

TRI-OLOGY

A PUBLICATION OF THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF PLANT INDUSTRY
ADAM H. PUTNAM, COMMISSIONER TREVOR R. SMITH, DIVISION DIRECTOR

DACS-P-00124 Volume 54, Number 5, September - October 2015

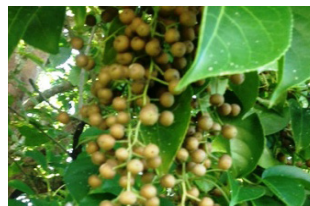
DPI's Bureau of Entomology, Nematology and Plant Pathology (the botany section is included in this bureau) produces TRI-OLOGY six times a year, covering two months of activity in each issue. The report includes detection activities from nursery plant inspections, routine and emergency program surveys, 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.



Bactrocera dorsalis, Oriental fruit fly, female
Photograph courtesy of Gary J. Steck, DPI



Pseudocercospora artanthes typical irregular leaf spots caused by the fungal pathogen on *Piper auritum* (Vera Cruz pepper).
Photograph courtesy of Robert M. Leahy, USDA



Bischofia javanica (Javanese bishopwood) fruit
Photograph courtesy of Stephen A. Hildebrandt, DPI



Flowers and leaves of *Zinnia* hybrid damaged by *Aphelenchoides besseyi* (the rice white-tip nematode)
Photography courtesy of Jeffrey W. Lotz, DPI

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.

***Bactrocera dorsalis*, Oriental fruit fly.** Based on the large number of flies detected in a concentrated area of the Redland Agricultural District in late August, a quarantine area regulating the movement of oriental fruit fly host plants was established on 4 September 2015. All entities within the quarantine area of 98 square miles that are involved with the production, sale or distribution of oriental fruit fly host material have been placed under a compliance agreement outlining operational procedures and program requirements.

***Pseudocercospora artanthes* (leaf spot)** was found infecting *Piper auritum* (Vera Cruz pepper) at the Jacksonville Zoo and Gardens in Duval County. This fungal pathogen flourishes when temperatures are moderate (~76 F) and humidity is high.

***Bischofia javanica* Blume (Javanese bishopwood)** is an evergreen tree can reach 18 m in height in Florida, but up to 40 m in natural areas of its native range. This species has escaped from cultivation in Central and South Florida to invade old fields and disturbed wet sites and is listed as a Category I invasive by Florida Exotic Pest Plant Council (FLEPPC). Bishopwood was introduced to Florida in the early 1900s. Almost four decades ago, it was included in a list of "pestiferous" ornamentals in South Florida and has continued to be a problem species, but one that is rarely sold now.

***Aphelenchoides besseyi* Christie, 1942, the rice white-tip nematode,** was detected in foliar tissues of the hybrid, annual ornamental, *Zinnia elegans* Jacq. x *Z. angustifolia* Kunth 'Profusion' (Profusion Series zinnia).

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Photograph courtesy of Patti J. Anderson, DPI.

How to cite Tri-ology:

Dixon, W.N. and P.J. Anderson. (Editors). year. Section. Tri-ology Volume(number): page. [date you accessed site] website address For example: Dixon, W.N. and P.J. Anderson. (Editors). 2012. Entomology section. Tri-ology 47(5): 8. [accessed July 5, 2013] http://www.freshfromflorida.com/content/download/12542/151552/triology_5101.pdf

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 [Reid Carswell](#) for his skillful use of web authoring tools to produce this report.

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

[Dr. Greg Hodges](#), 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 12,000 plants and nearly 1,450 vials of seeds.

Some of the samples received for identification are discussed below:

***Bischofia javanica* Blume (Javanese bishopwood)**, from a genus of two species, native to the Indomalaysian region. Phyllanthaceae (formerly included in Euphorbiaceae). This evergreen tree can reach 18 m in height in Florida, but up to 40 m in natural areas of its native range. The bark is reddish to grayish brown and develops narrow cracks or fissures as the tree ages. The alternate leaves are up to 20 cm long, tri-foliolate (composed of three leaflets), with serrate margins, and have long petioles that are often wine or maroon colored. The plants are dioecious, with staminate (male) and pistillate (female) flowers on separate trees. The individual flowers are small, green or greenish-white, with five sepals and no petals, but the inflorescences are large, dense, axillary panicles (clusters). Each globose fruit is about 1 cm in diameter, usually brown or reddish when ripe. The infructescence is a large, dense, pendant cluster, attractive to birds that eat the fleshy fruit and disperse the seeds. This species has escaped from cultivation in Central and South Florida to invade old fields and disturbed wet sites and is listed as a Category I invasive by Florida Exotic Pest Plant Council (FLEPPC). Bishopwood was introduced to Florida by Egbert N. Reasoner, the owner of Royal Palm Nurseries in Oneco (Manatee County) in the early 1900s. Almost four decades ago, it was included in a list of “pestiferous” ornamentals in South Florida and has continued to be a problem species, but one that is rarely sold now, in part because it is subject to numerous diseases and insect pests, including several leaf spots, scales and sooty mold. In Asia, the tree is cultivated for timber and has been used as a source of brown dye from tannins in the bark and of liquid astringents from pressed leaves. (Miami-Dade County; B2015-642; Ricardo G. Tordi; 15 September 2015 and Miami-Dade County; Rogelio E. (Roger) Blanco; 5 October 2015.) (LaFrankie 2010; Langland *et al.* 2008; Morton 1976; Morton 1984; http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200012543 [accessed 17 November 2015]; http://www.royalpalmnurseries.com/beth_salem/photos.html [accessed 17 November 2015].)

***Mimusops coriacea* (A. DC.) Miq. (monkey’s apple, pomme Jacquot)**, from a genus of about 40 species native primarily to tropical and subtropical Africa, but with several species extending into Asia, the Pacific Islands and Australia. Sapotaceae. This evergreen tree with milky latex can reach 15 m in height. The stem is smooth when young, becoming furrowed on mature specimens. The alternate, leathery leaves are shiny above, obovate to broadly elliptic in shape, with a rounded apex that is often notched. The 1.5-2 cm wide, creamy white flowers may be solitary or in small clusters. The sepals are in two whorls of four. Each of the eight petals is deeply three-lobed. The eight stamens alternate with an equal number of staminodea (sterile stamens). The pendant, subglobose fruit are 3-5 cm wide and are borne on thin pedicels to 6 cm long. The fruit are yellow to orange at maturity, with a tough outer rind and a mealy, sweet tasting, white to pinkish pulp surrounding one to six brown, ellipsoidal seeds with a circular hilum (scar). This species is native to the littoral forests of Madagascar and the Comoros Islands, where the edible fruit are sometimes sold in local markets. This species is widely cultivated as an ornamental and dooryard fruit tree in the tropics and has been reported as naturalized in the Mascarene Islands as well as southeastern Florida (Martin, Palm Beach, Broward and Miami-Dade counties).

Sample Submissions

	September October	Year to date
Samples submitted by other DPI sections	950	5,463
Samples submitted for botanical identification only	110	726
Total samples submitted	1,060	6,189
Specimens added to the herbarium	122	441

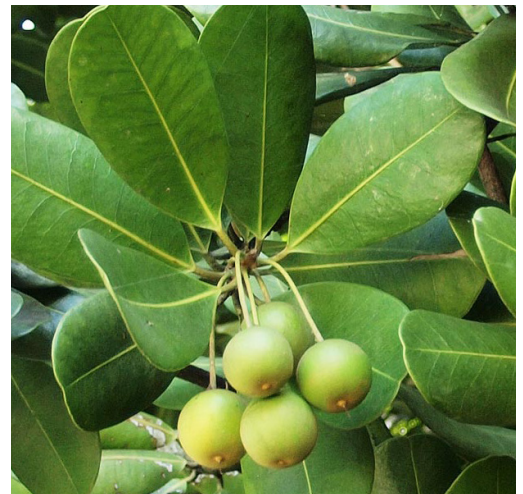


Bischofia javanica (Javanese bishopwood) flower
Photograph courtesy of Dennis Girard, [Atlas of Florida Vascular Plants](#)



Bischofia javanica (Javanese bishopwood) fruit
Photograph courtesy of Stephen A. Hildebrandt, DPI

The plant has been the source of considerable taxonomic confusion. It was introduced to the United States in 1933 (USDA plant introduction number 103520), under the incorrect name *Mimusops roxburghiana* Wight, and has subsequently been mis-identified as *Mimusops commersonii* (G. Don) Engl. and *Mimusops balata* (Aubl.) C.F. Gaertn. Herbarium specimens of the original USDA introduction are consistent with published descriptions of *Mimusops coriacea*. The misapplication of the name *Mimusops balata* has added to the confusion, since that binomial was published by three different authors. *Mimusops balata* sensu Pierre is a synonym of *Manilkara bidentata* (A. DC.) A. Chev., which has led many to incorrectly assume that our cultivated material in Florida is actually *Manilkara bidentata*. *Mimusops* has often been confused with *Manilkara*, which can be distinguished by its trimerous flowers and linear hilum (*Mimusops* has four-merous flowers and a circular to oval hilum). (Palm Beach County; B2015-659; Matthew M. Miller; 16 September 2015 and Broward County; B2015-682 and 683; Justin K. Anto; 5 October 2015.) (Aubréville 1974; Gautier *et al.* 2012; Mabberley 2008; Wunderlin and Hansen 2011; <http://www.eddmaps.org/> [accessed November 16, 2015].) (Marc S. Frank)



Mimusops coriacea (monkey's apple) fruit
Photograph courtesy of [Top Tropicals](#)

***Plumbago zeylanica* L. (doctorbush)**, from a genus of 24 species from tropical and warm areas. Plumbaginaceae. This perennial is found mainly in coastal counties of the south and central peninsula of Florida. It is native to Arizona, Florida, Texas, Mexico, Central America, South America, Asia, Africa and Pacific Islands, but the species was formerly separated into Old World *P. zeylanica* and *P. scandens* in the New World. Now *P. scandens* is considered a synonym of *P. zeylanica*. This scrambling, straggling subshrub can sometimes be erect or vine-like with branches to 1 m long. The alternate leaves are glabrous, ovate, elliptic or spatulate and 3-10 cm long. Inflorescence spikes can be 3-15 cm long. The flower calyx is tubular, 8-10 mm long, five-ribbed with stalked glands along the ribs. The corolla is white, with the tube about 2 cm long and spreading lobes with mucronate tips about 5 mm long. The flowers are heterostylous: some individuals have styles exerted above the stamens, while those of other individuals are not. Only one flower type is found on a given plant, and plants are self-incompatible. The fruit is a linear, beaked capsule about 8 mm long. In Florida, the plant is found in coastal hammocks and disturbed areas. It is recommended in native plant gardens, and although the butterfly typically feeds on legumes, it can be a larval host of the Cassius blue butterfly, *Leptotes cassius*. (Broward County; B2015-704; Justin K. Anto; 14 October 2015 and Miami-Dade County; Olga Garcia; B2015-721; 26 October 2015.) (Correll and Correll 1982; Wunderlin and Hansen 2011; http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=200017527 [accessed 17 November 2015]; <http://www.fnps.org/plants/plant/plumbago-zeylanica> [accessed 17 November 2015].)



Plumbago zeylanica (doctorbush)
Photograph courtesy of Bob Bierman, [Atlas of Florida Vascular Plants](#)

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The following table provides the new record information about samples identified during this time period.

Another table with information about all samples identified during this time is downloadable as a [PDF](#) or [Excel](#) spreadsheet. The table is organized alphabetically by collector name, with new county records listed first.

New County Records

New Record	1st Collector Name	Additional Collectors	Sample Number	Plant Species	Plant Common Name	Country
*	Julieta Brambila	James E. Hayden; Kevin Everhart	B2015-645	<i>Striga gesnerioides</i> (Willd.) Vatke	cowpea witchweed, hairy indigo witchweed; tobacco witchweed	Manatee
*	Kelly K. Douglas	Cheryl A. Jones	B2015-670	<i>Commelina benghalensis</i> L.	tropical spiderwort, Benghal dayflower, jio	Suwannee
*	Kelly K. Douglas		B2015-700	<i>Imperata cylindrica</i> (L.) P. Beauv.	cogongrass	Levy
*	Kelly K. Douglas		B2015-621	<i>Ipomoea hederifolia</i> L.	scarlet creeper; scarlet morning glory; ivy-leaf morning glory	Dixie
*	Kelly K. Douglas	Cheryl A. Jones	B2015-663	<i>Pueraria montana</i> (Lour.) Merr. var. <i>lobata</i> (Willd.) Maesen & S.M. Almeida	kudzu; kudzu vine; foot-a-night-vine; vine-that-ate-the-South; ko-hemp	Suwannee
*	Kelly K. Douglas	Cheryl A. Jones	B2015-668	<i>Pueraria montana</i> (Lour.) Merr. var. <i>lobata</i> (Willd.) Maesen & S.M. Almeida	kudzu; kudzu vine; foot-a-night-vine; vine-that-ate-the-South; ko-hemp	Lafayette
*	Kelly K. Douglas	Cheryl A. Jones	B2015-669	<i>Pueraria montana</i> (Lour.) Merr. var. <i>lobata</i> (Willd.) Maesen & S.M. Almeida	kudzu; kudzu vine; foot-a-night-vine; vine-that-ate-the-South; ko-hemp	Gilchrist
*	Linda G. McRay		B2015-684	<i>Ardisia crenata</i> Sims	coralberry; coral ardisia; spice berry; scratchthroat; hen's eyes	Pinellas
*	M. 'Janie' Echols	Cheryl A. Jones	B2015-706	<i>Commelina benghalensis</i> L.	tropical spiderwort, Benghal dayflower, jio	Bradford
*	M. 'Janie' Echols	Cheryl A. Jones	B2015-707	<i>Solanum carolinense</i> L.	Carolina horsenettle	Bradford
*	Roberto Delcid		B2015-646	<i>Linum carteri</i> Small var. <i>smallii</i> Rogers	Small's flax	Glades

Sample/Specimen Submissions

September	
Samples Submitted	602
Specimens Identified	6,932
October	
Samples Submitted	430
Specimens Identified	10,604
Year to Date	
Samples Submitted	6,037
Specimens Identified	102,074



Anatrachyntis simplex (false pink bollworm) female, reared ex *Typha* sp. (cattail) and spread by Lyle Buss (UF Entomology). Scale mm.



Bactrocera dorsalis (Oriental fruit fly) female
Photograph courtesy of Gary J. Steck, DPI



Olea europaea (edible olive) fruits infested with olive fly immature stages
Photograph courtesy of Gary J. Steck, DPI

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.

***Anatrachyntis simplex*, false pink bollworm, a new Western Hemisphere record.** The caterpillars of these moths are secondary pests scavenging in vegetable matter. They tend to prefer cotton bolls damaged by other insects over other commodities, but they inhabit any similar matter. This lot was reared from cattail heads. Males also are attracted to lure for light brown apple moth, *Epiphyas postvittana* (Walker). The species is widespread in the Old World. The earliest Florida specimen in the FSCA is from the Everglades, collected in 1975, and there are specimens from Central Florida from 1980. Historically, this species has been confused with two common native species of scavenger moths, *Pyroderces rileyi* (Walsingham) and *P. badia* (Hodges), with which it shares nearly identical wing pattern. (Alachua County; E2007-588; Lyle J. Buss, University of Florida, Department of Entomology and Nematology; 24 November 2006.) (Dr. James E. Hayden.)

***Bactrocera dorsalis*, Oriental fruit fly, a regulatory incident.** Based on the large number of flies detected in a concentrated area of the Redland Agricultural District in late August, a quarantine area regulating the movement of oriental fruit fly host plants was established on 4 September 2015. All entities within the quarantine area of 98 square miles that are involved with the production, sale or distribution of oriental fruit fly host material have been placed under a compliance agreement outlining operational procedures and program requirements. No fruit fly host material is eligible for movement without certification. Additionally, an Agriculture Emergency was declared on 15 October. As of 10 October, a total of 138 males, 19 females and 8 larvae had been detected. Most of the females were collected by hand from aggregations on banana. If no further flies are detected, the quarantine will be lifted about 23 February 2016, based on current life cycle estimates. The delimitation trapping initiated by the isolated fly find in Kendall on 17 August 2015 attained two life cycles on 20 October 2015 without further detections, and delimitation activities ceased. To date, the isolated fly find in Miami on 8 September 2015 has not been followed by further detections, but trapping will continue until about 15 November 2015, based on current life cycle estimates. (Miami-Dade County; E2015-5202; Kyle E. Schnepf; Susan E. Halbert; Daniel Carrillo, University of Florida, Tropical Research and Education Center (TREC); Julio F. Mantilla, TREC; Teresa I. Narvaez, TREC; 10 September 2015.) (Dr. Gary J. Steck.)

***Bactrocera oleae*, olive fly, a regulatory incident.** One live adult female emerged and seven empty puparia were present in numerous infested olive fruits that had been sent by a California florist and addressed to a Florida florist via a commercial shipping company. They were intercepted by a detector dog. Olive fly invaded and successfully colonized California in about 1998. (Orange County; E2015-5618; Ives Lopez and K-9; 30 September 2015.) (Dr. Gary J. Steck.)

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.

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
<i>Acacia baileyana</i>	cootamundra wattle	<i>Acizzia</i> sp.	an acacia psyllid	Orange	DOG DETECTION
<i>Ardisia elliptica</i>	shoebuttan ardisia	<i>Omolicna joi</i>	Florida palm derbid	Broward	COUNTY
<i>Asclepias</i> sp.		<i>Labidomera clivicollis</i>	swamp milkweed leaf beetle	Volusia	COUNTY
<i>Averrhoa carambola</i>	carambola; starfruit	<i>Desmometopa leptometopoides</i>	a milichiid fly	Lee	COUNTY
<i>Brassica rapa</i>	pe-tsai, Chinese cabbage, Napa cabbage	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	TRUCK INTERDICTION
<i>Brassica rapa</i>	pe-tsai, Chinese cabbage, Napa cabbage	<i>Lygus elisus</i>	pale legume bug	Escambia	TRUCK INTERDICTION
<i>Cichorium endivia</i>	frisee	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Escambia	TRUCK INTERDICTION
<i>Citrus sinensis</i>	sweet orange	<i>Bulimulus sporadicus</i>	a snail	DeSoto	COUNTY
<i>Coccoloba uvifera</i>	seagrape	<i>Pealius</i> sp.	a whitefly	Palm Beach	NOTABLE FIND
<i>Dahlia</i> sp.		<i>Helix aspersa</i>	brown garden snail	Miami-Dade	DOG DETECTION
<i>Dahlia</i> sp.			a whitefly	Miami-Dade	DOG DETECTION
<i>Dimocarpus longan</i>	longan	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Aphis eugeniae</i>	an aphid	Lee	COUNTY
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Aphis eugeniae</i>	an aphid	St. Johns	COUNTY
<i>Fragaria x ananassa</i>	garden strawberry	<i>Lygus elisus</i>	pale legume bug	Escambia	TRUCK INTERDICTION
<i>Fragaria x ananassa</i>	garden strawberry	<i>Lygus</i> sp.	a lygus bug	Escambia	TRUCK INTERDICTION
<i>Gossypium</i> sp.	cotton	<i>Anatrachyntis simplex</i>	false pink bollworm	Manatee	COUNTY
<i>Hemerocallis</i> sp.	day lily	<i>Ophiomyia kwansonis</i>	daylily leafminer	Gilchrist	COUNTY
<i>Jacobaea maritima</i>	dusty miller, silver groundsel, silver ragwort	<i>Acizzia</i> sp.	an acacia psyllid	Orange	DOG DETECTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Bactericera cockerelli</i>	potato psyllid	Suwannee	TRUCK INTERDICTION

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Escambia	TRUCK INTERDICTION
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<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Escambia	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Suwannee	TRUCK INTERDICTION
<i>Lavandula dentata</i>	French lavender	<i>Acizzia</i> sp.	an acacia psyllid	Orange	DOG DETECTION
<i>Mangifera indica</i>	mango	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Mangifera indica</i>	mango	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Mentha spicata</i>	spearmint	<i>Rhinacloa forticornis</i>	western plant bug	Escambia	TRUCK INTERDICTION
<i>Musa</i> sp.		<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Olea europaea</i>	olive	<i>Acizzia</i> sp.	an acacia psyllid	Orange	DOG DETECTION
<i>Olea europaea</i>	olive	<i>Bactrocera oleae</i>	olive fruit fly	Orange	DOG DETECTION
<i>Olea europaea</i>	olive	<i>Bactrocera oleae</i>	olive fruit fly	Orange	DOG DETECTION
<i>Phoenix dactylifera</i>	date palm	<i>Phoenicococcus marlatti</i>	red date scale	Escambia	TRUCK INTERDICTION
<i>Phoenix dactylifera</i>	date palm	<i>Phoenicococcus marlatti</i>	red date scale	Escambia	TRUCK INTERDICTION
<i>Phoenix dactylifera</i>	date palm	<i>Solenopsis xyloni</i>	southern fire ant	St. Johns	REGULATORY INCIDENT
<i>Pouteria sapota</i>	mamey sapote; mamey colorado; mamee sapote; naseberry	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Pouteria sapota</i>	mamey sapote; mamey colorado; mamee sapote; naseberry	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Pouteria sapota</i>	mamey sapote; mamey colorado; mamee sapote; naseberry	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Protea cynaroides</i>	king protea	<i>Delottococcus confusus</i>	a mealybug	Miami-Dade	DOG DETECTION
<i>Protea cynaroides</i>	king protea	<i>Delottococcus confusus</i>	a mealybug	Miami-Dade	DOG DETECTION
<i>Protea cynaroides</i>	king protea	<i>Ochetellus glaber</i>	an ant	Miami-Dade	DOG DETECTION
<i>Protea cynaroides</i>	king protea	<i>Ochetellus glaber</i>	an ant	Miami-Dade	DOG DETECTION
<i>Protea</i> sp.		<i>Delottococcus confusus</i>	a mealybug	Miami-Dade	DOG DETECTION
<i>Psidium guajava</i>	common guava; apple guava	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
<i>Pueraria montana</i>	kudzu; kudzu vine; foot-a-night-vine; vine-that-ate-the-south; ko-hemp	<i>Megacopta cribraria</i>	bean plataspid	Lafayette	COUNTY
<i>Richardia grandiflora</i>	largeflower Mexican clover	<i>Syngamia florella</i>	orange-spotted flower moth	Collier	HOST
<i>Roystonea regia</i>	Cuban royal palm, Florida royal palm	<i>Epiplatea erosa</i>	a richardiid fly	Collier	COUNTY
<i>Swietenia mahagoni</i>	West Indian mahogany, mahogany, Madeira redwood	<i>Anatrachyntis simplex</i>	false pink bollworm	Miami-Dade	COUNTY
<i>Terminalia catappa</i>	tropical-almond	<i>Anatrachyntis simplex</i>	false pink bollworm	Monroe	COUNTY
<i>Terminalia catappa</i>	tropical-almond	<i>Bactrocera dorsalis</i>	oriental fruit fly	Miami-Dade	QUARANTINABLE PEST
<i>Typha</i> sp.		<i>Anatrachyntis simplex</i>	false pink bollworm	Alachua	HEMISPHERE
<i>Zea mays</i>	corn; maize; Indian corn; elote	<i>Dinocampus coccinellae</i>	parasitic wasp	Escambia	TRUCK INTERDICTION
<i>Zea mays</i>	corn; maize; Indian corn; elote	<i>Rhinacloa forticornis</i>	western plant bug	Escambia	TRUCK INTERDICTION
		<i>Ababa tantilla</i>	a checkered beetle	Suwannee	COUNTY
		<i>Anatrachyntis simplex</i>	false pink bollworm	DeSoto	COUNTY
		<i>Arta</i> sp.	pyralid moth	Miami-Dade	COUNTY
		<i>Eubule spartocera</i>	a coreid bug	Brevard	COUNTY
		<i>Liriomyza langei</i>	California pea leafminer	Miami-Dade	DOG DETECTION
		<i>Melanaphis sorini</i>	Asian miscanthus aphid	Lee	COUNTY
		<i>Phoenicococcus marlatti</i>	red date scale	Suwannee	TRUCK INTERDICTION
		<i>Phoenicococcus marlatti</i>	red date scale	Escambia	TRUCK INTERDICTION
		<i>Rhinacloa cardini</i>	a plant bug	Polk	COUNTY
		<i>Synaptonecta issa</i>	a water boatman	Polk	COUNTY
		<i>Tarophagus colocasiae</i>	a taro planthopper	Collier	COUNTY
		<i>Wakulla carneella</i>	a pyralid moth	Broward	COUNTY
		<i>Xyleborus celsus</i>	an ambrosia beetle	Liberty	COUNTY

Nematology Section

Compiled by [Renato N. Inerra, Ph.D.](#), [Jason D. Stanley, M.S.](#) and [Janete A. Brito, Ph.D.](#)

This section analyzes soil and plant samples for nematodes, conducts pest detection surveys and provides diagnoses 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 predominant regulatory activities 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

***Aphelenchoides besseyi* Christie, 1942, the rice white-tip nematode,** was detected in foliar tissues of the hybrid, annual ornamental, *Zinnia elegans* Jacq. x *Z. angustifolia* Kunth ‘Profusion’ (Profusion Series zinnia). (Marion County; N15-01160; nursery owner; 21 October 2015.)

Many ornamentals in the family Asteraceae are good hosts of foliar nematodes of the genus *Aphelenchoides*, including the rice white-tip nematode, *A. besseyi*, a major pest of rice in many rice-producing areas of the United States. This foliar nematode is frequently detected on these flowering ornamentals and especially on *Zinnia* species. At low magnification (40 X), these nematodes appear to be whitish filaments, swimming in water. Recently, an infestation of the rice white-tip nematode was observed on a new *Zinnia* hybrid, one of the *Zinnia* Profusion Series, obtained by crossing *Zinnia elegans* Jacq. x *Z. angustifolia* Kunth. The nematode infested plants were partially defoliated and showed many desiccated blooms. Leaves were discolored and marked by large brown areas between the veins and along the margins. Many flowers were without petals or with a few petals dotted by necrotic areas. Nematode specimens were extracted from the leaves and petals by dissecting portions of the discolored and necrotic leaf and petal lesions in water and were identified using a compound microscope. Nematode population levels recorded averaged no less than 50 nematodes per gram of infested tissue. The persistent rain during the Florida summer have facilitated nematode infestation by providing enough moisture on leaf surface for nematode movement and penetration in the mesophyll. Chemical management of the nematode using approved systemic compounds can suppress nematode infestation levels, but does not eradicate the parasite. Dry weather conditions and avoiding overhead watering or splashing reduce nematode dissemination and damage.

Sample Submissions

	September October	Year to date
Morphological Identifications	1,949	9,774
Molecular Identifications	122	569
Total Samples Submitted	2,071	10,343

Certification and Regulatory Samples

	September October	Year to date
Multistate Certification for National and International Export	1,468	7,167
California Certification	198	1,557
Pre- movement (Citrus Nursery Certification)	88	272
Site or Pit Approval (Citrus Nursery and Other Certifications)	13	134

Other Samples

	September October	Year to date
Identifications (invertebrate)	2	13
Plant Problems	35	106
Intrastate Survey, Random	145	525
Molecular Identifications*	122	569

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



Aphelenchoides besseyi (the rice white-tip nematode) specimens extracted from infested leaves and petals of the hybrid *Zinnia*.

Photography courtesy of Jason D. Stanley, DPI



Flowers and leaves of *Zinnia* hybrid damaged by *Aphelenchoides besseyi* (the rice white-tip nematode). Note flowers with necrotic petals and the blade of leaves and petals marked by brownish spots along the margin and in the center of the blade induced by the nematode feeding and tunneling in the mesophyll and petal tissue.

Photography courtesy of Jeffrey W. Lotz, DPI

Collectors submitting five or more samples that were processed for nematological analysis during September - October 2015.

Bentley, Michael A.	8		Ochoa, Ana L.	84
Blaney, Richard L.	7		Smith, Lane M.	8
Burgos, Frank A.	144		Smith, Larry W.	24
Clanton, Keith B.	216		Spriggs, Charles L.	98
Douglas, Kelly K.	16		Strange, Lisa S.	88
Golden, Walter W.	6		Terrell, Mark R.	11
Krueger, Scott D.	15		Violett, Larry L.	91
LeBoutillier, Karen W.	118			

References

Sher, S. A. 1954. Observations on plant-parasitic nematodes in Hawaii. Plant Disease Reporter 49: 761-763.

Dixon, W.N. and P.J. Anderson. (Editors). 2014. Nematology Section. Tri-ology 53 (5): 11. http://freshfromflorida.s3.amazonaws.com/Media%2FFiles%2FPlant-Industry-Files%2FTri-ology%2FTriology_November_December_2014.pdf [accessed 16 November 2015].

Plant Pathology Section

Compiled by [Jodi L. Hansen, M.S.](#), [Debra D. Jones, M.S.](#), [David A. Davison, M.S.](#), and [Regina D. Cahoe, B.A.](#)

The Plant Pathology section provides plant disease diagnostic services for department. The agency-wide goal of protecting the flora of Florida very often begins with accurate diagnoses of plant problems. Management recommendations are offered where appropriate and available. Our plant pathologists are dedicated to keeping informed about endemic plant diseases along with those diseases and disorders active outside Florida in order to be prepared for potential introductions of new pathogens to our area.

Pseudocercospora artanthes (leaf spot) was found infecting *Piper auritum* (Vera Cruz pepper) at the Jacksonville Zoo and Gardens in Duval County. This fungal pathogen flourishes when temperatures are moderate (~76 F) and humidity is high. The leaf spots are amphigenous, irregular, 2-12 mm diameter and dark brown in color with an indistinct border. They do not have colored margins. Like many other fungi, the conidia of *P. artanthes* are primarily spread by wind and rain. *Pseudocercosporas* are often able to survive for up to two years in fallen plant debris scattered on the ground. Cleaning up and destroying debris is a good way to reduce fungal inoculum. Less fungal inoculum helps to reduce future disease incidence. Preventative spring fungicide applications may help prevent this leaf spot disease, if repeated severe infections have occurred. It is rare, however, for *Pseudocercospora* leaf spots to cause the decline of a plant. (Alachua County; P2015-86425; Robert M. Leahy, USDA/CAPS; 9 September 2015.)

References:

PIDC staff. 2010. *Pseudocercospora* leaf spot. Iowa State University. <http://www.ipm.iastate.edu/ipm/info/plant-diseases/pseudocercospora-leaf-spot> [accessed 2 December 2015]

Dewdney M., D. Serrano, E. Serrano and C. Southwick. 2013. *Pseudocercospora* fruit and leaf spot. <http://idtools.org/id/citrus/diseases/factsheet.php?name=Pseudocercospora+fruit+and+leaf+spot> [accessed 12 November 2015]

Barreto R.W. and A. Crous. 1997. *Pseudocercospora artanthes*. Mycotaxon 64: 416.

Sample Submissions

	September October	Year to date
Citrus Black Spot	3	45
Citrus Canker	282	786
Citrus Greening HLB	77	728
Honeybees	0	3
Interdictions	4	17
Laurel Wilt	29	75
Pathology, General	313	2,530
Soil	4	25
Sudden Oak Death	0	10
Sweet Orange Scab-Like Disease	0	1
Texas Phoenix Palm Decline	0	4
Water	0	0
Miscellaneous	5	18
Total	717	4,242



Pseudocercospora artanthes causing irregular leaf spots on apparently healthy *Piper auritum* (Vera Cruz pepper). Photograph courtesy of Robert M. Leahy, USDA



Pseudocercospora artanthes typical irregular leaf spots caused by the fungal pathogen on *Piper auritum* (Vera Cruz pepper). Photograph courtesy of Robert M. Leahy, USDA

Plant Species	Plant Common Name	Causal Agent	Disease Name	Location Type	Specimen #	County	Collector	Date	New Records	Comments
<i>Caladium x hortulanum</i>	caladium	<i>Potyvirus</i> sp.	potyvirus unknown	nursery	86136	Highlands	Richard T. Bloom	9/18/2015		Symptoms of potyvirus on this host include feathering along the leaf veins. Symptom expression is often intermittent or seasonal.
<i>Caladium x hortulanum</i>	caladium	<i>Xanthomonas axonopodis</i> pv. <i>dieffenbachiae</i>	bacterial blight	nursery	86136	Highlands	Richard T. Bloom	9/18/2015		One serovar of this bacterium causes anthurium blight, the most destructive disease of anthurium worldwide.
<i>Fraxinus</i> sp.	ash	<i>Pseudocercospora fraxinites</i>	leaf spot	state park	86536	Marion	Robert M. Leahy, USDA/CAPS; Bradley A. Danner, DPI/CAPS	9/17/2015	host	<i>Pseudocercosporas</i> are common leaf spot pathogens occurring during times of high humidity and moderate temperatures.
<i>Hemerocallis</i> sp.	daylily	<i>Xylella fastidiosa</i>	leaf scorch	nursery	86594	Volusia	Kevin S. Loadholtz	10/13/2015	host	This is a new host of <i>Xylella</i> for our lab. Symptoms and other information will be discussed further in future publications.
<i>Persea borbonia</i>	red bay	<i>Raffaelea lauricola</i>	laurel wilt	state park	86003	Liberty	Mark Ludlow, Florida Park Service	9/8/2015	county	The spread of this deadly disease of red bay and other tree species in the laurel family throughout Florida continues. The fungus is introduced into host trees by <i>Xyleborus glabratus</i> (the red bay ambrosia beetle).
<i>Piper auritum</i>	Vera Cruz pepper	<i>Pseudocercospora artanthes</i>	leaf spot	zoo	86425	Duval	Robert M. Leahy, USDA/CAPS; Bradley A. Danner, DPI/CAPS	9/24/2015	host	<i>Pseudocercosporas</i> are common leaf spot pathogens occurring during times of high humidity and moderate temperatures.
<i>Tillia americana</i>	American basswood	<i>Asteromassaria</i> sp.	canker	natural area	86362	Alachua	Robert M. Leahy, USDA/CAPS; Bradley A. Danner, DPI/CAPS	9/18/2015	host	<i>Asteromassaria</i> sp. is an ascomycete fungus that was found causing a stem canker on the rapidly growing tree <i>Tillia americana</i> (American basswood).
<i>Viburnum odoratissimum</i> var. <i>awabuki</i>	mirror-leaf viburnum	<i>Grovesinia moricola</i>	leaf spot	residence	86406	Alachua	Homeowner	9/21/2015		This fungal pathogen causes a characteristic zonate leaf spot on many different hosts.

Plant Species	Plant Common Name	Causal Agent	Disease Name	Location Type	Specimen #	County	Collector	Date	New Records	Comments
<i>Quercus</i> sp.	oak tree	<i>Xylella fastidiosa</i>	leaf scorch	roadside	85991	Alachua	Theresa R. Estok	9/15/2015		As its name suggests, <i>X. fastidiosa</i> lives in the xylem tissues of host plants, and the bacterium is transmitted (or vectored) by insects that feed on xylem fluid such as leafhoppers or sharpshooters. The bacterium has a wide host range.