bug bites and other skin irritations. (Marion County; submitted by the general public; 13 September 2011.) (Duke *et al.* 2008; Howard 1989; Mabberley 2008.)

***Aristolochia maxima* Jacq. (Dutchman's-pipe, Florida Dutchman's pipe)**, from a genus of 120 species from warm or tropical areas. Aristolochiaceae. This woody vine or liana can twine up to 20 m from its roots. The alternate, leathery, obovate leaves are 7-15 cm long with short petioles from 1-8 mm long. The leaf bases can be cordate or truncate, while the apex has a short, acuminate tip. Inflorescences can be solitary flowers or a fan-shaped cyme with brownish-purple funnel-shaped perianth, composed of three fused sepals. The flower shape, like the meerscham pipe of Sherlock Holmes, inspires the common name. A chamber, the "utricle," encloses the reproductive structures of the flower and connects to a tube leading to the showy limb. The fruit is an ovoid capsule 10-15 cm long with numerous, flattened, triangular seeds. These elaborate flowers provide a home for the larvae of flies that breed within them, then leave to spread pollen. Other species in this genus use "pollination by deception." The flies confuse the flower with rotting meat, but are not rewarded for spreading the pollen of the plant. This species is native to Mexico, Central America, Venezuela and Colombia, but is widely cultivated in warm areas. In Florida, it has occasionally escaped from cultivation and has been found in disturbed hammocks. (Hendry County; B2011-692; Roberto Delcid; 2 October 2011.) (Sakai 2002; <http://www.efloras.org> accessed 28 November 2011.)

## Sample Submissions

	Sep/ Oct	Year to Date
Samples submitted by other DPI sections	1,818	7,214
Samples submitted for botanical identification only	184	725
Total Samples Submitted	2,002	7,939
Specimens added to the herbarium	0	41



***Acalypha arvensis* (field copperleaf) pistillate (female) flowers**  
Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)

***Cordia globosa* (Jacq.) Kunth (Curaçao bush, bloodberry, butterfly sage)**, from a genus of about 300 tropical species. Boraginaceae. This 1-3 m tall shrub has alternate leaves that are variable in shape, from rhomboid to lanceolate to ovate, from 1.5 - 7 cm long, and up to 3 cm wide. The fickleness continues with the apex varying from acute to obtuse and margins from crenate to dentate. The leaf blade upper surface is wrinkled and covered with sharp, stiff, appressed hairs, with the lower surface more densely covered. The inflorescence is a globose head, 1.5 - 2 cm in diameter, with several flowers in each cluster. The five-lobed calyx has hirsute, filiform tips, 1-2 mm long. The corolla is white, 5-9 mm long, and the style is twice divided in half to form four landing pads for pollen. The common name "bloodberry" might suggest the red, ovoid to oblong fruit or it could be based on the medicinal uses of the plant as a blood tonic. Several biologically active chemicals have been found within the genus, including antiviral, antifungal and anti-inflammatory agents. The name "butterfly sage" has come into use since the 1970s with the increase in home butterfly gardens and the use of this species in them. The plant grows throughout the West Indies to northern South America, Mexico and Central America, but is listed as endangered in the wild within Florida. (Miami-Dade County; B2011-698; Duraid I. Hanna; 17 October 2011.) (Austin 2004; Correll and Correll 1982; Mabberley 2008; Weaver and Anderson 2010.)

***Lespedeza stuevei* Nutt. (tall lespedeza)**, from a genus of about 35 species native to temperate North and South America and tropical Asia, Africa and Australia. Leguminosae. This herbaceous perennial with a pubescent stem grows to 1.5 m tall and has alternate, tri-foliolate leaves with appressed, straight trichomes on both leaf surfaces, but more densely covered below. The leaflets are entire, oblong to elliptic with a mucro at the tip. Inflorescences are dense racemes among the upper leaf axils. The corollas of the papilionaceous flowers are lavender to purplish blue, and fruits are flat, one-seeded legumes, covered with densely to sparsely appressed hairs. The seeds are among the most important food sources for the Northern Bobwhite, but few other songbirds feed on them. Tall lespedeza grows in dry, sandy soil in open, upland forests or disturbed areas such as roadsides and fencerows. This species is native to the eastern half of the United States from Texas to Vermont. In Florida, it has been documented in the Panhandle and several northern peninsula counties. (Alachua County; submitted by the general public; 15 October 2011.) (Clemants and Gracie 2006; Miller and Miller 2005; Wunderlin and Hansen 2011.)

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***Acalypha arvensis* (field copperleaf) staminate (male) flowers**  
Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)



***Aristolochia maxima* (Florida Dutchman's pipe) flowers**  
Photograph courtesy of Top Tropicals

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*Aristolochia maxima* (Florida Dutchman's pipe) leaves

Photograph courtesy of Top Tropicals



*Cordia globosa* (Curaçao bush, butterfly sage)

Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)



***Lespedeza stuevei* (tall lespedeza) dried specimen**

Photograph courtesy of [Atlas of Florida Vascular Plants](#)

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## Entomology Section

Compiled by [Susan E. Halbert, Ph.D.](#)

This section provides the division's plant protection specialists and other customers with accurate identifications of arthropods. The entomology section also builds and maintains the arthropod reference and research collection (the Florida State Collection of Arthropods with over 9 million specimens), and investigates the biology, biological control and taxonomy of arthropods.

***Achatina (Lissachatina) fulica (Bowditch), giant African land snail, a regulatory incident.*** A population of *Achatina (Lissachatina) fulica* (Bowditch), giant African land snail (GALS), was brought to the attention of DPI by Miami area homeowners in early September 2011. The discovery of this international pest initiated an eradication program that has resulted in the delimitation of 13 localized populations in Miami-Dade County to date. These populations are in residential areas and finds were mostly the result of homeowner calls to the DPI Helpline (FDACS/DPI Helpline 888-397-1517). Circumstantial evidence suggests the snails were originally smuggled into the United States for use in religious practices and cosmetic aids.

GALS feed on over 500 species of plants, damage stucco and plaster walls, may carry parasitic nematodes that pose health problems for humans, and have tremendously high rates of reproduction and growth. They can breed when about 5cm in shell length and can lay up to 1,200 eggs per year. Several properties in these residential areas have had more than 500 snails removed. Control measures (including hand picking, snail baiting and mechanical removal of organic debris) are already under way. Various baits and traps are being tested for efficacy against GALS. (Miami-Dade County; E2011-6650; Misael E. Igarza, 8 September 2011.) (Dr. Paul E. Skelley.)

***Atherigona reversura, bermudagrass stem maggot, a Florida State record.*** Immature stages of this species were found mining stems of Bermuda grass and causing top die-back. The first report of this pest in North American was from Georgia in 2010, and the authors stated that the fly occurred throughout southern Georgia and was also present in northern Florida. The fly is native to Asia where it is widespread from India to the Philippines and Japan. It was introduced to Hawaii where it was first reported in 1976. (Bradford County; E2011-7038; Timothy W. Wilson, University of Florida; 18 August 2011.) (Dr. Gary J. Steck.)

***Calacarus flagellisetia, an eriophyid mite, a Continental USA record.*** This species was described from specimens collected from *Carica papaya* (papaya) in Brazil. Mite feeding was reported to cause leaf edge rolling and leaf necrosis. In both February and November 2008, a few specimens of an unidentifiable eriophyid were collected from papaya in Broward and Miami-Dade counties respectively. In September 2011, eriophyid mites identified as *C. flagellisetia* were collected from a papaya in Miami-Dade County. The original specimens from 2008 were reexamined and confirmed to be *C. flagellisetia*. The infested papaya was also heavily infested with two species

### Sample/Specimen Submissions

#### September

Samples Submitted	1,329
Specimens Identified	20,272

#### October

Samples Submitted	840
Specimens Identified	9,287

#### Year to Date

Samples Submitted	8,370
Specimens Identified	108,317



***Achatina fulica* (giant African land snail)**  
Photograph courtesy of Jeffrey W. Lotz, [DPI](#)



***Cylindrocopturus* probably *tetralobus***  
Photograph courtesy of Michael C. Thomas, [DPI](#)



of spider mites (*Eutetranychus banksi* and *Eotetrenaychus lewisi*), making it difficult to determine the exact damage caused by *C. flagelliset*a. The pest status and distribution of this mite in Florida is unknown. Based on the original description, this mite could be a serious pest of papaya in Florida. (Broward County; E2008-778; George N. Louissaint, USDA/APHIS/PPQ; February 2008.) (Dr. W. C. 'Cal' Welbourn.)

***Cylindrocopturus* probably *tetralobus*, a Florida State record.**

*Cylindrocopturus tetralobus* is a Mexican species most similar to this South Florida specimen. The species probably is of no economic importance. (Miami-Dade County; E2011-6986; Olga Garcia, 14 September 2011.) (Dr. Michael C. Thomas.)

***Eidalimus henschawi*, soldier fly, a Florida State record.** Specimens were reared from logs cut from avocado trees during studies related to the potential impact of the invasive redbay ambrosia beetle. The immature stages of this fly are predaceous on bark insects. This species has been reported in the United States from Illinois, Kansas, New Mexico and Texas. It also is known from Cuba and Sinaloa State in Mexico. (Miami-Dade County; E2009-8127; Jorge E. Pena, University of Florida, Homestead; August 2009.) (Dr. Gary J. Steck.)

***Gowdeyana* sp. nr. *punctifera*, a soldier fly, a Florida State record.** Specimens were reared from logs cut from avocado trees during studies related to the potential impact of the invasive redbay ambrosia beetle. The immature stages of this fly probably are predaceous on various bark feeding insects, including bark beetles. This genus has not been reported previously from Florida, although one specimen labeled *G. punctifera* is present in the Florida State Collection of Arthropods; however, the newly collected fly does not match the museum specimen. It may be conspecific with a species known from Jamaica, but this cannot be confirmed until male specimens are available. (Miami-Dade County; E2009-8127; Jorge E. Pena, University of Florida, Homestead; August 2009.) (Dr. Gary J. Steck.)

***Holobus* sp., a Continental USA record.** This species is unknown to Florida. Members of the genus as a whole are mite predators. (Miami-Dade County; E2011-4042; Olga Garcia, 22 June 2011.) (Dr. Michael C. Thomas.)

***Pharoscygnus flexibilis*, a Continental USA record.** This is an Indian species that has been recorded from Brazil, but not from North America. It is a generalist predator. (Miami-Dade County; E2011-6856; Olga Garcia; 13 September 2011.) (Dr. Michael C. Thomas.)

***Tenuipalpus crassulus*, a tenuipalpid mite, a Western Hemisphere record.** This species was described from specimens intercepted at the Washington, D.C. quarantine station on *Crassula mucosa* (= *Crassula lycopodioides*) from Holland in 1959. This mite was not reported again until it was found in Florida at an Orange County nursery causing severe damage on *Sedum* sp., *Echeveria* sp. and *Aloe* sp. in July, August and October respectively. Most *Tenuipalpus* species are red to orange, but this species is tan and difficult to distinguish on the host. The species identification could not be confirmed until specimens were compared with type material in the United States National Museum in October. The mite feeding caused severe damage to the stems and leaves of *Sedum* and *Echeveria*. On *Aloe*, mite feeding caused large necrotic spots on the leaves. Nothing is known about the distribution of this mite in Florida or the United States. (Orange County;



***Eidalimus henschawi* (soldier fly)**  
Photograph courtesy of Gary J. Steck, [DPI](#)



***Gowdeyana* sp. nr. *punctifera* (soldier fly)**  
Photograph courtesy of Gary J. Steck, [DPI](#)



***Pharoscygnus flexibilis***  
Photograph courtesy of Michael C. Thomas, [DPI](#)



## Entomology Specimen Report

Following are tables with entries for records of new hosts or new geographical areas for samples identified in the current volume's time period as well as samples of special interest. An abbreviated table, with all the new records, but less detail about them, is presented in the body of this web page and another version with more complete data is downloadable as a PDF or an Excel spreadsheet.

The tables are organized alphabetically by plant host if the specimen has a plant host. Some arthropod specimens are not collected on plants and are not necessarily plant pests. In the table below, those entries that have no plant information included are organized by arthropod name.

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Plant Species Name	Plant Common Name	Arthropod Species Name	Arthropod Common Name	County	New Records
<i>Adenium obesum</i>	desert rose	<i>Pseudococcus odermatti</i>	a mealybug	St. Johns	HOST
<i>Albizia lebeck</i>	woman's tongue tree; seris tree; Tibet lebeck; singer-tree; shack-shack	<i>Coccus longulus</i>	long brown scale	Miami-Dade	HOST
<i>Aloe</i> sp.		<i>Tenuipalpus crassulus</i>	a tenuipalpid mite	Orange	HOST
<i>Basella alba</i>	Ceylon spinach	<i>Aleurodicus rugioperculatus</i>	a whitefly	Miami-Dade	HOST
<i>Basella alba</i>	Ceylon spinach	<i>Ferrisia virgata</i>	striped mealybug	Miami-Dade	HOST
<i>Bidens alba</i>	beggarticks, romerillo	<i>Dysmicoccus boninsis</i>	grey sugarcane mealybug	Volusia	HOST
<i>Brassica juncea</i>	mustard greens; leaf mustard; Indian mustard; brown mustard	<i>Bagrada hilaris</i>	Bagrada bug	Suwannee	INTERDICTION INTERCEPTION
<i>Brassica oleracea</i>	Chinese cabbage	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	INTERDICTION INTERCEPTION
<i>Brassica oleracea</i>	Chinese cabbage	<i>Phyllotreta cruciferae</i>	a chrysomelid beetle	Suwannee	INTERDICTION INTERCEPTION
<i>Bulnesia arborea</i>	Maracaibo lignumvitae	<i>Aphis craccivora</i>	cowpea aphid	Miami-Dade	HOST

## Nematology Section

Compiled by [Janete A. Brito, Ph.D.](#)

This section analyzes soil and plant samples for nematodes, conducts pest detection surveys and provides diagnosis of plant problems, in addition to completing identification of plant parasitic nematodes involved in regulatory and certification programs. State of Florida statutes and rules mandate the principal part of the regulatory activity of the section. Analyses of plant and soil samples include those from in-state programs, plant shipments originating in Florida destined for other states and countries, as well as samples intercepted in Florida from outside the United States.

### Nematodes of Special Interest

***Meloidogyne javanica* (Treub 1885) Chitwood, 1949, the Javanese root-knot nematode**, was found infecting the roots of the perennial *Ophiopogon* sp. (mondo grass). (Hernando County; N2011-00760; Stephen R. Jenner; 30 June 2011.)

***Meloidogyne mayaguensis* Rammah and Hirshamann, 1988, the Guava root-knot nematode**, was found infecting the roots of *Ilex x meserveae* (blue holly), an ornamental plant. (Hillsborough County; N11-00896; Joseph S. Hawk; 8 August 2011.) New Host Record.

Blue holly (*Ilex x meserveae*) is an ornamental shrub used in landscaping in hardiness zones 6-9, including North Florida. This plant species produces very attractive red berries that make a striking contrast with the evergreen foliage. The susceptibility of blue holly to soil borne pathogens such as *Phytophthora* sp. and *Pythium* sp. has been reported; however, very little is known about the susceptibility of this species to plant parasitic nematodes. Recently, the guava root-knot nematode, *Meloidogyne mayaguensis*, was found infecting this holly in an ornamental nursery. The infected plant showed sparse foliage and stunted above ground growth as well as root galling.

Collectors submitting five or more samples that were processed for nematological analysis in September - October 2011

Anderson, James L.	18
Averhoff Chirino, Carlos	20
Bailey, W. Wayne	6
Burgos, Frank A.	123
Edenfield, Carrie S.	76
LeBoutillier, Karen W.	107
Ochoa, Ana L.	61

### Sample Submissions

	Sep/ Oct	Year to Date
Morphological Identifications	1,426	10,801
Molecular Identifications	182	586
Total Samples Submitted	1,608	11,387

### Certification and Regulatory Samples

Multistate Certification for National and International Export	993	7,970
California Certification	265	1916
Pre-movement (Citrus Nursery Certification)	38	264
Site or Pit Approval (Citrus Nursery and Other Certifications)	40	144

### Other Samples

Identifications (invertebrate)	3	13
Plant Problems	30	136
Intrastate Survey, Random	57	358
Molecular Identifications*	182	586

\*The majority of these analyses involved root-knot nematode species

Qiao, Ping	89
Spriggs, Charles L.	187
Vasquez, Dagne A.	6



***Ilex x meserveae* (blue holly)**

Photograph courtesy of Christopher J. Starbuck, [University of Missouri](#)



***Ilex x meserveae* (blue holly) infected with *Meloidogyne mayaguensis***

Photograph courtesy of Mariana P. Beckman and Janete A. Brito, [DPI](#)



***Ilex x meserveae* (blue holly) close view of roots infected with *Meloidogyne mayaguensis* showing galls, the typical below ground symptoms induced by this nematode species.**

Photograph courtesy of Mariana P. Beckman and Janete A. Brito, [DPI](#)

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## Plant Pathology Section

Compiled by [David A. Davison](#)

This section provides plant disease diagnostic services and conducts a citrus germplasm introduction program. The agency-wide goal of protecting Florida agriculture very often begins with accurate diagnosis of plant problems. Disease management recommendations are offered where appropriate and available. Our plant pathologists are dedicated to keeping informed about plant diseases outside Florida in order to be prepared for potential introductions of new pathogens.

***Cercospora tuberosa* (leaf spot)**, an uncommon leaf spot, was found on *Apios tuberosa*, a showy, flowering vine with edible, tuberous roots. (Alachua County; P2011-53143; Timothy S. Schubert; 7 September 2011.)

***Candidatus Liberibacter asiaticus* (Huanglongbing or citrus greening)** Although unusual to find this pathogen so far north, it was reported on established *Citrus x paradisi* (grapefruit). (Alachua County; P2011-55752; Nina Y. Zagvazdina and Thomson M. Paris; 31 October 2011.)

***Septoria mikania-micranthae* (leaf spot)** This pathogen is being studied as a potential biocontrol agent for the noxious weed, *Mikania micrantha*. (Miami-Dade County; P2011-56396; Andrew I. Derksen, R. Diaz, J. McClurg; 28 October 2011.)

## Plant Pathology Sample Report

Following is a table with entries for records of new hosts or new geographical areas for samples identified in the current volume's time period as well as samples of special interest. The table is organized alphabetically by plant host.

Plant Species	Plant Common Name	Causal Agent	Disease Name	Location	County	Log #	Collector	Date	New Records
<i>Apios americana</i>	groundnut	<i>Cercospora tuberosa</i>	leaf spot	San Felasco Hammock Preserve State Park	Alachua	53143	Dr. Timothy S. Schubert	9/7/2011	
<i>Citrus x paradisi</i>	grapefruit	<i>Candidatus Liberibacter asiaticus</i>	Huanglongbing, citrus greening	University of Florida	Alachua	55752	Nina Y. Zagvazdina, Thomson M. Paris	10/31/2011	County
<i>Magnolia</i> sp.	magnolia	<i>Passalora magnoliae</i>	leaf spot	Nursery	Lake	55117	Holly A. Alred	10/17/2011	

## Sample Submissions

	Sep/ Oct	Year to Date
Pathology	487	2,911
Bee	4	28
Soil	16	43
Citrus canker	512	1,921
Citrus greening	1,969	7,186
Sweet orange scab-like disease	20	233
Miscellaneous	12	63
Total Samples Submitted	3,020	12,385



***Apios tuberosa* (groundnut)**

Photograph courtesy of Dennis Girard, [Atlas of Florida Vascular Plants](#).

<i>Manihot esculenta</i>	cassava, manioc, yuca	<i>Cercosporidium henningsii</i>	leaf spot	Nursery	Palm Beach	54356	Joao Tomaz DaFonseca	9/26/2011	
<i>Mikania micrantha</i>	climbing hempweed	<i>Septoria mikania-micranthae</i>	leaf spot	Nursery	Miami-Dade	56396	Andrew I. Derksen, CAPS; Rodrigo Diaz and Julie McClurg, University of Florida	10/28/2011	
<i>Tabernaemontana divaricata</i>	crape jasmine, crape gardenia	<i>Puccinia tabernaemontanae</i>	leaf rust	Dooryard	Palm Beach	55353	Eduardo Solis	10/4/2011	

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DPI's Bureau of Entomology, Nematology and Plant Pathology (the botany section is included in this bureau) produces TRI-OLOGY six times a year, covering two months of activity in each issue. The report includes detection activities from nursery plant inspections, routine and emergency program surveys, and requests for identification of plants and pests from the public. Samples are also occasionally sent from other states or countries for identification or diagnosis.

## Highlights

Following are a few of the notable entries from this volume of TRI-OLOGY. These entries are reports of interesting plants or unusual pests, some of which may be problematic. See Section Reports for complete information.

***Achatina (Lissachatina) fulica (Bowditch), giant African land snail, a regulatory incident.***

A population of *Achatina (Lissachatina) fulica* (Bowditch), giant African land snail (GALS), was brought to the attention of DPI by Miami area homeowners in early September 2011. The discovery of this international pest initiated an eradication program that has resulted in the delimitation of 13 localized populations in Miami-Dade County to date. GALS feed on over 500 species of plants, damage stucco and plaster walls, may carry parasitic nematodes that pose health problems for humans, and have tremendously high rates of reproduction and growth.



***Achatina fulica* (giant African land snail)**  
 Photograph courtesy of Jeffrey W. Lotz, [DPI](#)



***Aloe* sp. with damage from *Tenuipalpus crassulus*, a tenuipalpid mite**  
 Photograph courtesy of W.C. 'Cal' Welbourn, [DPI](#)

***Tenuipalpus crassulus*, a tenuipalpid mite, a Western Hemisphere record.**

This species was described from specimens intercepted at Washington, D.C. quarantine on *Crassula mucosa* from Holland in 1959. This mite was not reported again until it was found at a nursery in Orange County causing severe damage on *Sedum* sp., *Echeveria* sp. and *Aloe* sp. The species identification could not be confirmed until specimens were compared with type material in the United States National Museum in October. The mite feeding caused severe damage to the stems and leaves of *Sedum* and *Echeveria*. On

*Aloe*, mite feeding caused large necrotic spots on the leaves.

***Calacarus flagelliseta*, an eriophyid mite, a Continental USA record.** This species was described from specimens collected from *Carica papaya* (papaya) in Brazil. Mite feeding was reported to cause leaf edge rolling and leaf necrosis. In both February and November 2008, a few specimens of an unidentifiable

## Section Reports

### Botany

### Entomology

### Nematology

### Plant Pathology

### Our Mission...getting it done

The mission of the Division of Plant Industry is to protect Florida's native and commercially grown plants and the State's apiary industry from harmful pests and diseases. Perhaps you'd been interested in learning more about why protecting Florida's agriculture industry is so important. Agriculture contributes almost \$100 billion to the state's economy, and there are many environmental factors that can reduce the industry's productivity. By protecting agriculture, DPI helps protect the state's food supply and economic stability. Just how much does DPI protect? Check out these numbers:

Total cash receipts for Florida nursery and greenhouse products were almost \$2 billion in 2008. Sales for fresh market



eriphyid were collected from papaya in Broward and Miami-Dade counties. In September 2011, eriophyid mites identified as *C. flagelliset*a were collected from a papaya in Miami-Dade County. The original specimens from 2008 were reexamined and confirmed to be *C. flagelliset*a.



***Pharoscyrnus flexibilis***  
Photograph courtesy of Michael C. Thomas, [DPI](#)

***Pharoscyrnus flexibilis*, a Continental USA record.** This is an Indian species that has been recorded from Brazil, but not from North America. It is a generalist predator.

***Cercospora tuberosa* (leaf spot).** an uncommon leaf spot, was found on *Apios tuberosa*, a showy, flowering vine with edible, tuberous roots.



***Apios tuberosa* (groundnut)**  
Photograph courtesy of Denis Gerard, [Atlas of Florida Vascular Plants](#)

***Cordia globosa* (Curaçao bush, bloodberry, butterfly sage).** The common name "bloodberry" might suggest the red, ovoid to oblong red fruit or it could be based on the medicinal uses of the plant as a blood tonic. Several biologically active chemicals have been found within the genus, including antiviral, antifungal and anti-inflammatory agents. The name "butterfly sage" has come into use with the increase in home butterfly gardens and the appearance of this species in them. In the wild, this species is endangered in Florida.



***Cordia globosa* (Curaçao bush, butterfly sage)**  
Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)

***Meloidogyne mayaguensis* Rammah and Hirshamann, 1988,**

**the Guava root-knot nematode,** was found infecting the roots of *Ilex x meserveae* (blue holly), a new host species for this nematode.



***Ilex x meserveae* (blue holly)**  
Photograph courtesy of Christopher J. Starbuck, [University of Missouri](#)

#### **Acknowledgements:**

The editors would like to acknowledge the work of all those who contributed information and explanations by providing data, photographs or text and by carefully reading early drafts. We also thank Scott Weinberg for his skillful use of web authoring tools to produce this report.

vegetables reached more than \$1.3 billion, with production on 183,100 acres in 2009. During the 2008-2009 growing season, Florida citrus growers produced 162.4 million boxes of oranges and 21.7 million boxes of grapefruit. Greenhouse and nursery products generate more cash receipts than any other Florida commodity, with the more well-known citrus coming in second. Floriculture and horticulture products make up a large majority of Florida's exports.

From Mediterranean fruit fly eradication to nursery inspections, DPI protects Florida's plant and apiairy industries from pests and diseases, and therefore protects the state's economy. For more information, visit [www.freshfromflorida.com/pi](http://www.freshfromflorida.com/pi).

We welcome your suggestions for improvement of TRI-OLOGY. Please feel free to contact [me](#) or [Dr. Patti Anderson](#) with your comments.

[Dr. Wayne N. Dixon](#), editor  
Assistant Director, DPI



## Botany Section

Compiled by [Patti J. Anderson, Ph.D.](#)

This section identifies plants for the Division of Plant Industry, as well as for other governmental agencies and private individuals. The Botany Section maintains a reference herbarium with over 10,000 plants and nearly 1,400 vials of seeds. Some of the samples received for identification are discussed below:

***Acalypha arvensis* Poepp. (field copperleaf, cordiemento)**, from a genus of about 450 species native to warm or tropical areas. Euphorbiaceae. This monoecious annual grows to 50 cm tall. The stem is covered with curved white hairs, but not the glandular hairs found in other members of this genus. The petiolate leaves are ovate-lanceolate to rhombic with an acute apex and crenate to serrate margins. The leaf blades are usually pubescent with five prominent veins from the base. The linear to triangular stipules are setaceous with one or more longer, straight hairs at the tip. Inflorescences are axillary, with staminate spikes 4-6 cm long, while pistillate ones are 1.5-2.5 cm in length. The fruits are hispid capsules about 2 mm wide containing ovoid to ellipsoid seeds. This species is occasionally found in disturbed sites, scattered from Leon County through the peninsula to Miami-Dade County. It is native from the Caribbean and Southern Mexico to Bolivia. In Latin America, decoctions of this plant are used medicinally for topical infections, inflammation, sores, bug bites and other skin irritations. (Marion County; submitted by the general public; 13 September 2011.) (Duke *et al.* 2008; Howard 1989; Mabberley 2008.)

***Aristolochia maxima* Jacq. (Dutchman's-pipe, Florida Dutchman's pipe)**, from a genus of 120 species from warm or tropical areas. Aristolochiaceae. This woody vine or liana can twine up to 20 m from its roots. The alternate, leathery, obovate leaves are 7-15 cm long with short petioles from 1-8 mm long. The leaf bases can be cordate or truncate, while the apex has a short, acuminate tip. Inflorescences can be solitary flowers or a fan-shaped cyme with brownish-purple funnel-shaped perianth, composed of three fused sepals. The flower shape, like the meerscham pipe of Sherlock Holmes, inspires the common name. A chamber, the "utricle," encloses the reproductive structures of the flower and connects to a tube leading to the showy limb. The fruit is an ovoid capsule 10-15 cm long with numerous, flattened, triangular seeds. These elaborate flowers provide a home for the larvae of flies that breed within them, then leave to spread pollen. Other species in this genus use "pollination by deception." The flies confuse the flower with rotting meat, but are not rewarded for spreading the pollen of the plant. This species is native to Mexico, Central America, Venezuela and Colombia, but is widely cultivated in warm areas. In Florida, it has occasionally escaped from cultivation and has been found in disturbed hammocks. (Hendry County; B2011-692; Roberto Delcid; 2 October 2011.) (Sakai 2002; <http://www.efloras.org> accessed 28 November 2011.)

## Sample Submissions

	Sep/ Oct	Year to Date
Samples submitted by other DPI sections	1,818	7,214
Samples submitted for botanical identification only	184	725
Total Samples Submitted	2,002	7,939
Specimens added to the herbarium	0	41



***Acalypha arvensis* (field copperleaf) pistillate (female) flowers**  
 Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)

***Cordia globosa* (Jacq.) Kunth (Curaçao bush, bloodberry, butterfly sage)**, from a genus of about 300 tropical species. Boraginaceae. This 1-3 m tall shrub has alternate leaves that are variable in shape, from rhomboid to lanceolate to ovate, from 1.5 - 7 cm long, and up to 3 cm wide. The fickleness continues with the apex varying from acute to obtuse and margins from crenate to dentate. The leaf blade upper surface is wrinkled and covered with sharp, stiff, appressed hairs, with the lower surface more densely covered. The inflorescence is a globose head, 1.5 - 2 cm in diameter, with several flowers in each cluster. The five-lobed calyx has hirsute, filiform tips, 1-2 mm long. The corolla is white, 5-9 mm long, and the style is twice divided in half to form four landing pads for pollen. The common name "bloodberry" might suggest the red, ovoid to oblong fruit or it could be based on the medicinal uses of the plant as a blood tonic. Several biologically active chemicals have been found within the genus, including antiviral, antifungal and anti-inflammatory agents. The name "butterfly sage" has come into use since the 1970s with the increase in home butterfly gardens and the use of this species in them. The plant grows throughout the West Indies to northern South America, Mexico and Central America, but is listed as endangered in the wild within Florida. (Miami-Dade County; B2011-698; Duraid I. Hanna; 17 October 2011.) (Austin 2004; Correll and Correll 1982; Mabberley 2008; Weaver and Anderson 2010.)

***Lespedeza stuevei* Nutt. (tall lespedeza)**, from a genus of about 35 species native to temperate North and South America and tropical Asia, Africa and Australia. Leguminosae. This herbaceous perennial with a pubescent stem grows to 1.5 m tall and has alternate, tri-foliolate leaves with appressed, straight trichomes on both leaf surfaces, but more densely covered below. The leaflets are entire, oblong to elliptic with a mucro at the tip. Inflorescences are dense racemes among the upper leaf axils. The corollas of the papilionaceous flowers are lavender to purplish blue, and fruits are flat, one-seeded legumes, covered with densely to sparsely appressed hairs. The seeds are among the most important food sources for the Northern Bobwhite, but few other songbirds feed on them. Tall lespedeza grows in dry, sandy soil in open, upland forests or disturbed areas such as roadsides and fencerows. This species is native to the eastern half of the United States from Texas to Vermont. In Florida, it has been documented in the Panhandle and several northern peninsula counties. (Alachua County; submitted by the general public; 15 October 2011.) (Clemants and Gracie 2006; Miller and Miller 2005; Wunderlin and Hansen 2011.)

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***Acalypha arvensis* (field copperleaf) staminate (male) flowers**  
Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)



***Aristolochia maxima* (Florida Dutchman's pipe) flowers**  
Photograph courtesy of Top Tropicals

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*Aristolochia maxima* (Florida Dutchman's pipe) leaves

Photograph courtesy of Top Tropicals



*Cordia globosa* (Curaçao bush, butterfly sage)

Photograph courtesy of Keith Bradley, [Atlas of Florida Vascular Plants](#)



***Lespedeza stuevei* (tall lespedeza) dried specimen**

Photograph courtesy of [Atlas of Florida Vascular Plants](#)

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## Entomology Section

Compiled by [Susan E. Halbert, Ph.D.](#)

This section provides the division's plant protection specialists and other customers with accurate identifications of arthropods. The entomology section also builds and maintains the arthropod reference and research collection (the Florida State Collection of Arthropods with over 9 million specimens), and investigates the biology, biological control and taxonomy of arthropods.

***Achatina (Lissachatina) fulica (Bowditch), giant African land snail, a regulatory incident.*** A population of *Achatina (Lissachatina) fulica* (Bowditch), giant African land snail (GALS), was brought to the attention of DPI by Miami area homeowners in early September 2011. The discovery of this international pest initiated an eradication program that has resulted in the delimitation of 13 localized populations in Miami-Dade County to date. These populations are in residential areas and finds were mostly the result of homeowner calls to the DPI Helpline (FDACS/DPI Helpline 888-397-1517). Circumstantial evidence suggests the snails were originally smuggled into the United States for use in religious practices and cosmetic aids.

GALS feed on over 500 species of plants, damage stucco and plaster walls, may carry parasitic nematodes that pose health problems for humans, and have tremendously high rates of reproduction and growth. They can breed when about 5cm in shell length and can lay up to 1,200 eggs per year. Several properties in these residential areas have had more than 500 snails removed. Control measures (including hand picking, snail baiting and mechanical removal of organic debris) are already under way. Various baits and traps are being tested for efficacy against GALS. (Miami-Dade County; E2011-6650; Misael E. Igarza, 8 September 2011.) (Dr. Paul E. Skelley.)

***Atherigona reversura, bermudagrass stem maggot, a Florida State record.*** Immature stages of this species were found mining stems of Bermuda grass and causing top die-back. The first report of this pest in North American was from Georgia in 2010, and the authors stated that the fly occurred throughout southern Georgia and was also present in northern Florida. The fly is native to Asia where it is widespread from India to the Philippines and Japan. It was introduced to Hawaii where it was first reported in 1976. (Bradford County; E2011-7038; Timothy W. Wilson, University of Florida; 18 August 2011.) (Dr. Gary J. Steck.)

***Calacarus flagelliseti, an eriophyid mite, a Continental USA record.*** This species was described from specimens collected from *Carica papaya* (papaya) in Brazil. Mite feeding was reported to cause leaf edge rolling and leaf necrosis. In both February and November 2008, a few specimens of an unidentifiable eriophyid were collected from papaya in Broward and Miami-Dade counties respectively. In September 2011, eriophyid mites identified as *C. flagelliseti* were collected from a papaya in Miami-Dade County. The original specimens from 2008 were reexamined and confirmed to be *C. flagelliseti*. The infested papaya was also heavily infested with two species

### Sample/Specimen Submissions

#### September

Samples Submitted	1,329
Specimens Identified	20,272

#### October

Samples Submitted	840
Specimens Identified	9,287

#### Year to Date

Samples Submitted	8,370
Specimens Identified	108,317



***Achatina fulica* (giant African land snail)**  
Photograph courtesy of Jeffrey W. Lotz, [DPI](#)



***Cylindrocopturus* probably *tetralobus***  
Photograph courtesy of Michael C. Thomas, [DPI](#)

of spider mites (*Eutetranychus banksi* and *Eotetrenaychus lewisi*), making it difficult to determine the exact damage caused by *C. flagelliset*a. The pest status and distribution of this mite in Florida is unknown. Based on the original description, this mite could be a serious pest of papaya in Florida. (Broward County; E2008-778; George N. Louissaint, USDA/APHIS/PPQ; February 2008.) (Dr. W. C. 'Cal' Welbourn.)

***Cylindrocopturus* probably *tetralobus*, a Florida State record.**

*Cylindrocopturus tetralobus* is a Mexican species most similar to this South Florida specimen. The species probably is of no economic importance. (Miami-Dade County; E2011-6986; Olga Garcia, 14 September 2011.) (Dr. Michael C. Thomas.)

***Eidalimus henschawi*, soldier fly, a Florida State record.** Specimens were reared from logs cut from avocado trees during studies related to the potential impact of the invasive redbay ambrosia beetle. The immature stages of this fly are predaceous on bark insects. This species has been reported in the United States from Illinois, Kansas, New Mexico and Texas. It also is known from Cuba and Sinaloa State in Mexico. (Miami-Dade County; E2009-8127; Jorge E. Pena, University of Florida, Homestead; August 2009.) (Dr. Gary J. Steck.)

***Gowdeyana* sp. nr. *punctifera*, a soldier fly, a Florida State record.** Specimens were reared from logs cut from avocado trees during studies related to the potential impact of the invasive redbay ambrosia beetle. The immature stages of this fly probably are predaceous on various bark feeding insects, including bark beetles. This genus has not been reported previously from Florida, although one specimen labeled *G. punctifera* is present in the Florida State Collection of Arthropods; however, the newly collected fly does not match the museum specimen. It may be conspecific with a species known from Jamaica, but this cannot be confirmed until male specimens are available. (Miami-Dade County; E2009-8127; Jorge E. Pena, University of Florida, Homestead; August 2009.) (Dr. Gary J. Steck.)

***Holobus* sp., a Continental USA record.** This species is unknown to Florida. Members of the genus as a whole are mite predators. (Miami-Dade County; E2011-4042; Olga Garcia, 22 June 2011.) (Dr. Michael C. Thomas.)

***Pharoscygnus flexibilis*, a Continental USA record.** This is an Indian species that has been recorded from Brazil, but not from North America. It is a generalist predator. (Miami-Dade County; E2011-6856; Olga Garcia; 13 September 2011.) (Dr. Michael C. Thomas.)

***Tenuipalpus crassulus*, a tenuipalpid mite, a Western Hemisphere record.** This species was described from specimens intercepted at the Washington, D.C. quarantine station on *Crassula mucosa* (= *Crassula lycopodioides*) from Holland in 1959. This mite was not reported again until it was found in Florida at an Orange County nursery causing severe damage on *Sedum* sp., *Echeveria* sp. and *Aloe* sp. in July, August and October respectively. Most *Tenuipalpus* species are red to orange, but this species is tan and difficult to distinguish on the host. The species identification could not be confirmed until specimens were compared with type material in the United States National Museum in October. The mite feeding caused severe damage to the stems and leaves of *Sedum* and *Echeveria*. On *Aloe*, mite feeding caused large necrotic spots on the leaves. Nothing is known about the distribution of this mite in Florida or the United States. (Orange County;



***Eidalimus henschawi* (soldier fly)**  
Photograph courtesy of Gary J. Steck, [DPI](#)



***Gowdeyana* sp. nr. *punctifera* (soldier fly)**  
Photograph courtesy of Gary J. Steck, [DPI](#)



***Pharoscygnus flexibilis***  
Photograph courtesy of Michael C. Thomas, [DPI](#)





## Entomology Specimen Report

Following are tables with entries for records of new hosts or new geographical areas for samples identified in the current volume's time period as well as samples of special interest. An abbreviated table, with all the new records, but less detail about them, is presented in the body of this web page and another version with more complete data is downloadable as a PDF or an Excel spreadsheet.

The tables are organized alphabetically by plant host if the specimen has a plant host. Some arthropod specimens are not collected on plants and are not necessarily plant pests. In the table below, those entries that have no plant information included are organized by arthropod name.

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Plant Species Name	Plant Common Name	Arthropod Species Name	Arthropod Common Name	County	New Records
<i>Adenium obesum</i>	desert rose	<i>Pseudococcus odermatti</i>	a mealybug	St. Johns	HOST
<i>Albizia lebeck</i>	woman's tongue tree; seris tree; Tibet lebeck; singer-tree; shack-shack	<i>Coccus longulus</i>	long brown scale	Miami-Dade	HOST
<i>Aloe</i> sp.		<i>Tenuipalpus crassulus</i>	a tenuipalpid mite	Orange	HOST
<i>Basella alba</i>	Ceylon spinach	<i>Aleurodicus rugioperculatus</i>	a whitefly	Miami-Dade	HOST
<i>Basella alba</i>	Ceylon spinach	<i>Ferrisia virgata</i>	striped mealybug	Miami-Dade	HOST
<i>Bidens alba</i>	beggarticks, romerillo	<i>Dysmicoccus boninsis</i>	grey sugarcane mealybug	Volusia	HOST
<i>Brassica juncea</i>	mustard greens; leaf mustard; Indian mustard; brown mustard	<i>Bagrada hilaris</i>	Bagrada bug	Suwannee	INTERDICTION INTERCEPTION
<i>Brassica oleracea</i>	Chinese cabbage	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	INTERDICTION INTERCEPTION
<i>Brassica oleracea</i>	Chinese cabbage	<i>Phyllotreta cruciferae</i>	a chrysomelid beetle	Suwannee	INTERDICTION INTERCEPTION
<i>Bulnesia arborea</i>	Maracaibo lignumvitae	<i>Aphis craccivora</i>	cowpea aphid	Miami-Dade	HOST

## Nematology Section

Compiled by [Janete A. Brito, Ph.D.](#)

This section analyzes soil and plant samples for nematodes, conducts pest detection surveys and provides diagnosis of plant problems, in addition to completing identification of plant parasitic nematodes involved in regulatory and certification programs. State of Florida statutes and rules mandate the principal part of the regulatory activity of the section. Analyses of plant and soil samples include those from in-state programs, plant shipments originating in Florida destined for other states and countries, as well as samples intercepted in Florida from outside the United States.

### Nematodes of Special Interest

***Meloidogyne javanica* (Treub 1885) Chitwood, 1949, the Javanese root-knot nematode**, was found infecting the roots of the perennial *Ophiopogon* sp. (mondo grass). (Hernando County; N2011-00760; Stephen R. Jenner; 30 June 2011.)

***Meloidogyne mayaguensis* Rammah and Hirshamann, 1988, the Guava root-knot nematode**, was found infecting the roots of *Ilex x meserveae* (blue holly), an ornamental plant. (Hillsborough County; N11-00896; Joseph S. Hawk; 8 August 2011.) New Host Record.

Blue holly (*Ilex x meserveae*) is an ornamental shrub used in landscaping in hardiness zones 6-9, including North Florida. This plant species produces very attractive red berries that make a striking contrast with the evergreen foliage. The susceptibility of blue holly to soil borne pathogens such as *Phytophthora* sp. and *Pythium* sp. has been reported; however, very little is known about the susceptibility of this species to plant parasitic nematodes. Recently, the guava root-knot nematode, *Meloidogyne mayaguensis*, was found infecting this holly in an ornamental nursery. The infected plant showed sparse foliage and stunted above ground growth as well as root galling.

Collectors submitting five or more samples that were processed for nematological analysis in September - October 2011

Anderson, James L.	18
Averhoff Chirino, Carlos	20
Bailey, W. Wayne	6
Burgos, Frank A.	123
Edenfield, Carrie S.	76
LeBoutillier, Karen W.	107
Ochoa, Ana L.	61

### Sample Submissions

	Sep/ Oct	Year to Date
Morphological Identifications	1,426	10,801
Molecular Identifications	182	586
Total Samples Submitted	1,608	11,387

### Certification and Regulatory Samples

Multistate Certification for National and International Export	993	7,970
California Certification	265	1916
Pre-movement (Citrus Nursery Certification)	38	264
Site or Pit Approval (Citrus Nursery and Other Certifications)	40	144

### Other Samples

Identifications (invertebrate)	3	13
Plant Problems	30	136
Intrastate Survey, Random	57	358
Molecular Identifications*	182	586

\*The majority of these analyses involved root-knot nematode species

Qiao, Ping	89
Spriggs, Charles L.	187
Vasquez, Dagne A.	6



***Ilex x meserveae* (blue holly)**

Photograph courtesy of Christopher J. Starbuck, [University of Missouri](#)



***Ilex x meserveae* (blue holly) infected with *Meloidogyne mayaguensis***

Photograph courtesy of Mariana P. Beckman and Janete A. Brito, [DPI](#)



***Ilex x meserveae* (blue holly) close view of roots infected with *Meloidogyne mayaguensis* showing galls, the typical below ground symptoms induced by this nematode species.**

Photograph courtesy of Mariana P. Beckman and Janete A. Brito, [DPI](#)

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## Plant Pathology Section

Compiled by [David A. Davison](#)

This section provides plant disease diagnostic services and conducts a citrus germplasm introduction program. The agency-wide goal of protecting Florida agriculture very often begins with accurate diagnosis of plant problems. Disease management recommendations are offered where appropriate and available. Our plant pathologists are dedicated to keeping informed about plant diseases outside Florida in order to be prepared for potential introductions of new pathogens.

***Cercospora tuberosa* (leaf spot)**, an uncommon leaf spot, was found on *Apios tuberosa*, a showy, flowering vine with edible, tuberous roots. (Alachua County; P2011-53143; Timothy S. Schubert; 7 September 2011.)

***Candidatus asiaticus* (Huanglongbing or citrus greening)** Although unusual to find this pathogen so far north, it was reported on established *Citrus x paradisi* (grapefruit). (Alachua County; P2011-55752; Nina Y. Zagvazdina and Thomson M. Paris; 31 October 2011.)

***Septoria mikania-micranthae* (leaf spot)** This pathogen is being studied as a potential biocontrol agent for the noxious weed, *Mikania micrantha*. (Miami-Dade County; P2011-56396; Andrew I. Derksen, R. Diaz, J. McClurg; 28 October 2011.)

### Sample Submissions

	Sep/ Oct	Year to Date
Pathology	487	2,911
Bee	4	28
Soil	16	43
Citrus canker	512	1,921
Citrus greening	1,969	7,186
Sweet orange scab-like disease	20	233
Miscellaneous	12	63
Total Samples Submitted	3,020	12,385

### Plant Pathology Sample Report

Following is a table with entries for records of new hosts or new geographical areas for samples identified in the current volume's time period as well as samples of special interest. The table is organized alphabetically by plant host.



***Apios tuberosa* (groundnut)**  
Photograph courtesy of Dennis Girard, [Atlas of Florida Vascular Plants](#).

Plant Species	Plant Common Name	Causal Agent	Disease Name	Location	County	Log #	Collector	Date	New Records
<i>Apios americana</i>	groundnut	<i>Cercospora tuberosa</i>	leaf spot	San Felasco Hammock Preserve State Park	Alachua	53143	Dr. Timothy S. Schubert	9/7/2011	
<i>Citrus x paradisi</i>	grapefruit	<i>Candidatus asiaticus</i>	Huanglongbing, citrus greening	University of Florida	Alachua	55752	Nina Y. Zagvazdina, Thomson M. Paris	10/31/2011	County
<i>Magnolia</i> sp.	magnolia	<i>Passalora magnoliae</i>	leaf spot	Nursery	Lake	55117	Holly A. Alred	10/17/2011	

<i>Manihot esculenta</i>	cassava, manioc, yuca	<i>Cercosporidium henningsii</i>	leaf spot	Nursery	Palm Beach	54356	Joao Tomaz DaFonseca	9/26/2011	
<i>Mikania micrantha</i>	climbing hempweed	<i>Septoria mikania- micranthae</i>	leaf spot	Nursery	Miami- Dade	56396	Andrew I. Derksen, CAPS; Rodrigo Diaz and Julie McClurg, University of Florida	10/28/2011	
<i>Tabernaemontana divaricata</i>	crape jasmine, crape gardenia	<i>Puccinia tabernaemontanae</i>	leaf rust	Dooryard	Palm Beach	55353	Eduardo Solis	10/4/2011	

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