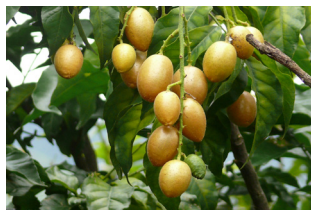


TRI-OLOGY

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

FDACS-P-00124 Volume 54, Number 3, May - June 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.



Clausena lansium (wampee)
Photograph courtesy of Wikipedia
https://en.wikipedia.org/wiki/Clausena_lansium#



Banisia argutula, a moth. Scale in mm.
Photograph is courtesy of James E. Hayden, DPI



Belionota prasina, ruby-necked jewel beetle
Photograph courtesy of Paul E. Skelley, DPI



Coccotrypes aciculatus
Photograph courtesy of Katherine E. Okins, 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.

***Clausena lansium* (wampee, wampi, huang pi).** Rutaceae. This evergreen tree is planted as an ornamental or for fruit, although it is not well-known outside its native range in southern China and several countries of Southeast Asia. The globose to ellipsoid fruit has a yellow rind dotted with oil glands. The large clusters of fruit have been compared to bunches of tiny lemons or limes in appearance.

***Banisia argutula*, a moth, a new Continental USA record.** This moth has infested fruits and flowers of *Manilkara zapota* (sapodilla) in southern Florida for some years. It has been confused with *B. myrsusalis*, a pantropical pest of sapodilla that has been recorded in the Florida Keys in the 1950s

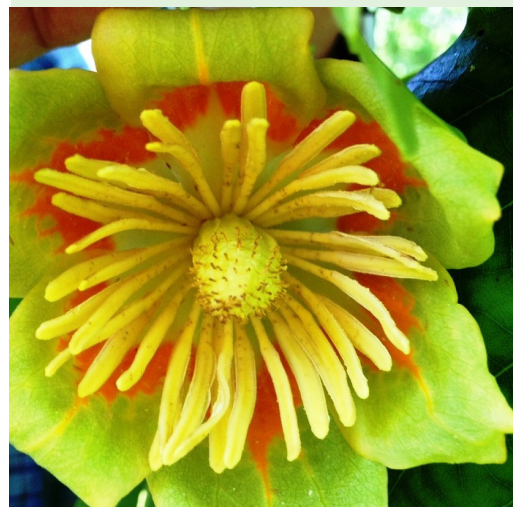
***Belionota prasina*, ruby-necked jewel beetle, a new Continental USA record.** A living specimen was found on the beach at Hobe Sound by a DPI entomologist. No member of this genus has been reported in North America, and a living specimen well outside of a port of entry represents a potential establishment.

***Coccotrypes aciculatus*, a new Continental USA record.** The United States record of *Coccotrypes aciculatus* was collected in a lindgren funnel trap in Miami-Dade County in 2012 and has recently been verified as that species.

***Petrusa epilepsis*, seagrape flatid planthopper, a new Continental USA record.** This species is known from the Caribbean and especially from Puerto Rico, where it occurs in high numbers on cultivated plants.

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Photograph courtesy of Patti Anderson, DPI.

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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 11,000 plants and nearly 1,400 vials of seeds.

Some of the samples received for identification are discussed below:

***Melia azedarach* L. (Chinaberry, pride-of-India, Cape lilac)** from a genus of three tropical species. Meliaceae. This species is native to Asia, Australia and the Solomon Islands and has become widely naturalized and cultivated. It grows throughout Florida and has been documented in almost every county. A deciduous tree growing as tall as 15 m, chinaberry is striking in the landscape with purplish-brown bark and dark blue-green foliage. The leaves are alternate and usually bi-pinnate, but they can be tri-pinnate, and have serrate margins and produce a pungent, musky smell when crushed. The flowers are borne in branched, showy panicles to 20 cm long. Individual flowers have five pale lilac or lavender (sometimes white) petals and stamens united into a darker, purple tube. The 1-1.5 cm fruits are globose, yellow or yellow-green drupes, aging to tan or brown as they persist on bare branches through the winter. The tree was introduced as an ornamental to the southeastern United States in the 1830s, but it has spread across the southern half of the country from Virginia to California and is becoming a pest plant in Florida's natural areas. The Florida Exotic Pest Plant Council has included this species on its list of Category II pests: "Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species." The tree often spreads by suckers from the roots and forms thickets in disturbed areas. It is found both in wetlands and uplands as well as in landscapes or persisting from cultivation. The fruit is poisonous to humans and some other mammals, but birds enjoy the fruit and disperse the seeds. (Presidio County, Texas; submitted by the general public; 19 May 2015.) (Gordon and Thomas 1997; Langeland *et al.* 2008; Mabberley 2008; Wunderlin and Hansen 2011; <https://plants.ces.ncsu.edu/plants/all/melia-azedarach/> accessed July 1, 2015; http://ucjeps.berkeley.edu/cgi-bin/get_JM_treatment.pl?5151.5152.5153 [accessed 2015 July 6].

***Clausena lansium* (Lour.) Skeels (wampee, wampi, huang pi)** from a genus of 23 tropical species. Rutaceae. This evergreen, 3–12 m tall tree is planted as an ornamental or for fruit, although it is not well-known outside its native range in southern China and several countries of Southeast Asia. Unlike many species in this family, there are no spines on twigs or stems. The alternate, compound leaves, to 25 cm long, are aromatic when crushed, with an odd-number of ovate to lanceolate leaflets (usually 5, 7 or 9). The leaflet margins are undulate to crenate, and leaflet bases are oblique. The petiole and rachis are scattered with warty projections. The small (3–4 mm in diameter), fragrant, white flowers are held in large, showy panicles, with each flower having 5 calyx lobes about 1 mm long; 5 petals, 5 mm long; and 10 stamens. The globose to ellipsoid fruit is about 1.5-3 cm long and 1-2 cm in diameter with a yellow rind dotted with oil glands. The large clusters of fruit have been compared to bunches of tiny lemons or limes in appearance. This species is subtropical to tropical, and in Florida trees have survived brief exposure to 28° to 30° F (-2.22° to -1.11° C), but not temperatures of 20° F (-6.667° C) and lower. (Orange County; B2015-467; Ricardo E. Lopez, USDA; 16 June 2015.) (Barwick 2004; <http://www.hort.purdue.edu/newcrop/morton/wampee.html> [accessed 2015 July 6]; http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200012437 [accessed 2015 July 6];

Sample Submissions

	May June	Year to date
Samples submitted by other DPI sections	1,318	3,236
Samples submitted for botanical identification only	168	477
Total Samples Submitted	1,486	3,713
Specimens added to the herbarium	55	193



Melia azedarach L. (Chinaberry) flower
Photograph courtesy of W.C. Welbourn, DPI



Melia azedarach L. (Chinaberry) fruit
Photograph courtesy of W.C. Welbourn, DPI

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- Barwick, M. 2004.** Tropical and subtropical trees: a worldwild encyclopedic guide. Thames and Hudson, Ltd., London, UK. 484 p.
- D.R.Gordon and K.P.Thomas. 1997.** Florida's Invasion by nonindigenous plants: history, screening, and regulation. Pp. 21-37 *In* D.Simberloff, D.C.Schmitz and T.C.Brown (eds.). Strangers in paradise: impact and management of nonindigenous species in Florida. Island Press, Washington, DC. 467 p.
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Clausena lansium (wampee)

Photograph courtesy of Wikipedia https://en.wikipedia.org/wiki/Clausena_lansium#

The following table provides information about samples identified as new county records during the time period of the current issue.

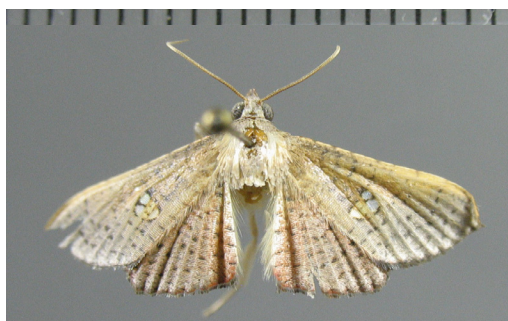
Another table with information about all samples identified during this time is downloadable as a [PDF](#) or an [Excel](#) spreadsheet. The table is organized alphabetically by collector name, with new county records listed first. (DOWNLOAD FILE)

New County Records

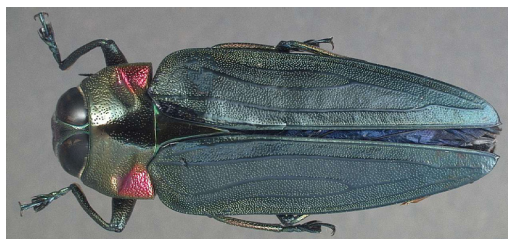
Collector Name 1	Collector Name 2	Plant Species	Plant Common Name	Country
Cheryl A. Jones	Kelly K. Douglas	<i>Wahlenbergia marginata</i>	southern rockbell; Asiatic bellflower	Dixie
Cheryl A. Jones	Kelly K. Douglas	<i>Dioscorea bulbifera</i>	air potato; potato yam; air yam	Suwannee
Cheryl A. Jones	Kelly K. Douglas	<i>Commelina benghalensis</i>	tropical spiderwort, jio	Levy
Cheryl A. Jones	Kelly K. Douglas	<i>Solanum viarum</i>	tropical soda-apple; Sodom apple	Levy
James A. Pernsteiner, USDA		<i>Campsis radicans</i>	trumpet creeper; trumpetvine	Palm Beach
Jason B. Sharp		<i>Micromeria brownei</i>	Browne's savory; creeping Charlie	Manatee
Jason B. Sharp		<i>Carex gigantea</i>	giant sedge	Manatee
Kelly K. Douglas	Cheryl A. Jones	<i>Verbena officinalis</i>	Texas vervain	Dixie
Kelly K. Douglas	Cheryl A. Jones	<i>Abutilon theophrasti</i>	velvetleaf; Indian mallow; China jute	Gilchrist
LeAnn M. West		<i>Albizia lebbek</i>	woman's tongue tree; Tibet lebbek	
Linda G. McRay		<i>Stenandrium dulce</i>	sweet shaggytuft	Pinellas
Linda G. McRay		<i>Stylosanthes hamata</i>	cheesytoes; Caribbean stylo	Pinellas
Lisa M. Hassell		<i>Pueraria montana</i> var. <i>lobata</i>	kudzu; vine-that-ate-the-South	Duval
Lisa M. Hassell		<i>Dioscorea alata</i>	white yam; winged yam	Duval
Lisa M. Hassell		<i>Broussonetia papyrifera</i>	paper mulberry	Nassau
Lisa M. Hassell		<i>Cinnamomum camphora</i>	camphortree; camphor-laurel; camphortree	Nassau
Lisa M. Hassell		<i>Ardisia crenata</i>	coralberry; coral ardisia; cratchthroat	Duval
Shelly M. Wayte		<i>Dolichandra unguis-cati</i>	catclaw vine; catclaw creeper	Marion
Sol F. Looker		<i>Solanum viarum</i>	tropical soda-apple; Sodom apple	Flagler

Sample/Specimen Submissions

May	
Samples Submitted	659
Specimens Identified	9,206
June	
Samples Submitted	746
Specimens Identified	11,426
Year to Date	
Samples Submitted	3,526
Specimens Identified	60,180



Banisia argutula, a moth. Scale in mm.
Photograph is courtesy of James E. Hayden, DPI



Belionota prasina, ruby-necked jewel beetle
Photograph courtesy of Paul E. Skelley, DPI



Coccotrypes aciculatus
Photograph courtesy of Katherine E. Okins, 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.

***Banisia argutula*, a moth, a new Continental USA record.** This moth has infested fruits and flowers of *Manilkara zapota* (sapodilla) in southern Florida for some years. It has been confused with *B. myrsusalis* (Walker), a pantropical pest of sapodilla that has been recorded in the Florida Keys in the 1950s. Although the biology of *B. myrsusalis* has been studied in Asia, nothing has been published about *B. argutula* since the original description. Peña's (1994) record likely refers to *B. argutula*. The two species are externally similar, but *B. argutula* is slightly smaller than *B. myrsusalis*. There are several genitalic differences between the two species, so positive identification requires dissection. A third species in Florida, *B. furva fracta* Whalley, is distinctive externally and internally. It remains possible that more than one of these species are involved in the sapodilla pest complex, but more specimens need to be reared. (Miami-Dade County; E2015-3272; José Ismael Martínez, University of Florida student, and Daniel Carrillo, UF/IFAS Tropical Research and Education Center; 10 April 2015.) (Dr. James E. Hayden, DPI.)

***Belionota prasina*, ruby-necked jewel beetle, a new Continental USA record.** A living specimen of *Belionota prasina* (Thunberg) (Coleoptera: Buprestidae) was found on the beach at Hobe Sound by a DPI entomologist. No member of this genus has been reported in North America, and a living specimen well outside of a port of entry represents a potential establishment. Members of the genus *Belionota* are approximately one inch long and occur widely in Asia and Indonesia, also in Africa and northern Australia. *Belionota prasina*, one of the most widespread species of the genus, has been occasionally intercepted by the USDA at ports of entry in the last ten years and has recently been reported in French Guiana. Larvae of *B. prasina* have been reported in a number of hosts, including *Delonix regia* (royal poinciana), *Ceiba pentandra* (kapok) and *Mangifera indica* (mango). Adults have been reported to oviposit on *Casuarina* sp. (Australian pine), but larval development has not been confirmed. Little literature is available on this species, and none indicates it is a pest. Like most members of the family, *B. prasina* appears to feed only on dead or dying wood. (Martin County; E2015-3308; Paul E. Skelley; 19 June 2015.) (Kyle E. Schnepf.)

***Coccotrypes aciculatus*, a new Continental USA record.** The United States record of *Coccotrypes aciculatus* Schedl (Coleoptera: Curculionidae: Scolytinae) was collected in a Lindgren funnel trap with a-pinene and ethanol lures in Miami-Dade County in 2012 and has recently been verified as that species. Like most members of the sub-family, *C. aciculatus* is a minute brown beetle, about 1.2 mm long. It is distributed from southern Mexico through southern Brazil and Cuba, and is probably native to Papua New Guinea. Hosts include *Virola* sp. (cumala/virola nut) in the nutmeg family (Myristicaceae), palms, and *Cecropia* sp. petioles and seeds. Though *C. aciculatus* is an introduced species in the Americas, it does not appear to be a pest. (Miami-Dade County; E2015-2708; Andrew I. Derksen, CAPS; 2 July 2012.) (Katherine E. Okins.)



Petrusa epilepsis, seagrape flatid planthopper, mature adult on Florida native lantana

Photograph courtesy of Seth Mularz, Mularz Design



Epuraea ocularis, a sap beetle

Photograph courtesy of Paul E. Skelley, DPI



Hylesinus aculeatus

Photograph courtesy of Katherine E. Okins, DPI



Pseudomops septentrionalis, pale bordered field cockroach

Photograph is courtesy of Kyle E. Schnepf

***Petrusa epilepsis*, seagrape flatid planthopper, a new Continental USA**

record. This species is known from the Caribbean and especially from Puerto Rico, where it occurs in high numbers on cultivated plants. This species could become a pest of ornamental plants and possibly mangos. (Broward County; E2015-2880; Michelle L. Leonard; 1 June 2015.) (Dr. Charles R. Bartlett, University of Delaware, and Dr. Susan E. Halbert.)

***Pygospina reducta*, a delphacid planthopper, a new Continental USA**

record. Little is known about this species except that it is native to the Caribbean. This specimen was found in a suction trap, so nothing is known about the Florida host range. It is unlikely to become a pest. The species can be recognized only by its distinctive male genitalia. (Collier County; E2014-8209; Scott D. Croxton, University of Florida graduate student, Southwest Florida Research and Education Center; 11 December 2014.) (Dr. Charles R. Bartlett, University of Delaware, and Dr. Susan E. Halbert.)

***Epuraea ocularis*, a sap beetle, a new Florida State record.**

Adults of *Epuraea ocularis* Fairmaire (Coleoptera: Nitidulidae) were found in damaged *Manilkara zapota* (sapodilla) at a Tampa residence. This is a nearly cosmopolitan species, found in Texas in 2010. Related sap beetles are only nuisance pests, feeding in damaged fruits. Concern was expressed over their control. As with any member of this group, the best control is likely to be cleaning up damaged and fallen fruit in the area to reduce breeding sites. (Hillsborough County; E2015-2730; Michael A. Dina, USDA/APHIS/PPQ; 26 May 2015.) (Dr. Paul E. Skelley.)

***Hylesinus aculeatus*, a new Florida State record.**

A single specimen of *Hylesinus aculeatus* Say (Coleoptera: Curculionidae: Scolytinae) was collected in a green lindgren funnel trap with manuka oil and z3-hexen-1-ol lures hung in an ash tree (*Fraxinus* sp.) at Silver River State Park in Marion County. Like most members of the genus, *H. aculeatus* is covered in round, flat setae, forming a colorful pattern not usually seen on scolytines. This species is native to North America, its range extending from Alberta, Canada, down through the United States east of the Rocky Mountains. *H. aculeatus* attacks the bole, limbs and larger branches of *Fraxinus* spp., but is not a pest. (Marion County; E2015-2224; Bradley A. Danner, CAPS/DPI, and Robert M. Leahy, CAPS/USDA; 20 March 2015.) (Katherine E. Okins.)

***Pseudomops septentrionalis*, pale bordered field cockroach, a new Florida**

State record. This species was described from southern Texas in 1917. Since then it has been moving gradually to more northern and eastern localities. It was reported from New Boston, Texas, in 1943 and was collected in Shreveport, Louisiana, in 1952 and Baton Rouge, Louisiana, in 1962. The species also was found in Lee County, Alabama, in 1996. *Bugguide.net* records indicate the species occurs in all southeastern states, reaching as far north as Kansas and Tennessee. *Pseudomops septentrionalis* has not been recorded as being a pest; its typical habitat is on foliage and in leaf litter. The species also appears to be sensitive to desiccation, so movement into air-conditioned homes is unlikely. (Suwannee County; E2015-3316; Marc C. Minno, Eco-Cognizant, Inc.; 15 June 2015.) (Kyle E. Schnepf.)

***Bactrocera correcta*, guava fruit fly, a regulatory incident.**

Two male guava fruit flies were captured in fruit fly detection traps in close spatial and temporal proximity. This was unusual, as newly invading males of this species tend to disperse widely and are typically detected miles apart. An intensive delimitation trapping grid was established over 55 square miles. There has been no further detection of this pest to date. Surveillance trapping will continue until the end of at least two estimated life cycles, approximately 30 Aug 2015. (Palm Beach County, E2015-2747; Eduardo Solis; 27 May 2015 and Palm Beach County; E2015-2781; Olga Garcia; 29 May 2015.) (Dr. Gary J. Steck.)

References

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Whalley, P.E.S. 1976. Tropical leaf moths: a monograph on the subfamily Striglininae (Lepidoptera: Thyrididae). London: Trustees of the British Museum (Natural History). 194 p.

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 [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.



Bactrocera correcta, guava fruit fly
Photograph courtesy of Gary J. Steck, DPI

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
<i>Acacia farnesiana</i>	sweet acacia; aramo	<i>Cydia largo</i>	a tortricid moth	Lee	COUNTY
<i>Acacia farnesiana</i>	sweet acacia; aramo	<i>Heteropsylla flexuosa</i>	a psyllid	Lee	COUNTY
<i>Ananas comosus</i>	pineapple	<i>Phyllocoptruta sakimurae</i>	an eriophyid mite	Escambia	INTERDICTION INTERCEPTION
<i>Ananas comosusp</i>	pineapple	<i>Steneotarsonemus comosus</i>	pineapple multiple crown mite	Escambia	INTERDICTION INTERCEPTION
<i>Ananas comosus</i>	pineapple	<i>Steneotarsonemus comosus?</i>	a tarsonemid mite	Escambia	INTERDICTION INTERCEPTION
<i>Bambusa</i> sp.	bamboo	<i>Poliaspoides formosana</i>	an armored scale	Pinellas	COUNTY
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia californica</i>	a leafhopper	Escambia	INTERDICTION INTERCEPTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Phyllotreta cruciferae</i>	crucifer flea beetle	Escambia	INTERDICTION INTERCEPTION
<i>Citrus aurantium</i>	sour orange	<i>Oncopeltus cayensis</i>	a seed bug	Pasco	COUNTY
<i>Citrus aurantium</i>	sour orange	<i>Opistheurista cladeatina</i>	a plant bug	Lake	COUNTY
<i>Eucalyptus</i> sp.		<i>Leptocybe invasa</i>	blue gum chalcid wasp	St. Johns	COUNTY
<i>Eugenia uniflora</i>	Surinam cherry; Cayenne cherry	<i>Anasaitis canosa</i>	a jumping spider	Martin	COUNTY
<i>Forestiera segregata</i>	Florida swamp privet	<i>Petrusa epilepsis</i>	a flatid planthopper	Broward	HOST
<i>Fragaria x ananassa</i>	garden strawberry	<i>Cixius cultus</i>	a cixiid planthopper	Suwannee	INTERDICTION INTERCEPTION
<i>Fragaria x ananassa</i>	garden strawberry	<i>Lygus</i> sp.	a lygus bug	Escambia	INTERDICTION INTERCEPTION
<i>Fraxinus pennsylvanica</i>	green ash; red ash	<i>Agrilus subcinctus</i>	a buprestid beetle	Volusia	COUNTY
<i>Fraxinus pennsylvanica</i>	green ash; red ash	<i>Agrilus subcinctus</i>	a buprestid beetle	Hernando	COUNTY
<i>Fraxinus</i> sp.	ash	<i>Agrilus subcinctus</i>	a buprestid beetle	Marion	COUNTY
<i>Fraxinus</i> sp.	ash	<i>Anthaxia viridicornis</i>	a buprestid beetle	Alachua	COUNTY
<i>Fraxinus</i> sp.	ash	<i>Apache degeerii</i>	a derbid planthopper	Hendry	COUNTY
<i>Fraxinus</i> sp.	ash	<i>Hylesinus aculeatus</i>	a scolytid beetle	Marion	STATE
<i>Gaultheria shallon</i>	salal	<i>Aleyrodes spiraeoides</i>	a whitefly	Hillsborough	DOG DETECTION
<i>Helianthus annuus</i>	sunflower	<i>Lygus</i> sp.	a lygus bug	Miami-Dade	DOG DETECTION
<i>Helianthus debilis</i>	beach sunflower, dune sunflower	<i>Empoasca bifurcata</i>	a leafhopper	Pinellas	COUNTY
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Autographa californica</i>	alfalfa looper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
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<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia longula</i>	a leafhopper	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Cixius cultus</i>	a cixiid planthopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Cixius cultus</i>	a cixiid planthopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Deltocephalus fuscinosus</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Deltocephalus fuscinosus</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Deltocephalus fuscinosus</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Deltocephalus fuscinosus</i>	a leafhopper	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Deltocephalus fuscinosus</i>	a leafhopper	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Deltocephalus fuscinosus</i>	a leafhopper	Seminole	REGULATORY INCIDENT
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Eupteryx decemnotata</i>	Ligurian leafhopper	Suwannee	INTERDICTION INTERCEPTION

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Suwannee	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Lygus elisus</i>	pale legume bug	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Lygus hesperus</i>	a western lygus bug	Escambia	INTERDICTION INTERCEPTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Udea profundalis</i>	false celery leaf-tier	Escambia	INTERDICTION INTERCEPTION
<i>Lantana involucrata</i>	buttonsage	<i>Petrusa epilepsis</i>	a flatid planthopper	Broward	US CONTINENTAL
<i>Laurus nobilis</i>	laurel; bay leaf	<i>Lygus</i> sp.	a lygus bug	Miami-Dade	DOG DETECTION
<i>Lavandula</i> sp.	lavender	<i>Anstenoptilia marmarodactyla</i>	sage plume moth	Miami-Dade	DOG DETECTION
<i>Magnolia grandiflora</i>	southern magnolia	<i>Ambrosiophilus atratus</i>	a scolytid beetle	Nassau	COUNTY
<i>Mangifera indica</i>	mango	<i>Bactrocera correcta</i>	guava fruit fly	Palm Beach	REGULATORY INCIDENT
<i>Mangifera indica</i>	mango	<i>Bactrocera correcta</i>	guava fruit fly	Palm Beach	REGULATORY INCIDENT
<i>Manilkara zapota</i>	sapodilla	<i>Banisia argutula</i>	a moth	Miami-Dade	US CONTINENTAL
<i>Manilkara zapota</i>	sapodilla	<i>Epuraea ocularis</i>	sap beetle	Hillsborough	STATE
<i>Matthiola incana</i>	tenweeks stock	<i>Lygus elisus</i>	pale legume bug	Miami-Dade	DOG DETECTION
<i>Petroselinum crispum</i>	parsley	<i>Ceratagallia californica</i>	a leafhopper	Escambia	INTERDICTION INTERCEPTION
<i>Petroselinum crispum</i>	parsley	<i>Ceratagallia californica</i>	a leafhopper	Escambia	INTERDICTION INTERCEPTION
<i>Phoenix dactylifera</i>	date palm	<i>Phoenicococcus marlatti</i>	red date scale	Escambia	INTERDICTION INTERCEPTION
<i>Phoenix dactylifera</i>	date palm	<i>Solenopsis xyloni</i>	southern fire ant	Duval	REGULATORY INCIDENT
<i>Pinus elliotii</i>	slash pine	<i>Coccotrypes aciculatus</i>	a scolytid beetle	Miami-Dade	US CONTINENTAL
<i>Pinus elliotii</i>	slash pine	<i>Xyleborinus andrewesi</i>	a scolytid beetle	Miami-Dade	COUNTY
<i>Pinus</i> sp.		<i>Ambrosiophilus atratus</i>	a scolytid beetle	Suwannee	COUNTY
<i>Pinus</i> sp.		<i>Ambrosiophilus atratus</i>	a scolytid beetle	Hamilton	COUNTY
<i>Pinus</i> sp.		<i>Xylosandrus amputatus</i>	a scolytid beetle	Suwannee	COUNTY
<i>Platanus occidentalis</i>	sycamore	<i>Tibicen lyricea</i>	cicada	Polk	COUNTY
<i>Podocarpus</i> sp.		<i>Neophyllaphis varicolor</i>	multicolored podocarpus aphid	St. Lucie	COUNTY
<i>Poncirus trifoliata</i>	trifoliolate orange	<i>Tetranychus cocosi</i>	spider mite	Orange	HOST
<i>Quercus</i> sp.	oak	<i>Euwallacea fornicatus</i>	tea shothole borer	Manatee	COUNTY
<i>Quercus</i> sp.	oak	<i>Micranopium unicolor</i>	a cerambycid beetle	Pinellas	COUNTY
<i>Quercus stellata</i>	post oak	<i>Xyleborinus andrewesi</i>	a scolytid beetle	Orange	COUNTY
<i>Quercus virginiana</i>	live oak	<i>Amotura hyalinipennis</i>	parasitic wasp	Brevard	COUNTY
<i>Schinus terebinthifolia</i>	Brazilian pepper tree; Florida holly; Christmas berry	<i>Trachela volutus</i>	a red sac spider	Martin	COUNTY
<i>Sideroxylon alachuense</i>	Clark's buckthorn; silver buckthorn	<i>Ceratotarsonemus scitus</i>	a tarsonemid mite	Alachua	COUNTY AND HOST
<i>Sideroxylon alachuense</i>	Clark's buckthorn; silver buckthorn	<i>Diadlotarsonemus</i> sp.	a tarsonemid mite	Alachua	HOST
undetermined		<i>Catorhintha viridipes</i>	a coreid bug	Broward	COUNTY
<i>Vaccinium</i> sp.		<i>Eotetranychus clitus</i>	spider mite	Alachua	HOST
<i>Withania somnifera</i>	withania; aswagandha	<i>Lema conjuncta</i>	a chrysomelid beetle	Alachua	HOST
		<i>Agrilus dozieri</i>	a buprestid beetle	Highlands	COUNTY
		<i>Agrilus subcinctus</i>	a buprestid beetle	Highlands	COUNTY
		<i>Ambrosiodmus minor</i>	a scolytid beetle	Highlands	COUNTY
		<i>Ambrosiodmus minor</i>	a scolytid beetle	Gadsden	COUNTY
		<i>Ambrosiodmus minor</i>	a scolytid beetle	Alachua	COUNTY
		<i>Ambrosiophilus atratus</i>	a scolytid beetle	Hamilton	COUNTY
		<i>Ambrosiophilus atratus</i>	a scolytid beetle	Alachua	COUNTY
		<i>Asiphonella dactylonii</i>	a root aphid	Collier	COUNTY
		<i>Belionota prasina</i>	ruby-necked jewel beetle	Martin	US CONTINENTAL
		<i>Coccotrypes aciculatus</i>	a scolytid beetle	Broward	COUNTY

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
		<i>Hibana velox</i>	yellow ghost spider	Orange	COUNTY
		<i>Loxosceles rufescens</i>	Mediterranean recluse spider	Orange	REGULATORY INCIDENT
		<i>Loxosceles rufescens</i>	Mediterranean recluse spider	Orange	REGULATORY INCIDENT
		<i>Loxosceles rufescens</i>	Mediterranean recluse spider	Hillsborough	REGULATORY INCIDENT
		<i>Micronecta ludibunda</i>	a water boatman	Collier	COUNTY
		<i>Phidippus regius</i>	regal jumping spider	Santa Rosa	COUNTY
		<i>Pseudomops septentrionalis</i>	pale bordered field cockroach	Suwannee	STATE
		<i>Pygospina reducta</i>	a delphacid planthopper	Collier	US CONTINENTAL
		<i>Tmarus floridensis</i>	a twig crab spider	Okaloosa	COUNTY
		<i>Trotorhombia metachromata</i>	a moth	Hillsborough	COUNTY

Nematology Section

Compiled by [Janete A. Brito, Ph.D.](#) and [Taylor E. Smith, M.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 enterolobii*, 1983, a root-knot nematode**, was found infecting the roots of *Artocarpus heterophyllus* (jackfruit), a new Host record. (Collier County; N14-00778; Scott D. Krueger; 9 June 2014.)

Meloidogyne enterolobii (= *Meloidogyne mayaguensis*), first reported in the United States in 2002, is known to occur in North America only in Florida and North Carolina. It is of great concern in agriculture because of its ability to overcome root-knot nematode resistance genes in some economically important crops, including *Mi-1* (tomato), *Mir1* (soybean), *N* (bell pepper), *Rk* (cowpea) and *Tabasco* (sweet pepper). Jackfruit is a large, tropical fruit grown commercially in the southernmost part of the Florida. In mid-summer 2014, root samples were collected from a tree in a nursery in South Florida. The roots were heavily galled and presumed to be infected with a *Meloidogyne* species. Females extracted from galled roots were subjected to both morphological and isozyme analyses. The morphology of the perineal patters fit those of the original description of *M. enterolobii*. The esterase phenotype (VS1-S1), which is species specific, also was identical to that reported previously for *M. enterolobii*. This identification was further confirmed by molecular analysis performed with DNA extracted from the individual root-knot nematode females by using the mitochondrial DNA (mtDNA) C₂F₃/1108 primer set and the species-specific SCAR primer set, MK7-F/MK7-R. Results from these analyses, confirmed the identity of the root-knot nematode species extracted from the jackfruit as *M. enterolobii*. This nematode species is known as a highly virulent soilborne pathogen that should be avoided and certainly not introduced into nurseries or new orchards.

Sample Submissions

	May June	Year to date
Morphological Identifications	2,218	5,775
Molecular Identifications	0	407
Total Samples Submitted	2,218	6,182

Certification and Regulatory Samples

	May June	Year to date
Multistate Certification for National and International Export	2,218	4,188
California Certification	0	1,073
Pre- movement (Citrus Nursery Certification)	2,218	86
Site or Pit Approval (Citrus Nursery and Other Certifications)	21	107

Other Samples

	May June	Year to date
Identifications (invertebrate)	1	11
Plant Problems	10	32
Intrastate Survey, Random	95	278
Molecular Identifications*	0	407

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



Artocarpus heterophyllus (jackfruit) tree showing large fruits

Photograph courtesy of Shahnoor Habib Munmun, Wikipedia https://upload.wikimedia.org/wikipedia/commons/1/11/Jackfruit_Bangladesh_%283%29.JPG

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

Bentley, Michael A.	61		LeBoutillier, Karen W.	177
Blaney, Richard L.	6		Ochoa, Ana L.	204
Brown, Lance A.	6		Said Gonzalez, Roaida C.	7
Burgos, Frank A.	241		Sharp, Jason B.	7
Clanton, Keith B.	50		Spriggs, Charles L.	83
Echols, M. Janie	14		Violett, Larry L.	207
Flores, Mary Ann	5		Youngblood, Susan B.	7

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- Brito, J.A., J.D.Stanley, R.Kaur, R.Cetintas, M.DiVito, J.A.Thies, D.W.Dickson. 2007.** Effects of the *Mi-1*, *N*, and *Tabasco* genes on infection and reproduction of *Meloidogyne mayaguensis* on tomato and pepper genotypes. *Journal of Nematology* 39: 327-332.
- Brito, J.A., T.Powers, P.G.Mullin, R.N.Inserra, and D.W.Dickson. 2004.** Morphological and molecular characterization of *Meloidogyne mayaguensis* isolates from Florida. *Journal of Nematology* 36: 232-240.
- Brito, J.A., T.Smith, and D.W.Dickson. 2014.** First report of *Meloidogyne enterolobii* infecting *Artocarpus heterophyllus* worldwide. <http://apsjournals.apsnet.org/doi/abs/10.1094/PDIS-12-14-1292-PDN?journalCode=pdis>. [accessed 2015 July 10].
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Plant Pathology Section

Compiled by [Timothy S. Schubert, Ph.D.](#), [David A. Davison](#), [Regina D. Cahoe](#) and [Jodi L. Hansen](#)

This section provides plant disease diagnostic services. The agency-wide goal of protecting Florida agriculture very often begins with accurate diagnoses 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.

Several items during this two-month period deserve special mention:

- Twelve samples of boxwood blight (*Cylindrocladium pseudonaviculatum*) were confirmed as positive during this reporting period. The disease was detected on rooted cuttings from Oregon at the same Florida Panhandle nursery included in the March-April Tri-ology.
- Recently, we have seen more *Xylella fastidiosa* on cultivated blueberries, perhaps an indication of a greater problem with leaf scorch on *Vaccinium*, but possibly a normal fluctuation in samples received.
- New host records for two fungal organisms on *Quercus polymorpha* (Mexican white oak, Monterey oak) were confirmed for a rust, *Cronartium* sp., and the leaf spotting fungus, *Tubakia dryina*.

***Cronartium* sp. (a rust) and *Tubakia dryina* (a fungus), two leaf pathogens, new host records**, were found on *Quercus polymorpha* (Mexican white oak, Monterey oak). Both pathogens are common on oaks, but this was the first time they have been reported on this species in Florida. *Quercus polymorpha* is now available commercially in Texas and the southeastern United States, after a small grove of this widespread tree species of Mexico and Central America was discovered in Texas, less than 20 years ago. The two pathogens, known to be common on other oak species, have only recently been found infecting this oak as it has grown in popularity within the nursery trade. This rust, like the entire genus *Cronartium*, is heteroecious (with two alternating hosts), typically infecting a pine and a flowering plant; in this case, an oak. Many of the *Cronartium* species, such as fusiform rust, cause plant diseases of major economic importance. Fusiform rust disease is characterized by the formation of woody galls on pine stems and branches. The galls increase mortality, reduce wood quality and cause significant economic losses in the southeastern United States, particularly on loblolly pine (*Pinus taeda*) and slash pine (*Pinus elliottii* var. *elliottii*). On oaks, it causes little damage. The second new pathogen of *Q. polymorpha* is *Tubakia dryina*. This fungal disease is primarily cosmetic and does not warrant heroic efforts for control. Because the organism can overwinter on the leaf debris, the best way to discourage the disease is by cleaning up fallen leaves. (Flagler County; 84164; P. Karen Coffey; 4 May 2015.) (Anderson *et al.* 1986; Simpson *et al.* 1992; Warren and Covert 2004; www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=233501074 [accessed 27 July 2015].)

Sample Submissions

	May June	Year to date
Citrus black spot	0	41
Citrus canker	138	255
Citrus greening HLB	287	515
Honey bees	0	1
Interdictions	9	11
Laurel wilt	17	30
General Pathology	702	1,821
Soil	9	20
Sudden Oak Death	5	8
Sweet Orange Scab-Like Disease	0	0
Texas Phoenix Palm Decline	0	3
Water	0	0
Miscellaneous	5	10
Total	1,172	2,715



Cronartium quercuum f.sp. *fusiforme* (fusiform rust)
Photograph courtesy of Robert L. Anderson, USDA Forest Service, Bugwood.org



Fusiform rust telia (pustules) on oak leaf.
Photograph courtesy of Robert L. Anderson, USDA Forest Service, Bugwood.org

***Cylindrocladium pseudonaviculatum* (boxwood blight pathogen)**, was found on *Buxus sempervirens* (common boxwood). This is a continuation of the boxwood blight report from the March-April 2015 Tri-ology. Since the initial discovery at the Florida Panhandle nursery, twelve more positive samples have been detected. The nursery has destroyed plants in positive blocks, and this appears to be an isolated outbreak. The Division of Plant Industry, along with the University of Florida Plant Pathology Department in Gainesville and UF/IFAS NFREC in Quincy, has issued a Pest Alert for boxwood blight. It can be found at: <http://gadsden.ifas.ufl.edu/newsletters/2015/06/02/pest-alert-boxwood-blight>. Symptoms of boxwood blight are illustrated below. (Gadsden County; 84135; Michael A. Bentley; 29 April 2015.)



Cylindrocladium pseudonaviculatum causing leaf spots on the foliage of *Buxus* sp. Leaf spots may be light to dark brown with a dark or diffuse border. Photographs courtesy of Mary Ann Hansen, Virginia Polytechnic Institute and State University

***Xylella fastidiosa* (blueberry leaf scorch)**, was found on *Vaccinium* sp. Recently, we have seen more blueberry samples in the lab as well as reports from growers that their blueberry plants are suffering. Symptoms include marginal leaf scorch, premature leaf drop, yellowing of stems and death of the plant. Although soil pH imbalance or a fungal pathogen is often the cause of plant decline, neither explains the death of these blueberries. Serological testing identified *Xylella fastidiosa*, a fastidious (hard to culture), gram negative, xylem-inhabiting bacterium. Its primary means of spread is through a xylem-feeding insect, the glassy winged sharpshooter (*Homalodisca vitripennis*). In commercial blueberry production, vegetative propagation of asymptomatic mother plants is another means of spread. We have been seeing more and more blueberries test positive for *Xylella*, but we are not sure if this is the beginning of a major problem for the industry. (Marion County; 85055; Shelly M. Wayte; 16 June 2015.) (Chang *et al.* 2009; <http://caes.uga.edu/departments/plantpath/extension/documents/BlueberryXylella.pdf> [accessed 2015 July 27]; <http://lake.ifas.ufl.edu/agriculture/citrus/documents/08Hopkins.pdf> [accessed 2015 July 27].)



Cylindrocladium pseudonaviculatum Clusters of fruiting bodies (sporodochia) with protruding vesicles. Photographs courtesy of Sharon M. Douglas, Connecticut Agricultural Experiment Station

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Cylindrocladium pseudonaviculatum Photomicrograph of characteristic protruding vesicles. Photographs courtesy of Sharon M. Douglas, Connecticut Agricultural Experiment Station



Vaccinium sp. (blueberry) showing symptoms of *Xylella fastidiosa* infection. Photograph courtesy of Donald L. Hopkins, University of Florida

Plant Species	Plant Common Name	Causal Agent	Disease Name	Location Type	Specimen #	County	Collector	Date	New Records	Comments
<i>Buxus sempervirens</i>	Boxwood	<i>Cylindrocladium pseudonaviculatum</i>	boxwood blight	Nursery	84135	Gadsden	Michael A. Bentley	4/29/2015	State	This disease has been active in states north of Florida for several years.
<i>Echinochloa colona</i>	Jungle rice	<i>Pyricularia grisea</i>	gray leaf spot	Agricultural Research Center	85190	St. Johns	Robert M. Leahy, USDA/ CAPS; Bradley A. Danner DPI/ CAPS	6/12/2015	Host	Jungle rice is the wild ancestor of the cultivated cereal crop <i>Echinochloa frumentacea</i> , sawa millet. The fungus has become one of the most serious diseases of turfgrass.
<i>Fagopyrum esculentum</i>	Buckwheat	<i>Alternaria alternata</i>	Leaf Spot	Agricultural Research Center	85038	Suwannee	Robert M. Leahy, USDA/ CAPS; Bradley A. Danner DPI/ CAPS	6/11/2015	Host	This is opportunistic pathogen, causing leaf spot and other diseases on over 300 plant species.
<i>Lycopersicon esculentum</i>	Garden tomato	<i>Passalora fulva</i>	leaf mold	Nursery	84243	Marion	Shelly M. Wayte	5/7/2015	Host	The fungus is dependent on high relative humidity and high temperature for disease development. It is a common disease of greenhouse and garden tomatoes every year.
<i>Quercus polymorpha</i>	Monterey oak	<i>Cronartium</i> sp.	leaf rust	Nursery	84164	Flagler	P. Karen Coffey	5/4/2015	Host	<i>Cronartium</i> are heteroecious rusts with two alternating hosts, typically a pine and a flowering plant.
<i>Quercus polymorpha</i>	Monterey oak	<i>Tubakia dryina</i>	leaf spot	Nursery	84164	Flagler	P. Karen Coffey	5/4/2015	Host	This is a common late-season leaf pathogen of oaks that is often observed in combination with other foliar pathogens or on injured and stressed tissues. <i>T. dryina</i> also appears to be an aggressive secondary colonist.

Plant Species	Plant Common Name	Causal Agent	Disease Name	Location Type	Specimen #	County	Collector	Date	New Records	Comments
<i>Vaccinium</i> sp.	Blueberry	<i>Xylella fastidiosa</i>	blueberry leaf scorch	Nursery	85055	Marion	Shelly M. Wayte	6/16/2015		We have been seeing more and more blueberries test positive for <i>Xylella</i> . We are not sure if this going to be a big issue.
<i>Viburnum suspensum</i>	Sandankwa viburnum	<i>Plasmopora viburni</i>	downy mildew	Residence	84245	Escambia	Lawn service employee	5/11/2015		This year pathogens causing severe defoliation have been seen more frequently on this species. This problem is quite common on awabuki and sweet viburnum.
<i>Orthosiphon aristatus</i>	cat's-whiskers	<i>Potexvirus Alternanthera mosaic virus</i>	virus	Nursery	69079	Alachua	Cheryl A. Jones	1/14/2013	Host	
<i>Persea borbonia</i>	red bay	<i>Raffaelea lauricola</i>	laurel wilt	Withlacoochie State Forest	69678	Hernando	Vincent M. Morris, Florida Forest Service	2/22/2013	County	
<i>Prunus caroliniana</i>	Carolina laurel cherry, cherry laurel	<i>Auerswaldiella puccinioides</i>	leaf spot	residence	69790	Alachua	Robert M. Leahy and Bradley A. Danner, USDA/ CAPS	2/15/2013		

Thirty-five years with every day another opportunity...

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. Dr. Wayne N. Dixon, the long time editor of Tri-ology, has worked since 1993 in support of that mission and will retire in July 2015. In his editing capacity, he also reviewed well over 800 scientific manuscripts written by division scientists.

Born in Portland and raised in Yarmouth, Maine, Dr. Dixon graduated from the University of Maine in 1973 with a Bachelor of Science degree in Biology, followed by a Master of Science degree in Entomology from Texas A&M University. He received his Ph.D. in Forestry from the University of Maine's School of Forest Resources in 1980.

Wayne has worked for the Florida Department of Agriculture and Consumer Services since 1980, beginning as the state forest entomologist in the Division of Forestry. He joined DPI as the Chief of the Bureau of Entomology, Nematology and Plant Pathology in 1993, and then became the Assistant Director of the Division in 2008. His research interests include numerous forest pests, and his regulatory expertise extends from entomology to botany, nematology, plant pathology and molecular genetics issues. He has been actively engaged in managing responses to invasive pests throughout his career and has served statewide and nationally on numerous working groups, technical committees, and panels associated with the National Plant Board and USDA APHIS PPQ as well as the department.

In his farewell message to DPI staff, Dr. Dixon remarked, "I look forward to hearing of continued successes with all that the division and department will be engaged in from new pests, exciting gains in science and the ever necessary projects and programs. It has been a special privilege to work with all of you in the division and department."

