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.

***Astylus bourgeoisi,* a melyrid beetle**
Photograph courtesy of Paul E. Skelley, DPI

***Niditinea orleansella,* a tineid moth**
Photograph courtesy of James E. Hayden, DPI

***Cinnamomum kotoense* (canela)**
Photograph courtesy of Top Tropical http://toptropicals.com/pics/garden/2004/2/2937.jpg

***Kordyana tradescantiae* (leaf spot)** a collection of infected leaves taken from wild plants collected in 2014
Photograph courtesy of Timothy S. Schubert, DPI

Highlights

***Astylus bourgeoisi,* a melyrid beetle, a new continental USA record.** This is a South American genus, not previously known from North America. The species is common in Ecuador and recorded from Colombia.

***Niditinea orleansella,* a tineid moth, a new Florida state record.** Specimens of all stages were collected from a bucket of old chicken feathers.

***Cinnamomum kotoense* Kanehira & Sasaki (canela; lan yu rou gui).** Lauraceae. This species is an evergreen tree, growing to about 15 m tall. Although the genus includes the species used for the aromatic spice cinnamon, several species in the genus, including this one, have little or no fragrance in their bark, twigs and leaves.

***Longidorus africanus* Merny, 1966,** the needle nematode, is an ectoparasitic species native to Africa that has been associated with date palms, *Phoenix dactylifera,* in the Middle East. In Florida, *L. africanus* has been detected at the interdiction stations on date palm shipments originating from California since 1989, but it is unclear whether the nematode has become established in Florida on these transplanted palms. A survey of needle nematodes was conducted on date palms in 2013-2014, and several of these nematodes were found in Seminole County.

***Kordyana tradescantiae* (leaf spot)** was found on *Tradescantia ohiensis* (Ohio spiderwort; bluejacket) in the Natural Area Teaching Lab of the University of Florida in Gainesville. In the winter of 2009, this conspicuous new foliar disease of dayflowers appeared for the first time in Florida and in the United States. The pathogen has now reappeared.

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We welcome your suggestions for improvement of TRIOLOGY. Please feel free to contact me or Dr. Patti Anderson with your comments.
Dr. Wayne N. Dixon, editor
Assistant Director, DPI

Botany Section

Compiled by Patti J. Anderson, Ph.D.

This section identifies plants for the Division of Plant Industry, as well as for other governmental agencies and private individuals. The Botany Section maintains a reference herbarium with over 11,000 plants and nearly 1,400 vials of seeds.

Some of the samples received for identification are discussed below:

***Cinnamomum kotoense* Kanehira & Sasaki (canela; lan yu rou gui)**, from a genus of about 250 species native to East and Southeast Asia, Australia, Fiji, Samoa and tropical America. Lauraceae. This species is an evergreen tree, growing to about 15 m tall. Although the genus includes the species used for the aromatic spice called cinnamon, several species, including this one, have little or no fragrance in their bark, twigs and leaves. The leaves are opposite or subopposite with a red-brown or brown petiole, about 1.5 cm long; the leaf blade is ovate to oblong, usually 8-11 by 4-5.5 cm, coriaceous, glabrous and tri-nerved, with the three veins arising about 1 cm above the rounded leaf base. The flowers are small and inconspicuous. The fruit is an ovoid berry with the base enclosed in a cupular enlargement of the perianth. The tree has recently become available in garden centers and discount stores as an ornamental with attractive, glossy green leaves. (Miami-Dade County; B2014-169; Karen W. LeBoutillier; 14 March 2014 and Miami-Dade County; B2014-170; Juan A. Aleman-Martinez; 3 March 2014.) (Huxley 1992; LaFrankie 2010; Mabberley 2008; http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200008708 [accessed 2014 May 14].)

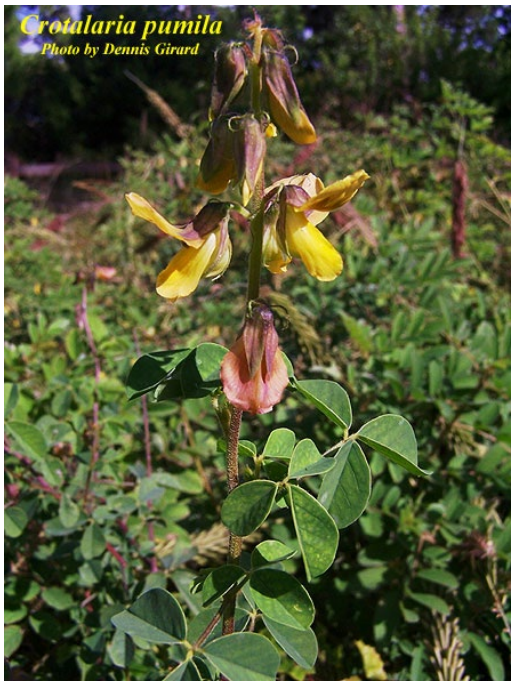
***Conradina grandiflora* Small (largeflower false rosemary)**, from a genus of six species found in the southeastern United States. Labiatae. This member of the mint family is a perennial subshrub endemic to the Atlantic coastal ridge of Florida and is found in scrubs and scrubby flatwoods on deep, fine sandy soils, formed by ancient dunes. It has been reported from Volusia County to Miami-Dade County, although it has likely been extirpated from some counties. This attractive plant can reach 1 - 1.5 m in height. The needle-like leaves are opposite, aromatic and usually 1 - 1.5 cm long. The upper leaf surface is a shiny, dark green with small black dots, while the lower leaf surface is covered by white to gray tomentum, except along the midrib. Flowers are bright blue to pale lavender, two-lipped, with the lower measuring 9-16 mm in length and marked by a scattering of dark spots. The four stamens curve to the upper lip. Fruits are dark blue to black nutlets. This endemic species is regulated by Florida as a threatened species. Bok Tower Gardens has helped to conserve *Conradina grandiflora* through research and seed collection and storage as part of the national collection of endangered and threatened plants, coordinated by the Center for Plant Conservation. Seed banks such as the one maintained by Bok Tower help preserve plant species with limited growing conditions that are especially vulnerable to habitat loss. (Brevard County; B2014-202; Megan R. Lynch; 28 March 2014 and St. Lucie County; B2014-212; Mario Perez; 3 April 2014.) (Wunderlin and Hansen 2011; http://boktowergardens.org/conservation/national-collection-2/ [accessed 2014 May 20]; http://www.sms.si.edu/irlspec/Conrad_grandif.htm [accessed 2014 May 14].)

Sample Submissions

	May June	Year to date
Samples submitted by other DPI sections	1,455	**2,526**
Samples submitted for botanical identification only	163	**291**
Total samples submitted	1,618	**2,817**
Specimens added to the herbarium	34	**73**

***Cinnamomum kotoense* (canela)**
Photograph courtesy of Top Tropicals
http://toptropicals.com/pics/garden/2004/2/2937.jpg

***Conradina grandiflora* (largeflower false rosemary)**
Photograph courtesy of Jim Teur, Atlas of Florida Vascular Plants
http://florida.plantatlas.usf.edu/Photo.aspx?id=9099



Crotalaria pumila **(low rattlebox)**
Photograph courtesy of Dennis Girard, Atlas of Florida Vascular Plants http://florida.plantatlas.usf.edu/Photo.aspx?id=12567

Forestiera segregata **(Florida swampprivet)**
Photograph courtesy of Dennis Girard, Atlas of Florida Vascular Plants http://florida.plantatlas.usf.edu/Photo.aspx?id=11564

Crotalaria pumila **Ortega (low rattlebox),** from a genus of about 700 tropical and subtropical species. Leguminosae. This *Crotalaria* is found in the southwestern United States, Florida, the West Indies, and from Mexico through parts of Central and South America. It has also been introduced in Hawaii. Within Florida, it is found in coastal counties from Volusia to Collier as well as a few inland counties in dunes, hammocks and coastal pinelands with well-drained, limestone or sandy soils. This plant can grow as a creeping herbaceous wildflower or a short sub-shrub, seldom exceeding 30 cm in height. The alternate leaves are trifoliate (compound, with three leaflets) and the undersurface of each leaflet has short, inconspicuous trichomes. Inflorescences are spikes of golden yellow typical “pea” flowers streaked with red. Fruits are inflated tan to brown pubescent legumes, 0.8-1.5 cm long. The seeds rattle when the fruit has dried, leading to the common name, “rattlebox.” This species is sometimes included in native plant gardens as a low-growing ground cover and in butterfly gardens as a larval host, but with some caution since most species in the genus contain alkaloids that are toxic to livestock. (Miami-Dade County; B2014-181; Carmen C. Laureano, USDA; 19 March 2014 and Miami-Dade County; B2014-244; Jake M. Farnum; 16 April 2014.) (Hall *et al.* 2011; http://www.regionalconservation.org/beta/nfyn/plantdetail.asp?tx=Crotpumi [accessed 2014 May 14] ; http://rufino-osorio.blogspot.com/2010/09/crotalaria-pumila-low-rattlebox.html [accessed 2014 May 14].)

Forestiera segregata **(Jacq.) Krug & Urban (Florida swampprivet),** from a genus of 15 American species. Oleaceae. This species, sometimes also called wild olive or ink-bush, is an evergreen or semideciduous shrub or small tree to 3 m tall. Its gray twigs have a scattering of lenticels, and its opposite, 1.5-5 cm long leaves are punctate (marked by tiny dots) below. The leaves are sessile or have short (1-6 mm) petioles and entire margins. Small, greenish-yellow, staminate and pistillate flowers are borne on separate trees, in the leaf axils, usually early in spring. The fruits are ovoid, 5-7 mm in diameter, blue-black drupes that can stain skin and other surfaces, perhaps leading to the common name, “ink-bush.” This Florida native member of the olive family is found in almost every coastal county southward from Duval County on the Atlantic side to Dixie County on the Gulf, including the Florida Keys. This privet grows mainly in coastal hammocks, scrubs and thickets. It was traditionally used to make arrows by the Miccosukee people. Warblers and vireos eat its fruit, making this species an excellent addition to wildlife-attracting landscapes as a hedge or specimen plant. (Miami-Dade County; B2014-227; Olga Garcia; 9 April 2014 and Indian River County; B2014-273; Jeanie P. Kennedy; 24 April 2014.) (Austin 2004; Godfrey 1988; Nelson 2011; http://www.floridaplants.com/landscape/birds.htm [accessed 2014 May 21]; www.fs.fed.us/global/iitf/pdf/shrubs/Forestiera%20segregata.pdf [accessed 2014 May 21].)

***Vaccinium arboreum* Marsh. (sparkleberry, farkleberry),** from a genus of about 140 species, of primarily temperate areas. Ericaceae. This deciduous shrub or small tree usually reaches 2-4 m in height, but can grow to 10 m, and has reddish brown bark that is often flaking or peeling. The leathery leaves are alternate, simple, entire or finely serrate, with tiny glands along the margin (easily seen with magnification), 2-5 cm long, obovate to oblong, shiny green above, dull and paler green below. The small (3-5 mm long), white, urn-shaped flowers are held in bracted racemes that can produce a very showy display in early spring. The fruits are globose, purple to black berries, 5-9 mm in diameter. This native blueberry relative is found from Florida to Texas and northward to Virginia and west to Indiana and Kansas. In Florida, it can be found throughout most of the state from Escambia County to Martin and Lee counties in hammocks, dry woodlands and scrub habitats. The fruits are not thought to be tasty to humans and are not preferred by wildlife, but the persistence of the berries into the winter makes them valuable to birds and small mammals when other foods are scarce. (Hamilton County; B2014-279; Theresa R. Estok; 28 April 2014 and Alachua County; B2014-291; Cheryl A. Jones; 30 April 2014.) Miller and Miller 2005; Nelson 2011; efloras.org/florataxon.aspx?flora_id=1&taxon_id=242417400 [accessed 2014 June 10].)

***Vaccinium arboreum* (sparkleberry) flowers**
Photograph courtesy of Will Cook, Duke University

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Sample/Specimen Submissions

March	
Samples Submitted	820
Specimens Identified	18,617
April	
Samples Submitted	854
Specimens Identified	8,933
Year to Date	
Samples Submtted	2,886
Specimens Identified	64,391

***Astylus bourgeoisi,* a melyrid beetle,** 8 mm in length
Photograph courtesy of Paul E. Skelley, DPI

***Niditinea orleansella,* a tineid moth**
Photograph courtesy of James E. Hayden, 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.

***Astylus bourgeoisi,* a melyrid beetle, a new continental USA record.** This is a South American genus, not previously known from North America. The species is common in Ecuador and recorded from Colombia. Adults feed mostly on pollen, and larvae are predatory or scavengers that should pose no pest threat. (Miami-Dade County; E2014-2647; Olga Garcia; 22 April 2014.) (Dr. Paul E. Skelley and Dr. Adriean J. Major, retired, Great Smokey Mountain National Park.)

***Colobicus parilis,* a colydiine beetle, a new Florida state record.** This species occurs in Hawaii and Louisiana. It is a possible pest that might transmit fungal diseases and should be considered harmful, but it remains very rarely collected. For more information and a photograph, please see http://coleopterasystematics.com/ironcladid/IroncladID-Colobicus.html (Miami-Dade County; E2014-1092; Jake M. Farnum; 21 February 2014.) (Dr. Paul E. Skelley.)

***Illinoia goldamaryae,* an aphid, a new Florida state record.** This aphid infests various plants in the family Asteraceae. It is native to North America, where the only previous records are from the northeastern United States and from eastern Canada. It is adventive in London, England. (Marion County; E2014-2360; Harry L. Morrison, Stacey S. Simmons, and Mary C. Sellers; 10 April 2014.) (Dr. Susan E. Halbert.)

***Niditinea orleansella,* a tineid moth, a new Florida state record.** Specimens of all stages were collected from a bucket of old chicken feathers. This species is native to the Nearctic, but not commonly collected. *Niditinea* larvae tend to be general detritivores similar to many members of Tineinae. The USNM has specimens of *N. orleansella* also reared from bird nests and owl pellets (Alachua County; E2014-2103; Paul E. Skelley; 24 March 2014.) (Dr. James E. Hayden and Dr. Donald R. Davis, United States National Museum of Natural History, Smithsonian Institution.)

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
Allium cepa	onion	*Anastrepha ludens*	Mexican fruit fly	Escambia	INTERDICTION INTERCEPTION
Ananas comosus	pineapple	*Steneotarsonemus comosus*	pineapple multiple crown mite	Escambia	INTERDICTION INTERCEPTION
Ananas comosus	pineapple	*Steneotarsonemus comosus*	pineapple multiple crown mite	Escambia	INTERDICTION INTERCEPTION
Ananas comosus	pineapple	*Steneotarsonemus comosus?*	a tarsonemid mite	Escambia	INTERDICTION INTERCEPTION
Apium graveolens	Chinese celery, leaf celery, cutting celery	*Cavariella aegopodii*	carrot aphid	Suwannee	INTERDICTION INTERCEPTION
Apium graveolens	Chinese celery, leaf celery, cutting celery	*Dysaphis apiifolia*	an aphid	Suwannee	INTERDICTION INTERCEPTION
Apium graveolens	celery	*Vatiga illudens*	cassava lace bug	Suwannee	RECORD OF NOTE
Archontophoenix cunning-hamiana	bangalow palm	*Tetranychus cocosi*	spider mite	Brevard	HOST
Asimina reticulata	netted pawpaw	*Hibana velox*	yellow ghost spider	Pasco	COUNTY
Befaria racemosa	tar-flower, fly-catcher	*Lachnochaitophorus obscurus*	an aphid	Polk	HOST
Betula nigra	river birch	*Hamamelistes spinosus*	a river birch/witch hazel aphid	Escambia	COUNTY
Buchnera americana	American bluehearts	*Corimelaena minuta*	a negro bug	Miami-Dade	HOST
Capsicum annuum	pepper	*Liriomyza* sp.	leafminer fly	Suwannee	INTERDICTION INTERCEPTION
Cichorium endivia	endive, escarole, frisee	*Liriomyza langei*	California pea leafminer	Suwannee	INTERDICTION INTERCEPTION
Citrullus lanatus	watermelon; sandia	*Ligyrus sallei*	a scarab beetle	Escambia	INTERDICTION INTERCEPTION
Citrus sinensis	sweet orange, navel orange	*Axiologina ferrumequinum*	a ulidiid fly	Collier	COUNTY
Citrus x *paradisi*	grapefruit	*Nacoleia* sp.	a crambid moth	Orange	COUNTY
Erigeron quercifolius	oakleaf fleabane	*Illinoia goldamaryae*	aphid	Marion	STATE
Erigeron quercifolius	oakleaf fleabane	*Illinoia goldamaryae*	aphid	Alachua	COUNTY
Erucastrum gallicum	common dogmustard, bracted rocket, hairy rocket	*Lipaphis pseudobrassicae*	turnip aphid	Miami-Dade	HOST
Hibiscus rosa-sinensis	hibiscus	*Cedusa chuluota*	a derbid planthopper	Santa Rosa	COUNTY
Hyptis pectinata	comb bushmint	*Aculus* sp.	eriophyid mite	Miami-Dade	HOST
Hyptis pectinata	comb bushmint	*Tetranychus ludeni*	spider mite	Miami-Dade	HOST
Ilex sp.	holly	*Barronopsis jeffersi*	a funnelweb weaver	Lake	COUNTY
Juniperus virginiana	eastern red cedar	*Paracoccus juniperi*	a mealybug	Brevard	COUNTY
Lactuca graminifolia	wild lettuce; grassleaf lettuce	*Uroleucon sonchellum*	an aphid	Lake	COUNTY
Lactuca sativa	butter red lettuce	*Acyrthosiphon lactucae*	lettuce aphid	Suwannee	INTERDICTION INTERCEPTION
Lactuca sativa	butter red lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Suwannee	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Pronotacantha annulata*	a stilt bug	Escambia	INTERDICTION INTERCEPTION
Lycium chinense	Chinese matrimony vine, goji berry, wolfberrry	*Lyssomanes viridis*	magnolia green jumper	Pasco	COUNTY
Mangifera indica	mango	*Diphleps unica*	a jumping tree bug	Lee	COUNTY
Mangifera indica	mango	*Euglossa dilemma*	a bee	Brevard	COUNTY
Manihot esculenta	cassava, manioc, yuca	*Vatiga illudens*	cassava lace bug	Broward	COUNTY
Melaleuca quinquenervia	melaleuca; cajeput; punktree; paper-bark	*Boreioglycaspis melaleucae*	melaleuca psyllid	Brevard	COUNTY
Murraya paniculata	orange-jessamine, orange-jasmine, Chinese box	NA	a leaf miner fly	Martin	RECORD OF NOTE
Myrcianthes fragrans	simpson's stopper, nakedwood, twinberry	NA	a gall midge	Brevard	RECORD OF NOTE
Persea americana	avocado; alligator pear; aguacate	*Abgrallaspis aguacatae*	an armored scale	Escambia	INTERDICTION INTERCEPTION
Persea americana	avocado; alligator pear; aguacate	*Abgrallaspis aguacatae*	an armored scale	Suwannee	INTERDICTION INTERCEPTION
Persea americana	avocado; alligator pear; aguacate	*Abgrallaspis aguacatae*	an armored scale	Suwannee	INTERDICTION INTERCEPTION
Persea americana	avocado; alligator pear; aguacate	*Abgrallaspis aguacatae*	an armored scale	Suwannee	INTERDICTION INTERCEPTION
Persea americana	avocado; alligator pear; aguacate	*Abgrallaspis aguacatae*	an armored scale	Suwannee	INTERDICTION INTERCEPTION
Petroselinum crispum	parsley	*Cavariella aegopodii*	carrot aphid	Escambia	INTERDICTION INTERCEPTION
Pinus elliottii	slash pine	*Xyleborinus andrewesi*	a scolytid beetle	St Lucie	COUNTY
Pinus sp.	pine	*Xyleborus glabratus*	redbay ambrosia beetle	Hamilton	COUNTY

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
Pisum sativum	snow pea; sugar pea; edible-pod pea	*Liriomyza langei*	California pea leafminer	Manatee	REGULATORY INCIDENT
Pouteria campechiana	canistel; eggfruit	*Zaprionus indianus*	striped vinegar fly	St Lucie	HOST
Protea cynaroides	king protea	*Delottococcus confusus*	a mealybug	Broward	REGULATORY INCIDENT
Protea cynaroides	king protea	*Ochetellus glaber*	an ant	Miami-Dade	REGULATORY INCIDENT
Punica granatum	pomegranate	*Helix aspersa*	brown garden snail	Hardee	REGULATORY INCIDENT
Quercus sp.	oak	*Ambrosiodmus tachygraphus*	a scolytid beetle	Nassau	COUNTY
Quercus sp.	oak	*Caccoleptus kacka*	a dermistid beetle	Collier	COUNTY
Quercus sp.	oak	*Xyleborus glabratus*	redbay ambrosia beetle	Suwannee	COUNTY
Quercus virginiana	live oak	*Astylus bourgeoisi*	a melyrid beetle	Miami-Dade	CONTINENTAL
Randia aculeata	white indigoberry	*Thyridopyralis gallaerandialis*	a pyralid moth	Brevard	COUNTY
Rhus copallinum	winged sumac, flameleaf sumac	*Calophya nigripennis*	sumac psyllid	Alachua	RECORD OF NOTE
Saccharum officinarum	sugarcane	*Patara albida*	a derbid planthopper	Broward	COUNTY AND HOST
Satakentia liukiuensis	satake palm	*Colobicus parilis*	a colydiine beetle	Miami-Dade	STATE
Schinus terebinthifolia	Brazilian pepper tree; Florida holly	*Stragania robusta*	a leafhopper	Miami-Dade	HOST
Spinacia oleracea	spinach	*Autographa californica*	alfalfa looper	Escambia	INTERDICTION INTERCEPTION
Spinacia oleracea	spinach	*Autographa californica*	alfalfa looper	Escambia	INTERDICTION INTERCEPTION
Tridax procumbens	coat buttons	*Aculus* sp.	eriophyid mite	Miami-Dade	HOST
Trifolium incarnatum	crimson clover	*Tetranychina apicalis*	spider mite	Jackson	COUNTY
Vaccinium myrsinites	shiny blueberry; low bush blueberry	*Homaemus proteus*	a scutellerid bug	Lake	COUNTY
Vicia sativa	common vetch, garden vetch	*Tetranychina apicalis*	spider mite	Escambia	COUNTY AND HOST
Warea amplexifolia	wideleaf pinelandcress, clasping warea	*Lipaphis pseudobrassicae*	turnip aphid	Polk	HOST
		Anasaitis canosa	twin flagged jumper	Pasco	COUNTY
		Atheas insignis	a lace bug	Broward	COUNTY
		Cachryphora imbricaria	an aphid	Escambia	COUNTY
		Cyclosa turbinata	a trashline orbweaver	Hillsborough	COUNTY
		Dasymutilla bioculata	velvet ant	Collier	COUNTY
		Diaphorina citri	Asian citrus psyllid		RECORD OF NOTE
		Dysaphis apiifolia	an aphid	Escambia	INTERDICTION INTERCEPTION
		Eoreuma loftini	Mexican rice borer	Sumter	COUNTY
		Eoreuma loftini	Mexican rice borer	Citrus	COUNTY
		Fessonia sp.	smarid mite	Hernando	COUNTY
		Lehmannia valentiana	three-banded garden slug	Seminole	REGULATORY INCIDENT
		Misumenops bellulus	a crab spider	Manatee	COUNTY
		Nesticodes rufipes	red house spider	Pasco	COUNTY
		Niditinea orleansella	tineid moth	Alachua	STATE
		Ochetellus glaber	an ant	Hillsborough	REGULATORY INCIDENT
		Pseudopityophthorus pubescens	a scolytid beetle	Duval	COUNTY
		Ptinus fur	a ptinid beetle	Collier	REGULATORY INCIDENT
		Theoborus ricini	a scolytid beetle	Collier	COUNTY

Nematology Section

Compiled by R. N. Inserra, J. D. Stanley, J. B. Brito, L. L. Violett and S. A. Subbotin (California Department of Food and Agriculture)

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

***Longidorus africanus,* Merny, 1966, a needle nematode,** was found associated with the roots of *Phoenix dactylifera* (date palm) used as an ornamental. (Seminole County; N14-000318; Larry L. Violett; 11 March 2014.).

The needle nematode, *Longidorus africanus* Merny, 1966, is an ectoparasitic species native to Africa where it occurs in the southern and northern part of that continent. This nematode has been reported also in the United States (California), India, Israel and Portugal. Its hosts include a large number of herbaceous plants and also grapevine (Cohn and Mordechai 1969; Kolodge *et al.* 1987). The nematode has been associated with date palms, *Phoenix dactylifera,* in the Middle East (Zeidan and Coomans 1992), but there is no experimental evidence that it feeds on the roots of this palm. Although *L., africanus* has been considered a damaging nematode of vegetable crops in California since 1969, it has not been reported in association with date palms under field conditions (Lamberti 1969). In Florida, *L. africanus* has been detected at the agricultural interdiction stations on date palm shipments originating from California since 1989, but it is unclear whether the nematode has become established in Florida on these transplanted palms. During a survey of needle nematodes conducted in 2013-2014 on imported and established date palms in Florida, the nematode was found in central Florida (Seminole County). The population levels of *L. africanus* were low (< 1 specimens/100 cm^3 of soil) and consisted mainly of juveniles and a few females. Three samples out of 160 were infested with this plant parasitic nematode. These findings suggest that some populations of the nematode are able to persist on date palms in Florida. However, the small percentage (< 1%) of the samples infested with *L. africanus* and the low population level found in the soil suggest that data from additional surveys are needed to confirm these preliminary field observations. The morphological identification of *L. africanus* was confirmed by molecular analysis.

Sample Submissions

	March/ April	Year to date
Morphological Identifications	2,214	3,720
Molecular Identifications	257	439
Total Samples Submitted	2,471	4,159

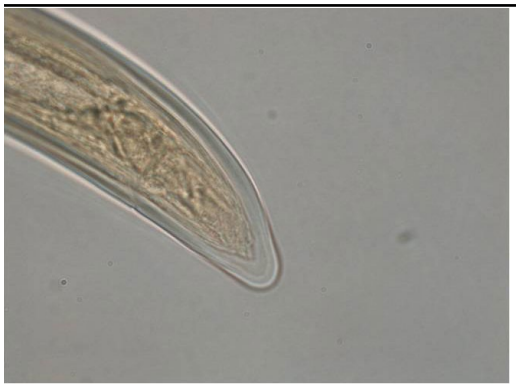
Certification and Regulatory Samples

	March/ April	Year to date
Multistate Certification for National and International Export	1,641	2,666
California Certification	211	379
Pre-movement (Citrus Nursery Certification)	20	56
Site or Pit Approval (Citrus Nursery and Other Certifications)	94	123

Other Samples

	March/ April	Year to date
Identifications (invertebrate)	18	24
Plant Problems	16	29
Intrastate Survey, Random	214	443
Molecular Identifica-tions*	257	439

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



***Longidorus africanus,* posterior portion of the female body.**
Note the elongate-conoid shape of the tail.
Photograph courtesy of J. D. Stanley, DPI

Collectors submitting five or more samples that were processed for nematological analysis during March-April 2014

Bailey, W. Wayne	9		LeBoutillier, Karen W.	194
Bentley, Michael A.	39		Ochoa, Ana L.	85
Blaney, Richard L.	6		Smith, Lane M.	5
Burgos, Frank A.	186		Smith, Larry W.	8
Clanton, Keith B.	97		Spriggs, Charles L.	154
Estok, Theresa R.	5		Terrell, Mark R	33
Garcia, Olga	7		Violett, Larry L.	176
Golden, Walter W.	9		Welch, Johanna	10
Keen, Emily I.	47			

***Phoenix dactylifera* (date palm) palms on a trailer bed for transportation**
Photograph courtesy of Timothy K. Broschat, University of Florida

References

Cohn, E. and M. Mordechai. 1969. Investigations on the life cycles and host preference of some species of *Xiphinema* and *Longidorus* under controlled conditions. Nematologica 15: 295-302.

Kolodge, C., J. D. Radewald and F. Shibuya. 1987. Revised host range and studies on the life cycle of *Longidorus africanus*. Journal of Nematology 19: 77-81.

Lamberti, F. 1969. Pathogenicity of *Longidorus africanus* on selected field crops. Plant Disease Reporter 53: 421-424.

Zeidan, A.B. and A. Coomans. 1992. Longidoridae (Nematoda: Dorylaimida) from Sudan. Nematologia Mediterranea 19: 177-189.

Plant Pathology Section

Compiled by Timothy S. Schubert, Ph.D., and David A. Davison, M.S.

This section provides plant disease diagnostic services. 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.

***Kordyana tradescantiae* (leaf spot)** was found on *Tradescantia ohiensis* (Ohio spiderwort; bluejacket) in the Natural Area Teaching Lab of the University of Florida in Gainesville. (Alachua County; P2014-79058; Timothy S. Schubert; 25 April 2014).

In the Commelinaceae, the hybrid garden dayflowers or spiderworts in the Andersoniana group derived from crosses between *Tradescantia ohiensis* (Ohio spiderwort; bluejacket), *T. virginiana* (Virginia spiderwort), and *T. subaspera* (zigzag spiderwort) represent an easily grown perennial with a range of blue, purple, pink and white flowers. The parents of these hybrids are well known wildflowers with a geographic range that spans Zones 5-10.

A few minor leaf spots caused by bacterial, fungal and viral pathogens have been reported on both cultivated and wild plants, but in the winter of 2009, a conspicuous new foliar disease of dayflowers appeared for the first time in Florida and in the United States. Symptoms were pale white to yellow elliptical patches on the foliage that eventually turned necrotic, resulting in early defoliation of the plant. The lower lesion surface could appear frosty when young and actively sporulating. The pathogen was identified as *Kordyana tradescantiae*, a member of the Exobasidiales, a family of fungi that may be more familiar to those who have encountered the rather startling fleshy Exobasidium leaf and flower galls on plants in the Ericaceae and Theaceae. The dayflower infections by *Kordyana* coincided with the promotion of a particular golden-leaved cultivar of dayflower called 'Sweet Kate,' known better among dayflower aficionados as 'Blue and Gold.' The pathogen also blighted natural stands of wild dayflowers in several north Florida locations. There was a near total absence of the disease in subsequent seasons after this rather spectacular arrival in the cool season of 2009-2010.

Sample Submissions

	March/ April	Year to date
Pathology	627	995
Bee	7	7
Black Spot	17	46
Canker	191	296
Greening	655	828
Interdictions	11	24
Laurel Wilt	16	28
Soil	4	9
Sudden Oak Death	8	10
Sweet Orange Scab-like Disease	0	6
Water	6	9
Misc.	6	10
Total	1,548	2,268

***Kordyana tradescantiae* (leaf spot)** with typical older leaf lesions on a wild dayflower plant
Photograph courtesy of Timothy S. Schubert, DPI

***Kordyana tradescantiae* (leaf spot)** a collection of infected leaves taken from wild plants collected in 2014
Photograph courtesy of Timothy S. Schubert, DPI

***Kordyana tradescantiae* (leaf spot)** lesions in 2009 on cultivated dayflower hybrid 'Sweet Kate'
Photograph courtesy of Timothy S. Schubert, DPI

In the summer of 2011, the USDA New Pest Advisory Group (NPAG) of the Plant Epidemiology and Risk Analysis Laboratory, USDA-APHIS-PPQ, decided after consultation with Florida regulatory plant pathologists that the incursion did not warrant any extraordinary regulatory response. Other than causing unsightly foliage on this minor ornamental crop, the environmental and economic impact was minimal, plus no disease appeared in subsequent seasons.

In the spring of 2014, *K. tradescantiae* reappeared on wild dayflowers in the University of Florida Natural Area Teaching Laboratory, a 60-acre tract on the southwest corner of the campus and on wild dayflowers along a power line right-of-way in northwestern Gainesville, Florida. Infection by this pathogen in other locations is likely, but no systematic survey for *K. tradescantiae* has been carried out. Although no sample of nursery stock with this disease has been submitted to the clinic this season, it is logical to conclude that the pathogen is now established in Florida and might proceed into the more northerly reaches of the natural range of dayflowers.

Plant Species	Common Name	Causal Agent	Disease Name	Location	Specimen #	County	Collector	Date	New Records	Comments
Alpinia sp.	ginger	*Exserohilum* sp.	leaf blight	Nursery	Miami-Dade	77966	Ana M. Arechabaleta, DPI	3/31/2014	Host	This plant was near palms that had severe foliar infections by the same pathogen, which may have unnaturally initiated the disease.
Daucus carota	carrot	*Alternaria dauci*	leaf spot	Dooryard	Hamilton	79265	Robert M. Leahy, USDA; Brad A. Danner, DPI/ CAPS	4/30/2014		The disease is fairly common, but this unusually large field planting of carrot is not common in Hamilton County.
Fraxinus sp.	ash	*Puccinia sparganioides*	leaf rust	Naval Air Station	Duval	78489	Robert M. Leahy, USDA; Brad A. Danner, DPI/ CAPS	4/9/2014		This heteroecious rust dramatically disfigures the foliage and flowers of the aecial host, which include species of *Fraxinus* and rarely *Forestiera*. The uredinial and telial stages occur on *Spartina*.
Rumex verticillatus	swamp dock	*Ramularia rubella*	leaf spot	Boat Ramp	Putnam	79287	Robert M. Leahy, USDA; Brad A. Danner, DPI/ CAPS	4/30/2014		An infrequently encountered leaf spot pathogen on the weedy host.
Tradescantia ohiensis	Ohio spiderwort	*Kordyana tradescantiae*	leaf spot	University of Florida	Alachua	79058	Timothy S. Schubert, DPI	4/25/2014		This leaf spot pathogen was new to the United States and Florida in 2009, but disappeared after two seasons, only to reappear in 2014.
Vitis rotundifolia	muscadine	*Moelleriella globosa*	insect hyperparasite	Winery	Walton	79044	owner	4/25/2014	State	This appears to be a new Florida and perhaps new United States records, pending USDA confirmation. The fungus parasitizes scales, much like *Aschersonia* on citrus scale pests.
Lygodium japonicum	Japanese climbing fern	*Puccinia lygodii*	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.
Ochna kirkii	Mickey Mouse plant	*Phyllosticta* sp.	leaf spot	Dooryard	77651	Broward	Patttanjalidal Bissoondial, USDA	2/26/2014	Host	*Phyllosticta* is a common leafspotting fungus, but this host is uncommon, and the disease is unreported in the literature.
Ocimum basilicum	sweet basil	*Peronospora belbahrii*	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.
Persea borbonia	red bay	*Raffaelea lauricola*	laurel wilt	Roadside	77411	Jefferson	Jeffrey M. Eickwort, FFS	1/27/2014	County	First record of laurel wilt in Jefferson County
Persea borbonia	red bay	*Raffaelea lauricola*	laurel wilt	Roadside	77538	Madison	Justin M. Kanis, Jeffrey M. Eickwort, FFS	2/24/2014	County	First record of laurel wilt in Madison County
Persea borbonia	red bay	*Raffaelea lauricola*	laurel wilt	Picayune Strand Forest	77362	Collier	Dexter R. Sowell, FFS	1/28/2014	County	First record of laurel wilt in Collier County
Persea palustris	swamp bay	*Raffaelea lauricola*	laurel wilt	commercial landscape	77359	Lee	Dexter R. Sowell, FFS	1/28/2014	County	First record of laurel wilt in Lee County