

TRI-OLOGY

A PUBLICATION OF THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES, DIVISION OF PLANT INDUSTRY
ADAM H. PUTNAM, COMMISSIONER RICHARD D. GASKALLA, DIVISION DIRECTOR

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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.



Spodoptera litura, rice cutworm
Photograph courtesy of Julieta Brambila, USDA



Loropetalum chinense (loropetalum) with lesions
Photograph courtesy of Timothy S. Schubert, DPI



Solanum seafortianum Andrews (Brazilian nightshade)
Photograph courtesy of Top Tropicals

Highlights

***Spodoptera litura*, rice cutworm, a regulatory incident.** One male specimen of the rice cutworm was caught by Rebekah J. Keyes (USDA) in a bucket trap in Apopka, Florida. Rice cutworm is a defoliating pest of many crops. It is widespread in the Old World tropics and warm temperate regions and Pacific Islands including Hawaii. It does not occur in North America, but it is frequently intercepted on imported commodities. The trap was baited with lure for rice cutworm as part of a nursery survey.

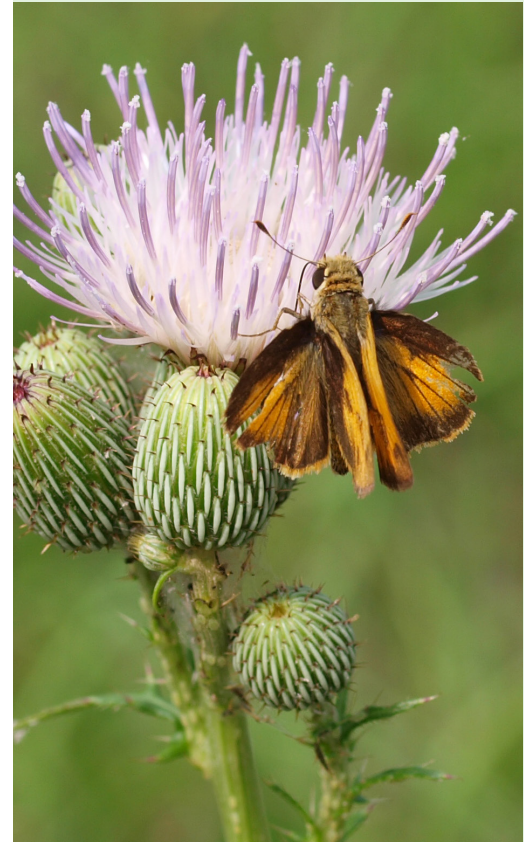
***Meloidogyne partityla* Kleynhans, 1986, the pecan root-knot nematode, was found infecting the roots of the pecan tree, *Carya illinoensis*, in Jefferson County.** This is a major pathogen and a limiting factor in the commercial cultivation of pecan in the United States. Above-ground symptoms of *M. partityla* infection in commercial pecan orchards include dieback of young branches, stunted growth and gradual tree decline.

***Pseudomonas sp.* (loropetalum stem canker)** was submitted on *Loropetalum chinense* (Chinese fringe bush, loropetalum) from a garden center. Pathogenicity tests with this *Pseudomonas sp.* were successful. The pathogen is apparently undescribed.

***Solanum seafortianum* Andrews (Brazilian nightshade).** Most species of this large and varied genus are herbaceous plants or shrubs, but this species is a woody vine. Its origin is probably South America, although many references list it as being native to the West Indies. It has become naturalized in the tropics, and is considered invasive in parts of Australia and the Pacific islands.

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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:

***Garberia heterophylla* (W.Bartram) Merr. & F. Harper (garberia)**, from a monospecific genus found only in Florida. Compositae/Asteraceae. This species is endemic to northern and central peninsular Florida scrub communities and has been documented in to grow from Clay County as far south as Highlands County, and from Brevard County as far west as Manatee County. The more or less evergreen shrub can reach 2.5 m in height. The somewhat fleshy leaves are alternate (usually) and lack noticeable venation. The leaf blades, up to 3 cm long and 2 cm wide with rounded to somewhat retuse tips, are dotted with glands, have entire margins and are gray-green in color. Inflorescences of this species are flattened corymbs with heads of disc florets with pinkish, purple or occasionally white, 8-10 mm long corollas. The achene is about 7–8 mm long with 8-10 mm long bristles. *Garberia*'s ability both to resprout and to produce increased numbers of seedlings after fire makes the species well-adapted to the fire-maintained scrub in which it is found, yet this endemic is listed as threatened by the state. Concern for its future is based on the very limited area in which it grows and the potential for habitat loss within that area. The striking flowers of this species remind some observers of *Liatris*, another purple, fall-blooming composite found in dry sandhills, and the two are closely related. This beautiful plant would be a welcome addition to xeriscapes and butterfly gardens. (Orange County; B2014-102; Bryce J. Merritt and George D. Warden; 17 February 2014.) (Carrington 1999; Godfrey 1988; Wunderlin and Hansen 2011.)

***Guaicum sanctum* L. (lignumvitae; holywood)**, from a genus of six species from warm to tropical regions of the Americas. Zygophyllaceae. This slow-growing tree (to 10 m tall) is found from Miami-Dade County and the Florida Keys through Mexico, Central America and several Caribbean countries. The compound leaves are opposite, 4-10 cm long, with six to ten glabrous, usually oblong, leaflets. The flowers may be solitary or clustered with blue to purple corollas, and each petal is 7-12 mm long. The fruit is a bright yellow-orange, five-lobed capsule, about 1.5 cm long, which splits when ripe to reveal the red aril covering each 1 cm long brown-black seed. The aril must be removed from the seed before germination is possible. This species is listed as endangered in Florida. The wood is among the densest of any used as timber and is sufficiently resinous to be called self-lubricating. Lignumvitae was once used for bearings and gears of pendulum clocks to avoid the need for gummy oils that might slow the time pieces. It has also been used in ships and submarines as well as for medicine. Bonsai enthusiasts have also found aesthetic value in this slow-growing species. (Miami-Dade County; B2014-12; Juan A. Aleman-Martinez; 7 January 2014.) (Nelson 2011; http://www.browardbonsai.com/2012_TREE_OF_THE_MONTH.html [accessed 2014 March 10]; <http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287642&isprofile=0&letter=g> [accessed 2014 March 10].)

Sample Submissions

	Jan/Feb	Year to date
Samples submitted by other DPI sections	1,071	1,071
Samples submitted for botanical identification only	128	128
Total Samples Submitted	1,199	1,199
Specimens added to the herbarium	39	39



Garberia heterophylla (garberia) flowers
Photograph courtesy of Mary Keim, Atlas of Florida Vascular Plants, <http://florida.plantatlas.usf.edu/Photo.aspx?id=2521>



Guaicum sanctum (lignumvitae) flowers
Photograph courtesy of Roger Hammer, Atlas of Florida Vascular Plants, <http://florida.plantatlas.usf.edu/Photo.aspx?id=922>



Guaiacum sanctum (Lignum vitae) fruit with red aril
 Photograph courtesy of Keith Bradley, Atlas of Florida Vascular Plants, <http://florida.plantatlas.usf.edu/Photo.aspx?id=919>



Solanum seaforthianum (Brazilian nightshade) flowers and fruit
 Photograph courtesy of Forest and Kim Starr, <http://www.starrenvironmental.com/images/image/?q=020323-0063&o=plants>

***Solanum seaforthianum* Andrews (Brazilian nightshade)**, from a large, cosmopolitan genus, with more than 1,700 species. Solanaceae. Most species of this large and varied genus are herbaceous plants or shrubs, but the species discussed here is a woody vine. Its origin is probably South America, although many references list it as being native to the West Indies. It has become naturalized in the tropics, and is considered invasive in parts of Australia and the Pacific islands. It is adventive in central and southern Florida, but nowhere is it invasive at present, and it is not regulated by any state or federal agency. The plant is a twining vine reaching 3 m or more and is generally well behaved in the garden. The alternate leaves are variably but pinnately lobed, with the sinuses between the lobes usually reaching nearly to the midvein. The beautiful, star-shaped, bluish or lilac flowers are borne in drooping panicles from the upper leaf nodes. They are 2 – 2.5 cm across, with five spreading “petals” (corolla lobes) and five conspicuous yellow anthers. The flowers are followed by round berries which are red and juicy when ripe; they have caused poisoning to humans and livestock in Australia. This plant is not frost tolerant, so it is best suited as an ornamental in the warmer parts of Florida. It will die back to the ground during cold winters in the north-central part of the state, but usually will resprout from the roots and bloom in season. (St. Lucie County; B2014-36; Kenneth L. Hibbard; 27 January 2014.) (Howard 1989; [http://keys.lucidcentral.org/keys/v3/eafrinet/weeds/key/weeds/Media/Html/Solanum_seaforthianum_\(Brazilian_Nightshade\).htm](http://keys.lucidcentral.org/keys/v3/eafrinet/weeds/key/weeds/Media/Html/Solanum_seaforthianum_(Brazilian_Nightshade).htm) [accessed 2014 March 10].)

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- Wunderlin, R. P. and B. F. Hansen. 2011.** *Guide to the vascular plants of Florida*, 3rd edition. University Press of Florida, Gainesville, Florida. 783 p.

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.

***Chaetothrips striatus*, a thrips, a new Continental USA record.** Species in this genus are not considered economically important in their natural ranges. However, introduction of a phytophagous species without its natural enemies could enable it to become a pest. Potential hosts include *Anacardium* (cashew), *Cassia* (flowering ornamental) and *Rubus* (blackberry). (Miami-Dade County; E2014-192; Haydee I. Escobar; 13 January 2014.) (Dr. G. B. Edwards.)

***Fiorinia proboscidea*, an armored scale, a new Continental USA record.** This species is an armored scale pest of *Citrus* spp. It was collected on two occasions in 2013 (Hillsborough County and Santa Rosa County), both on residential citrus plants. Neither infestation was very heavy, and the population in Santa Rosa County showed evidence of parasitism. This species is native to the Asia-Pacific region, and little is known of its potential pest status. All prior United States records are from interceptions at ports of entry. (Hillsborough County; E2013-9087; homeowner; 16 December 2013.) (Dr. Ian C. Stocks.)

***Spodoptera litura*, rice cutworm, a regulatory incident.** One male specimen of the rice cutworm was caught by Rebekah J. Keyes (USDA-APHIS-PPQ) in a bucket trap in Apopka, Florida. Rice cutworm is a defoliating pest of many crops. It is widespread in the Old World tropics and warm temperate regions and Pacific Islands including Hawaii. It does not occur in North America, but it is frequently intercepted on imported commodities. The trap was baited with lure for rice cutworm as part of a nursery survey by the Cooperative Agricultural Pest Survey (CAPS) program. Julieta Brambila's (USDA-APHIS-PPQ) preliminary identification by dissection was verified by Dr. James E. Hayden (FDACS-DPI) and by Dr. Michael Pogue (USDA-ARS-SEL) in Washington, D.C. Sixty-five lure-baited traps were installed immediately in six square miles around the collection site to delimit any active infestation. As of March 19, 2014, there has been no additional rice cutworm detection. (Orange County; 2014-1053; Rebekah J. Keyes, USDA; 21 January 2014.) (Julieta Brambila, USDA-APHIS-PPQ, and Dr. James E. Hayden.)

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 an Excel spreadsheet](#).

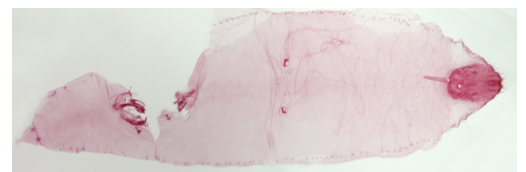
The tables are organized alphabetically by plant host if the specimen has a plant host. Some arthropod specimens are not collected on plants and are not necessarily plant pests. In the table below, those entries that have no plant information included are organized by arthropod name.

Sample/Specimen Submissions

January	
Samples Submitted	488
Specimens Identified	8,447
February	
Samples Submitted	724
Specimens Identified	28,394
Year to Date	
Samples Submitted	1,212
Specimens Identified	36,841



Chaetothrips striatus, a thrips
Photograph courtesy of Ian C. Stocks, DPI



Fiorinia proboscidea, an armored scale
Photograph courtesy of Ian C. Stocks, DPI



Spodoptera litura, rice cutworm
Photograph courtesy of Julieta Brambila, USDA

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
<i>Allagoptera arenaria</i>	seashore palm; coco da praia	<i>Aleurodicus rugioperculatus</i>	a whitefly	Hillsborough	HOST
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Zootermopsis</i> sp.	a rotten-wood termite	Suwannee	INTERDICTION INTERCEPTION
<i>Bursera simaruba</i>	gumbo-limbo; West Indian birch	<i>Paracantha foenicula</i>	a fruit fly	Broward	COUNTY
<i>Cajanus cajan</i>	pigeonpea; gandul; Congo bean	<i>Corythaca carinata</i>	a lace bug	Miami-Dade	HOST
<i>Capsicum annuum</i>	poblano pepper	<i>Bactericera cockerelli</i>	potato psyllid	Escambia	INTERDICTION INTERCEPTION
<i>Cestrum</i> sp.		<i>Chaetisothrips striatus</i>	a thrips	Miami-Dade	US CONTINENTAL
<i>Chrysanthemum coronarium</i>	chop suey greens, edible chrysanthemum, shungiku, rau cuc, can o, tan o	<i>Curculionidae</i>	a weevil	Escambia	REGULATORY INCIDENT
<i>Citharexylum spinosum</i>	Florida fiddlewood	<i>Epicorsia oedipodalis</i>	fiddlewood leafroller	Monroe	COUNTY
<i>Citrus sinensis</i>	orange	<i>Fiorinia proboscidaria</i>	an armor scale	Hillsborough	US CONTINENTAL
<i>Citrus</i> sp.		<i>Ceratitits capitata</i>	Mediterranean fruit fly	Broward	REGULATORY INCIDENT
<i>Citrus</i> sp.		<i>Fiorinia proboscidaria</i>	an armor scale	Santa Rosa	COUNTY
<i>Colocasia</i> sp.		<i>Pheidole megarcephala</i>	bigheaded ant	Orange	COUNTY
<i>Conocarpus erectus</i>	buttonwood, button mangrove	<i>Erimyia ello</i>	cassava homworm	Miami-Dade	HOST
<i>Cynanchum</i> sp.		<i>Eubule spartocera</i>	a coreid bug	Palm Beach	HOST
<i>Distichlis spicata</i>	saltgrass; seashore saltgrass; inland saltgrass	<i>Ognotarsonemus</i> sp.	tarsonemid mite	Levy	COUNTY & HOST
<i>Epiphyllum oxypetalum</i>		<i>Anastrepha suspensa</i>	Caribbean fruit fly	St. Lucie	HOST
<i>Epiphyllum oxypetalum</i>		<i>Zaprionus indianus</i>	striped vinegar fly	St. Lucie	HOST
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Acrolophus walsinghami</i>	grass tubeworm moth	St. Lucie	COUNTY
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Mesovelia amoena</i>	a water treader	Lee	COUNTY
<i>Gossypium</i> sp.	cotton	<i>Amphitarsus obscuriceps</i>	a minute pirate bug	Pinellas	COUNTY
<i>Hydrangea</i> sp.		<i>Lehmammia valentiana</i>	three-banded garden slug	Escambia	INTERDICTION INTERCEPTION
<i>Juncus roemerianus</i>	needlegrass rush	<i>Ognotarsonemus</i> sp.	tarsonemid mite	Levy	HOST
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Brevard	REGULATORY INCIDENT
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	romaine lettuce	<i>Liriomyza langei</i>	California pea leafminer	Manatee	REGULATORY INCIDENT
<i>Lactuca sativa</i>	romaine lettuce	<i>Liriomyza langei</i>	California pea leafminer	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Phyllotreta cruciferae</i>	a chrysomelid beetle	Suwannee	INTERDICTION INTERCEPTION
<i>Lycium carolinianum</i>	Christmas berry; Carolina desertthorn	<i>Bactericera dorsalis</i>	a psyllid	Levy	COUNTY
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Epiplatia erosa</i>	a richardiid fly	Miami-Dade	COUNTY
<i>Persea borbonia</i>	redbay	<i>Xyleborinus andrewesi</i>	a scolytid beetle	Duval	HOST
<i>Phoenix dactylifera</i>	date palm	<i>Blapsinus</i> sp.	a tenebrionid beetle	Escambia	INTERDICTION INTERCEPTION
<i>Phoenix dactylifera</i>	date palm	<i>Elateridae</i>	a click beetle	Escambia	INTERDICTION INTERCEPTION
<i>Phoenix dactylifera</i>	date palm	<i>Formica</i> sp.	formicine ant	Alachua	REGULATORY INCIDENT
<i>Phoenix dactylifera</i>	date palm	<i>Latrodectus hesperus</i>	western black widow	Escambia	INTERDICTION INTERCEPTION
<i>Phoenix dactylifera</i>	date palm	<i>Metoponium</i> sp.	a tenebrionid beetle	Escambia	INTERDICTION INTERCEPTION
<i>Phoenix</i> sp.		<i>Formica</i> sp.	formicine ant	Alachua	INTERDICTION INTERCEPTION

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
<i>Quercus alba</i>	white oak	<i>Ambrosiodinus tachygraphus</i>	a scolytid beetle	Escambia	COUNTY
<i>Quercus</i> sp.	oak	<i>Oncopeltus asilicus</i>	a milkweed bug	Hillsborough	COUNTY
<i>Quercus virginiana</i>	live oak	<i>Euwallacea fornicatus</i>	tea shothole borer	Seminole	COUNTY
<i>Quercus virginiana</i>	live oak	<i>Euwallacea fornicatus</i>	tea shothole borer	Brevard	COUNTY
<i>Quercus virginiana</i>	live oak	<i>Salpingogaster punctifrons</i>	flower fly	Orange	COUNTY
<i>Taxodium distichum</i>	bald cypress	<i>Aegyptobia</i> sp.	a false spider mite	Hillsborough	COUNTY
<i>Taxodium distichum</i>	bald cypress	<i>Preydeus</i> sp.	a tydeid mite	Hillsborough	COUNTY
		<i>Blepharomastix achroodis</i>	crambid moth	Hillsborough	COUNTY
		<i>Camponotus planatus</i>	carpenter ant	Polk	COUNTY
		<i>Chrysomya megacephala</i>	a blow fly	Seminole	COUNTY
		<i>Empoasca acantha</i>	a leafhopper	Alachua	COUNTY
		<i>Eubule spartocera</i>	a coreid bug	Lee	COUNTY
		<i>Spodoptera litura</i>	rice cutworm	Orange	REGULATORY INCIDENT
		<i>Trogoxylon praeustum</i>	a bostirichid beetle	Brevard	REGULATORY INCIDENT

Sample Submissions

	Jan/Feb	Year to date
Morphological Identifications	1,506	1,506
Molecular Identifications	182	182
Total Samples Submitted	1,688	1,688

Certification and Regulatory Samples

	Jan/Feb	Year to date
Multistate Certification for National and International Export	1,025	1,025
California Certification	168	168
Pre-movement (Citrus Nursery Certification)	36	36
Site or Pit Approval (Citrus Nursery and Other Certifications)	29	29

Other Samples

	Jan/Feb	Year to date
Identifications (invertebrate)	6	6
Plant Problems	13	13
Intrastate Survey, Random	229	229
Molecular Identifications*	182	182

Nematology Section

Compiled by [Janete A. Brito, Ph.D.](#), and [Taylor E. Smith, B.S.](#)

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

***Meloidogyne partityla* Kleynhans, 1986, the pecan root-knot nematode** was found infecting the roots of the pecan tree, ***Carya illinoensis* (Wangenh.)K. Koch.** (Jefferson County; N14-00215; Michael A. Bentley; 19 February 2014.)

***Meloidogyne incognita* (Kofoid and White, 1919) Chitwood, 1949, the southern root-knot nematode** was found infecting the roots of the weedy plant ***Sida rhombifolia* L.** (Cuban jute; Indian hemp). (Alachua County; N14-00298; Donald W. Dickson, University of Florida; 27 February 2014.)

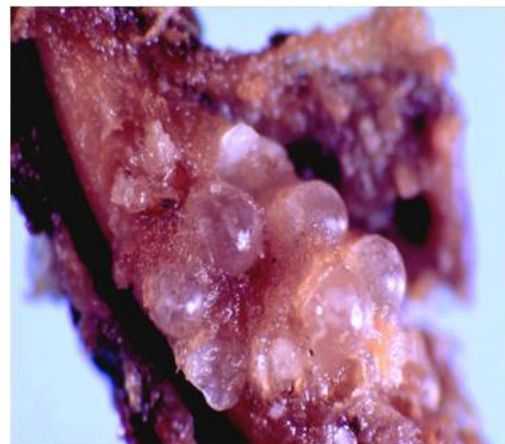
Meloidogyne partityla is a major pathogen and a limiting factor in the commercial cultivation of pecan (*Carya illinoensis*) in the United States. Discovered in South Africa in 1986, *Meloidogyne partityla* was first found in the United States infecting pecan in 1996. Above-ground symptoms of *M. partityla* infection in commercial pecan orchards include dieback of young branches, stunted growth, mouse-eared leaves due to nickel deficiency, and gradual tree decline, all of which have been reported in mature orchards in Texas, New Mexico, Georgia, Arizona and Oklahoma. Below-ground symptoms include root galling associated with egg masses. The narrow host range of this nematode includes pecan, shagbark hickory (*C. ovata*), walnuts (*Juglans hindsii*, North California walnut, and *J. regia*, English walnut) and laurel oak (*Quercus laurifolia*). Recently, pecan trees were found infected with *M. partityla* in Jefferson County, Florida. The plants exhibited patchy distributions, stunted growth and root galling. Isozyme analysis of individual female nematodes, especially esterase phenotype (Mp3), provides a fast and reliable diagnosis of the pecan root-knot nematode. A new species-specific DNA primer set is currently being evaluated for its ability to rapidly distinguish *M. partityla* from other root-knot nematodes occurring in Florida. Morphological features of high diagnostic value for identifying this species include deep, longitudinal grooves in stylet knobs of the males and females and the presence of a deeply-grooved and swollen rectum in the second-stage juveniles.

Collectors submitting five or more samples that were processed for nematological analysis during November -December 2014

Bailey, W. Wayne	5		Ochoa, Ana L.	45
Bentley, Michael A.	5		Southerland, Lane P.	6
Burgos, Frank A.	120		St. Louis, Randal E.	14
Clanton, Keith B.	64		Spriggs, Charles L.	58
Garcia, Olga	5		Violett, Larry L.	219
LeBoutillier, Karen W.	110		Yong, Mary C.	7

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Meloidogyne partityla (pecan root-knot nematode) close-up of swollen females showing the posterior portion of the body (a) and egg masses (b) on an infected pecan root segment
Photograph courtesy of J. A. Brito and J. W. Lotz, DPI



Meloidogyne partityla (pecan root-knot nematode) close-up of infected pecan roots showing prominent galls
Photograph courtesy J. A. Brito and J. W. Lotz, DPI

Sample Submissions

	Jan/Feb	Year to date
Pathology	566	566
Bee	0	0
Black Spot	31	31
Citrus Canker	162	162
Citrus Greening	316	316
Interdiction	10	10
Laurel Wilt	17	17
Soil	15	15
Sudden Oak Death	10	10
Sweet Orange Scab-like Disease	2	2
Water	0	0
Miscellaneous	1	1
Total Samples Submitted	1,130	1,130

Plant Pathology Section

Compiled by [Timothy S. Schubert, Ph.D.](#), and [David A. Davison, M.S.](#)

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.

***Pseudomonas* sp. (loropetalum stem canker)** was submitted on *Loropetalum chinense* (Chinese fringe bush, loropetalum) from a garden center. Pathogenicity tests with this *Pseudomonas* sp. were successful. The pathogen is apparently undescribed. This specimen was co-infected with *Kutilakesa pironii* (stem gall). This stem gall pathogen of woody hosts has no previous records on *Loropetalum*. (Escambia County; P2012- 67580; J. Mikaela Anderson; 6 November 2012.)

The bacterial stem canker, *Pseudomonas* sp., was recently discovered on the popular flowering shrub *Loropetalum chinense*. This widely used pink- and white-flowering woody ornamental provides many desirable features in the landscape: long flowering periods, low maintenance, adaptation to a broad climate range, options for attractive burgundy red foliage color to supplement the flowers and many cultivars suited to various height and width requirements. As sometimes happens when demand for a plant species exceeds the supply of top quality propagation material, a novel disease has surfaced. In late 2012, samples came to our clinic with callused brown cankers at many locations on both large and small stems.

The pathogen is bacterial, in the genus *Pseudomonas*, probably *P. syringae*, not *P. savastanoi* as was earlier suspected. It causes roughened, swollen patches and galls on the stems and is apparently capable of weakening those stems to the extent that the plants look shabby and grow poorly even though they seem to survive. Long-term impact of the disease is still unknown, but early indications suggest it could ruin the aesthetic value of infected loropetalum in the landscape. FDACS has decided to enforce some phytosanitary regulation with the goal of eliminating or at least greatly reducing the incidence of this disease in Florida.

We do not know the long-term impact of these cankers, but enough noticeably cankered plants have been found in nurseries to raise concerns. The problem is much less common in the landscape setting, which implies this might be a new disease. Early physiological diagnostic testing combined with molecular characterization suggested this might be the olive knot pathogen, *Ps. savastanoi*, but sequencing of the 16S region revealed several differences. We now believe this to be an undescribed pathogen related to *Ps. savastanoi* and perhaps *Ps. amygdali*, *Ps. syringae* pv. *erobotryae* and/or other close relatives. Although the taxonomy of the pseudomonads in general is far from settled, work is underway on this pathogen to characterize it more completely.

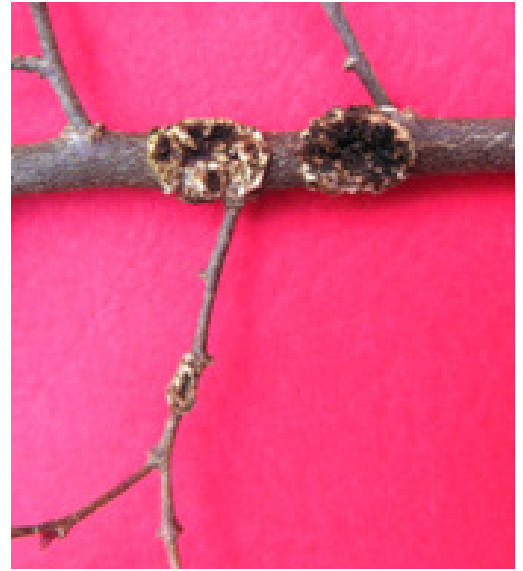
Meanwhile, DPI and the University of Florida are cooperating on a project to classify and describe the novel bacterial pathogen using the latest gene sequencing technology, and in the process perhaps discover more about the host range, origins and long-term impact of the pathogen and disease. Pathogenicity tests so far indicate the pathogen does not infect olive, ash or mandevilla as originally thought.



Loropetalum chinense (loropetalum) a badly cankered nursery plant growing in a 3-gallon container. Photograph courtesy of Timothy S. Schubert, DPI

When inspecting loropetalum, we recommend very careful attention to the stems looking for the roughened swollen patches, usually hidden by the foliage. Plants with symptoms should never be used for propagation. The likelihood of successfully pruning out the disease is low, but this technique has not been explored extensively. Undoubtedly, some infected plants already have been sold and installed in landscapes, but the firm establishment of this disease in the industry and environment can still be averted if we practice vigilance now.

Raffaelea lauricola (laurel wilt) was found on *Persea borbonia* (red bay) in Withlacoochie State Forest. This represents the first time laurel wilt has been reported from Hernando County, which is located on Florida's Gulf Coast. (Hernando County; Vincent M. Morris, Florida Forest Service; P2013-69678; 22 February 2013.)



Loropetalum chinense (loropetalum) These lesions were found on plant that had been in a landscape for approximately three years. The location of the cankers exclusively on the tops of the branches suggests hail damage may have provided the entry court. Photograph courtesy of Timothy S. Schubert, DPI.



Loropetalum chinense (loropetalum) A close-up view of a loropetalum bacterial stem canker caused *Pseudomonas* sp. showing the convoluted callus that erupts in and around the canker. The growth is friable, allowing it to crumble and weather away over time. Photograph courtesy of Timothy S. Schubert, DPI.

Plant Species	Common Name	Causal Agent	Disease Name	Location	Specimen #	County	Collector	Date	New Records	Comments
<i>Cestrum diurnum</i>	day-flowering jasmine	<i>Asterina</i> sp.	black mildew	Side of street	77818	Miami-Dade	Maria C. Acosta	2/20/2014	Host	A black mildew is unusual on this host in Florida.
<i>Dryopteris</i> sp.	autumn fern	<i>Corynespora cassiicola</i>	leaf spot	Nursery	77547	Lake	Mary C. Sellers	2/5/2014	Host	First record of this common leaf spotter on <i>Dryopteris</i>
<i>Festuca elatior</i>	meadow fescue	<i>Phoma</i> sp.	leaf spot	University of Florida	77669	Alachua	Robert M. Leahy, USDA; Bradley R. Danner, CAPS	2/7/2014	Host	This and the next two potentially pathogenic fungi were inhabiting prominent leaf spots on this introduced grass of meadows and roadsides, sometimes cultivated for pasture.
<i>Festuca elatior</i>	meadow fescue	<i>Epicoccum nigrum</i>	leaf spot	University of Florida	77669	Alachua	Robert M. Leahy, USDA; Bradley R. Danner, CAPS	2/7/2014	Host	
<i>Festuca elatior</i>	meadow fescue	<i>Bipolaris sorokiniana</i>	leaf spot	University of Florida	77669	Alachua	Robert M. Leahy, USDA; Bradley R. Danner, CAPS	2/7/2014	Host	
<i>Gladiolus x hortulanus</i>	garden gladiolus	<i>Uromyces transversalis</i>	glad rust	Commercial	77588	Lee	Walter W. Golden	1/31/2014		Glad rust reappears again in 2014, this time at a new commercial farm.
<i>Lygodium japonicum</i>	Japanese climbing fern	<i>Puccinia lygodii</i>	rust	Dooryard	77467	Duval	Robert M. Leahy, USDA; Bradley R. Danner, CAPS	1/22/2014		This rust is considered a biocontrol agent against the invasive climbing fern.
<i>Ochna kirkii</i>	Mickey Mouse plant	<i>Phyllosticta</i> sp.	leaf spot	Dooryard	77651	Broward	Pattanjali Bissoondial, USDA	2/26/2014	Host	<i>Phyllosticta</i> is a common leafspotting fungus, but this host is uncommon, and the disease is unreported in the literature.
<i>Ocimum basilicum</i>	sweet basil	<i>Peronospora belbahrii</i>	downy mildew	Nursery	77801	Columbia	Theresa R. Estok	2/19/2014		This recently named host-specific downy mildew has ruined basil crops in many locations around the world.
<i>Persea borbonia</i>	red bay	<i>Raffaelea lauricola</i>	laurel wilt	Roadside	77411	Jefferson	Jeffrey M. Eickwort, FFS	1/27/2014	County	First record of laurel wilt in Jefferson County
<i>Persea borbonia</i>	red bay	<i>Raffaelea lauricola</i>	laurel wilt	Roadside	77538	Madison	Justin M. Kanis, Jeffrey M. Eickwort, FFS	2/24/2014	County	First record of laurel wilt in Madison County
<i>Persea borbonia</i>	red bay	<i>Raffaelea lauricola</i>	laurel wilt	Picayune Strand Forest	77362	Collier	Dexter R. Sowell, FFS	1/28/2014	County	First record of laurel wilt in Collier County
<i>Persea palustris</i>	swamp bay	<i>Raffaelea lauricola</i>	laurel wilt	commercial landscape	77359	Lee	Dexter R. Sowell, FFS	1/28/2014	County	First record of laurel wilt in Lee County

