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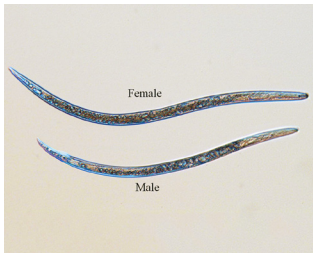
DPI's Bureau of Entomology, Nematology and Plant Pathology (the botany section is included in this bureau) produces TRI-OLOGY six times a year, covering two months of activity in each issue. The report includes detection activities from nursery plant inspections, routine and emergency program surveys,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

***Cabotia* sp. (a pyralid moth)**
Photograph courtesy of James E. Hayden, DPI

***Egius platycephalus* (a ladybird beetle)**
Photograph courtesy of Michael C. Thomas, DPI

***Limonium carolinianum* (Carolina sealavender, marsh rosemary)**
Photograph courtesy of Bob Upcavage, Atlas of Florida Vascular Plants



***Radopholus similis* (a burrowing nematode)**, dimorphic male and female specimens. Photograph courtesy of Jason D. Stanley, DPI

Highlights

***Cabotia sp.,* a pyralid moth, a new continental USA Record.** This is a new continental record for the genus. This small gray moth is widespread in the Caribbean and Neotropics and has no economic importance.

***Calorema sp.,* a smaridid mite, a new continental USA Record.** The genus *Calorema* (Acari: Smarididae) is currently known from a single species collected on banana leaf debris in Panama and Mexico as well as in material intercepted from Mexican orchids. *Calorema* adults and deutonymphs are predators of dwelling organisms and the larvae are parasites of insects.

***Egius platycephalus,* a ladybird beetle, a new continental USA Record.** A single adult was collected from a palm in a business landscape. This species is known from the Caribbean, especially Cuba and Puerto Rico. Because of its use in biological control against scale insects, it has been introduced into many countries around the world.

***Pilorhagidia sp.,* a strandtmanid mite, a new continental USA Record.** Specimens of *Pilorhagidia* sp. (Acari: Strandtmannidae) were found for the first time in the continental United States in leaf letter from a rural location near Brooksville. Two species of *Pilorhagidia* are currently described, one from Hawaii and the other from Europe.

***Limonium carolinianum* (Carolina sealavender, statice, marsh rosemary)** is found along the Atlantic and Gulf coasts of North America, primarily in salt marshes, from Labrador to northern Mexico. There is continuous variation in this single species, which had been divided into as many as six species by earlier taxonomists.

***Radopholus similis* (a burrowing nematode),** is an endoparasitic migratory species that parasitizes a large number of plants, including palms. Coconut palms (*Cocos nucifera*) are commonly damaged by the nematode in many tropical areas. This nematode was found infecting the roots of the palm, *Phoenix reclinata*, in Pinellas County.

***Ravenelia* rust**, possibly a new species, found in South Florida. During this past winter and spring, a rust disease on the popular and showy *Senna surattensis* has been very aggressive in South Florida, causing defoliation, twig dieback, and general unsightliness of this formerly relatively carefree blooming landscape tree.

Section Reports

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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:

***Lycium carolinianum* (Walter) Britton (Christmas berry, Carolina desertthorn),** from a genus of about 80 species of often thorny shrubs from warm temperate regions, primarily the Americas. Solanaceae. This species is a spiny, salt-tolerant, evergreen shrub to 2 m tall, found in coastal areas, including shell mounds and the edges of salt marshes and brackish swamps, from South Carolina to Florida and west to Texas and Mexico. The clustered, fleshy, simple leaves grow up to 2 cm in length, have entire margins and are linear to narrowly oblanceolate. The flowers, growing singly, have a calyx with four lobes and a blue to lavender (sometimes pale enough to appear white) corolla with four fused petals. The fruit is an ellipsoid berry that turns bright red when ripe, usually in December. Although some species in this family contain toxins, there are reports that the Christmas berry fruit is edible, and yet others that the fruit causes vomiting. Without doubt, this species is an excellent food for wildlife including nectar-feeding insects and fruit-eating birds as well as deer, raccoons and other wildlife and makes an excellent addition to a coastal landscape. (Volusia County; submitted by the general public; 22 April 2013; Miami-Dade County; B2013-222; Olga Garcia; 24 April 2013.) (Godfrey 1988; Hammer 2004; Huxley 1992; Nelson 2011; http://www.wildflower.org accessed 2013 June 24.)

***Limonium carolinianum* (Walter) Britton (Carolina sealavender, statice, marsh rosemary),** from a genus of about 350 cosmopolitan species, often found in coastal or arid areas of the Northern Hemisphere. Plumbaginaceae. This species is found along the Atlantic and Gulf coasts of North America, primarily in salt marshes, from Labrador to northern Mexico. Marsh rosemary is a rhizomatous, perennial, herbaceous plant, up to 95 cm in height, but often much shorter. The leathery leaves form a basal rosette with variably-shaped leaf blades that may be elliptic, spatulate, or obovate to oblanceolate. In Florida and a few other Gulf states, populations with linear leaves are found in the wettest areas of marshes where the plant grows. The leaf margins can be undulate, but are usually entire. The petiole may be narrowly winged. There is continuous variation in this single species, which has been divided into as many as six species by earlier taxonomists. Inflorescences are spikelets that may be densely or sparsely aggregated along branches, with bracts 2-6 mm long subtending flowers that may be solitary or in twos or threes per spikelet. Each flower has a white to pale gray calyx, usually about 5 mm long, and a five-lobed corolla, usually lavender or pale to dark blue, and slightly exceeding the calyx in length. A single seed is produced in each fruit, but the seeds rarely germinate. The plant spreads more readily by rhizomes. It also produces phenolic compounds have been shown to deter grazing by Canada geese. Other members of this genus are sometimes cultivated as ornamentals, especially for dried floral arrangements, with the common name “statice,” the name Linnaeus gave to the genus. (Bradenton County; 2013-122; Jason B. Sharp; 12 March 2013.) (Luteyn 1976; Mabberley 2008; http://efloras.org/ accessed 2013 June 26; www.regionalconservation.org accessed 2013 June 26;

Sample Submissions

	March April	Year to date
Samples submitted by other DPI sections	1,417	**2,592**
Samples submitted for botanical identification only	143	**248**
Total Samples Submitted	1,560	**2,840**
Specimens added to the herbarium	34	**66**

***Lycium carolinianum* (Christmas berry)**
Photograph courtesy of Roger Hammer
Atlas of Florida Vascular Plants

Limonium carolinianum
Photograph courtesy of Bob Upcavage
Atlas of Florida Vascular Plants

***Samolus ebracteatus* (limewater brookweed) basal rosette** Photograph courtesy of Denis Girard
Atlas of Florida Vascular Plants

***Samolus ebracteatus* (limewater brookweed) flower**
Photograph courtesy of Keith Bradley
Atlas of Florida Vascular Plants

***Samolus ebracteatus* Kunth (water pimpernel; limewater brookweed)**, from a genus of about 12 cosmopolitan species, found primarily in salt marshes. Primulaceae. This species is found in moist to wet sites, dunes, coastal strands and salt marshes in Florida, Louisiana, Texas, Oklahoma, Kansas and Nevada, as well as Mexico, the West Indies and Central America. In Florida, it has been reported in all the coastal counties around the peninsula from Gulf to Volusia with the exception of St. Lucie County. This herbaceous perennial, with green stems sometimes splotched red to purple, can grow to 55 cm tall from a basal rosette of simple, entire, alternate leaves that may be sessile or have winged petioles. The bright green to grayish green leaf blades are spatulate to obovate, 2.5-16 cm long, with a rounded to obtuse apex. The inflorescences are erect, terminal racemes, often longer than the plant stem. The pedicels are ebracteate (without bracts, and thus the source of the species name) and may be glabrous or stipitate-glandular. Each flower has a calyx, 2-3 mm long, with five more or less triangular lobes and a pink or whitish corolla, 6-9 mm across, with a tuft of glandular pubescence at the base of the lobes. The five stamens are fused with the corolla tube and barely peek out above it. Archeological evidence suggests that this species might have been used as a food or medicine by early Florida peoples. (Austin 2004; Correll and Correll 1982; Godfrey and Wooten 1981; http://efloras.org/ accessed 2013 June 26; http://www.sbs.utexas.edu/bio406d/images/pics/pri/samolus_ebracteatus_cuneatus.htm accessed 2013 June 26.) (Miami-Dade County; 2013-159; Olga Garcia; 2 April 2013 and Pinellas County; 2013-216; Linda G. McRay; 23 April 2013.)

References

Austin, D. F. 2004. Florida ethnobotany. CRC Press, Boca Raton, Florida. 909 p.

Correll, D.S. and H.B. Correll. 1982. Flora of the Bahama Archipelago. J. Cramer. Hirschberg, Germany. 1,692 p.

Godfrey, R. K. 1988. Trees, shrubs, and woody vines of northern Florida and adjacent Georgia and Alabama. The University of Georgia Press, Athens, Georgia. 734 p.

Godfrey, R.K. and J.W.Wooten. 1981. Aquatic and wetland plants of southeastern United States: dicotyledons. University of Georgia Press, Athens, Georgia. 933 p.

Hammer, R. 2004. Florida Keys wildflowers: a field guide to wildflowers, trees, shrubs, and woody vines of the Florida Keys. Falcon Press, Guilford, Connecticut. 231 p.

Huxley, A.J. (ed.). 1992. The new Royal Horticultural Society dictionary of gardening. 4 volumes. Macmillan Press, London, England. 3,240 p.

Luteyn, J. L. 1976. Revision of *Limonium (*Plumbaginaceae*)* in eastern North America. Brittonia 28: 303-317.

Mabberley, D.J. 2008. Mabberley's plant-book: a portable dictionary of plants, their classification and uses, 3rd edition. Cambridge University Press, New York, New York. 1,021 p.

Nelson, G. 2011. Trees of Florida: a reference and field guide, 2nd edition. Pineapple Press, Sarasota, Florida. 428 p.

Sample/Specimen Submissions

March	
Samples Submitted	**706**
Specimens Identified	**14,931**
April	
Samples Submitted	**889**
Specimens Identified	**9,781**
Year to Date	
Samples Submtted	**2,851**
Specimens Identified	**38,922**

***Cabotia* sp. (a pyralid moth)**
Photograph courtesy of James E. Hayden, DPI

***Egius platycephalus* (a ladybird beetle)**
Photograph courtesy of Michael C. Thomas, 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.

***Cabotia* sp., a pyralid moth, a new continental USA Record.** This is a new continental record for the genus. This small gray moth is widespread in the Caribbean and Neotropics and has no economic importance. There are a few unpublished specimens collected from 1980 to 1990 in Homestead, Florida (T.D. Dickel Collection). (Miami-Dade County; E2013-1734; 19 March 2013; Olga Garcia.) (Dr. James E. Hayden.)

***Calorema* sp., a smaridid mite, a new continental USA Record.** The genus *Calorema* (Acari: Smarididae) is currently known from a single species, collected on banana leaf debris in Panama and Mexico as well as in material intercepted from Mexican orchids. This mite was found for the first time in the United States in leaf letter from a rural location near Brooksville. The Florida specimens represent an undescribed species. *Calorema* adults and deutonymphs are predators of soil-dwelling organisms and the larvae are parasites of insects. (Sumter County; E2013-1118; W. C. 'Cal' Welbourn; 9 February 2013.) (Dr. W.C. 'Cal' Welbourn.)

***Egius platycephalus*, a ladybird beetle, a new continental USA Record.** A single adult was collected from a palm in a business landscape. Several coccinellid pupal exuviae were also on the palm leaf, but were not collected. This species is known from the Caribbean, especially Cuba and Puerto Rico. Because of its use in biological control against scale insects, it has been introduced into many countries around the world. This species was studied in quarantine in Florida by Fred Bennett in the 1980s as a possible biological control for black Parlatoria scale (*Parlatoria ziziphi*), a potentially serious pest of citrus, but it was not released because it failed to breed. (Broward County; E2013-1895; Ian C. Stocks; 20 March 2013.) (Dr. Ian C. Stocks and Dr. Michael C. Thomas.)

***Pilorhagidia* sp., a strandtmanid mite, a new continental USA Record.** Specimens of *Pilorhagidia* sp. (Acari: Strandtmannidae) were found for the first time in the continental United States in leaf letter from a rural location near Brooksville. Two species of *Pilorhagidia* are currently described, one from Hawaii and the other from Europe. The specimens from Florida represent a new species. These mites are predators of soil-dwelling organisms. (Sumter County; E2013-1118; W. C. 'Cal' Welbourn; 9 February 2013.) (Dr. W.C. 'Cal' Welbourn.)

***Lupaeus* sp., a cunaxid mite, a new Florida State Record.** Mites in the family Cunaxidae are predators in the soil and on plants. A leaf litter sample from a rural location near Brooksville revealed a new species of *Lupaeus*. Only two other species have been reported from the United States, one from Georgia and one from New York. (Sumter County; E2013-1118; W. C. 'Cal' Welbourn; 9 February 2013.) (Dr. W.C. 'Cal' Welbourn.)

Merobruchus insolitus **(a bruchid beetle)**
Photograph courtesy of Paul E. Skelley, DPI

Pseudopityophthorus pubescens **(a scolytid beetle)**
Photograph courtesy of Katherine E. Okins, DPI

Sphenophorus marinus **(a weevil)**
Photograph courtesy of Michael C. Thomas, DPI

Trypodendron scabricollis, **a scolytid beetle**
Photograph courtesy of Katherine E. Okins, DPI/CAPS

Merobruchus insolitus, **a bruchid beetle, a new Florida State Record.** This species is known from Arizona and Texas in the United States, and south to Costa Rica. The recorded United States hosts are *Pithecellobium* and *Lysiloma*. This species has no known pest status. (Miami-Dade County; E2013-1427; Sergio Delgado; 6 March 2013.) (Dr. John M. Kingsolver, Research Associate, Florida State Collection of Arthropods, and Dr. Paul E. Skelley.)

Pseudopityophthorus pubescens, **a scolytid beetle, a new Florida State Record).** *Pseudopityophthorus pubescens* Blackman is a minute scolytine beetle. It attacks broken, cut or unhealthy branches, limbs and boles in a few *Quercus* species and *Castanea dentata*. It occurs from Texas and Oklahoma north to Delaware and south through Georgia. Florida is a likely extension of its natural range. (Nassau County; E2013-1840;; Jacquelin Linton, Customs and Border Patrol; 4 January 2013.) (Katherine E. Okins.)

Sphenophorus marinus, **a weevil, a new Florida State Record.** This species is widely distributed from the Great Lakes south to Louisiana in the United States, but has not been previously reported from Florida. It also occurs in Guatemala and Honduras. The weevil has often been taken feeding on fungi on the bark of beech trees. (Volusia County; E2013-1372; Stacey S. Simmons; 3 January 2013.) (Dr. Charles W. O'Brien, Research Associate, University of Arizona.)

Trypodendron scabricollis, **a scolytid beetle, a new Florida State Record.** *Trypodendron scabricollis* (LeConte) is a scolytine ambrosia beetle. It attacks the bole of cut, unhealthy or dying pines (*Pinus* spp.) that are at least 10 cm in diameter. Females create branching galleries in the sapwood of the tree, laying eggs in individual cradles. Larvae enlarge these cradles, which then serve as pupation chambers. *T. scabricollis* is native to the United States and occurs from Maine to Minnesota, south to Louisiana. Although it belongs to a genus which includes two highly destructive pests (*T. lineatum* (Olivier) and *T. domesticum* (Linnaeus)), *T. scabricollis* is not considered to be a serious forest pest, although it might affect the value of infested wood. (Escambia County; E2013-1838; Robert M. Leahy, USDA/CAPS; Bradley A. Danner, DPI/CAPS; and J. Mikaela Anderson; 14 January 2013.) (Katherine E. Okins, DPI/CAPS.)

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
Ageratum conyzoides	tropical whiteweed, billygoat weed, bluetop	*Brachycaudus helichrysi*	plum leafcurl aphid	Miami-Dade	HOST
Alpinia zerumbet	shell ginger; pink porcelain lily; shellplant	*Aleurodicus dugesii*	giant whitefly	Alachua	HOST
Anethum graveolens	dill	*Cavariella aegopodii*	carrot aphid	Escambia	INTERDICTION INTERCEPTION
Apium graveolens	celery	*Autographa californica*	alfalfa looper	Marion	REGULATORY INCIDENT
Chenopodium ambrosioides	Mexican tea; wormseed; apazote	*Bactericera cockerelli*	potato psyllid	Escambia	INTERDICTION INTERCEPTION
Citrus sinensis	sweet orange, navel orange	*Megachile bahamensis*	leaf-cutter bee	Martin	COUNTY
Citrus sp.	citrus	*Chaetanaphothrips orchidii*	orchid thrips	Marion	HOST
Citrus x *paradisi*	grapefruit	*Choropleca terpsichorella*	dancing moth	Highlands	COUNTY
Citrus x *paradisi*	grapefruit	*Deraeocoris sayi*	a mirid bug	Pinellas	COUNTY
Citrus x *paradisi*	grapefruit	*Heteromeringia czernyi*	a clusiid fly	Polk	COUNTY
Citrus x *paradisi*	grapefruit	*Scoloposcelis flavicornis*	a pirate bug	Lee	COUNTY
Coccoloba uvifera	seagrape	*Simplicia cornicalis*	palm thatch moth	Palm Beach	COUNTY
Cynara cardunculus	cardoon, artichoke, globe artichoke	*Lygus* sp.	a lygus bug	Escambia	INTERDICTION INTERCEPTION
Delonix regia	royal poinciana	*Merobruchus insolitus*	a bruchid beetle	Miami-Dade	STATE
Dioscorea bulbifera	air potato; potato yam; air yam	*Echinothrips americanus*	a thrips	St. Lucie	HOST
Diospyros digyna	black sapote; chocolate pudding tree	*Crocidosema longipalpana*	litchi budworm	Lee	COUNTY
Eriobotrya japonica	loquat, Japanese plum	*Odinia meijerei*	an odiniid fly	Hillsborough	COUNTY
Eugenia axillaris	white stopper	*Katacephala tenuipennis*	a psyllid	Lee	COUNTY
Fragaria x *ananassa*	garden strawberry	*Chaetosiphon fragaefolii*	strawberry aphid	Escambia	INTERDICTION INTERCEPTION
Fragaria x *ananassa*	garden strawberry	*Sitobion fragariae*	blackberry-cereal aphid	Escambia	INTERDICTION INTERCEPTION
Gamochaeta antillana	Caribbean purple everlasting; delicate everlasting	*Aphis middletonii*	erigeron root aphid	Hillsborough	HOST
Gynura bicolor	Okinawan spinach; red vegetable; suizenji-na	*Brachycaudus helichrysi*	plum leafcurl aphid	Duval	HOST
Hemerocallis sp.		*Ophiomyia kwansonis*	daylily leafminer	Hernando	COUNTY
Hydrangea sp.		*Lehmannia valentiana*	three-banded garden slug	Orange	REGULATORY INCIDENT
Inga sp.		*Euceropsylla xerxa*	an Inga psyllid	Palm Beach	COUNTY
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Acyrthosiphon lactucae*	lettuce aphid	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Acyrthosiphon lactucae*	lettuce aphid	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Autographa californica*	alfalfa looper	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Autographa californica*	alfalfa looper	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Autographa californica*	alfalfa looper	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Autographa californica*	alfalfa looper	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Autographa californica*	alfalfa looper	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Craspedolepta* sp.	a psyllid	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Deltocephalus fuscinervosus*	a leafhopper	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Heraeus* sp.	a seed bug	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	Liriomyza langei	California pea leafminer	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	Pronotacantha annulata	a stilt bug	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Sitobion fragariae*	blackberry-cereal aphid	Escambia	INTERDICTION INTERCEPTION
Lactuca sativa	lettuce, romaine lettuce, leaf lettuce	*Sitobion fragariae*	blackberry-cereal aphid	Escambia	INTERDICTION INTERCEPTION
Laurus nobilis	laurel; bay leaf	*Euwallacea interjectus*	a scolytid beetle	Escambia	COUNTY
Ludwigia sp.		*Myzus lythri*	an aphid	Palm Beach	HOST
Ludwigia sp.		*Neortholomus scolopax*	a seed bug	Broward	COUNTY
Magnolia grandiflora	southern magnolia	*Lipoptena mazamae*	a louse fly	Escambia	COUNTY
Mangifera indica	mango	*Xystrologa grenadella*	tineid moth	Hendry	COUNTY
Melilotus albus	white sweetclover	*Megacopta cribraria*	bean plataspid	Alachua	HOST
Merremia dissecta	noyau vine; alamo vine	*Echinothrips americanus*	a thrips	Miami-Dade	HOST
Mimosa strigillosa	powderpuff	*Crypticerya genistae*	a scale insect	Collier	COUNTY & HOST

Plant Name	Plant Common Name	Arthropod	Arthropod Common Name	County	Records
Nashia inaguensis	moujean tea	*Toxoptera aurantii*	black citrus aphid	Miami-Dade	HOST
Phleum pratense	timothy	*Thes bergrothi*	beetle	Nassau	INTERDICTION INTERCEPTION
Phoenix dactylifera	date palm	*Dagbertus semipictus*	a mirid plant bug	Hillsborough	COUNTY
Phoenix dactylifera	date palm	*Latrodectus hesperus*	western black widow	Escambia	INTERDICTION INTERCEPTION
Phoenix dactylifera	date palm	*Solenopsis xyloni*	southern fire ant	Duval	REGULATORY INCIDENT
Phoenix dactylifera	date palm	*Solenopsis xyloni*	southern fire ant	Duval	REGULATORY INCIDENT
Phoenix dactylifera	date palm	*Solenopsis xyloni*	southern fire ant	Duval	REGULATORY INCIDENT
Physalis walteri	Walter's groundcherry; stellate haired physalis	*Micrutalis malleifera*	a treehopper	Volusia	COUNTY & HOST
Pinus sp.	pine	*Trypodendron scabricollis*	a scolytid beetle	Bay	COUNTY
Pinus sp.	pine	*Trypodendron scabricollis*	a scolytid beetle	Escambia	STATE
Pinus sp.		*Xyleborus viduus*	a scolytid beetle	Hamilton	COUNTY
Platanus occidentalis	sycamore	*Sphenophorus marinus*	a weevil	Volusia	STATE
Podocarpus macrophyllus	Japanese yew	*Neophyllaphis* sp. *nr. fransseni*	a podocarpus aphid	Hillsborough	COUNTY
Quercus sp.	oak	*Pseudopityophthorus pubescens*	a scolytid beetle	Suwannee	COUNTY
Quercus virginiana	live oak	*Odinia conspicua*	an odiniid fly	Martin	COUNTY
Rubus sp.		*Pseudococcus* sp.	a mealybug	Duval	REGULATORY INCIDENT
Sapium sebiferum	Chinese tallow tree; popcorn tree	*Plocamus echidna*	a weevil	Escambia	COUNTY
Solanum tuberosum	potato: Irish potato; papa; patata	*Toxotrypana curvicauda*	papaya fruit fly	Escambia	INTERDICTION INTERCEPTION
Trifolium repens	white Dutch clover, white clover	*Deraeocoris sayi*	a mirid bug	Hillsborough	COUNTY
Zamia pumila	coontie; Florida arrowroot; indian bread root; conti-hateka	*Saissetia* sp.	a black scale	Brevard	HOST
		Acrolophus walsinghami	grass tubeworm moth	Hillsborough	COUNTY
		Allocosa floridiana	a wolf spider	Lee	COUNTY
		Ambrosiodmus tachygraphus	a scolytid beetle	Bay	COUNTY
		Amphiareus obscuriceps	a minute pirate bug	Collier	COUNTY
		Apantesis phalerata		Pasco	COUNTY
		Cabotia sp.	a pyralid moth	Miami-Dade	US CONTINENTAL
		Calorema sp.	a smaridid mite	Sumter	US CONTINENTAL
		Egius platycephalus	a lady beetle	Broward	US CONTINENTAL
		Elaphria nucicolora	sugarcane midget moth	Palm Beach	COUNTY
		Elaphria nucicolora	sugarcane midget moth	Martin	COUNTY
		Eubule spartocerana	a coreid bug	Palm Beach	COUNTY
		Eubule spartocerana	a coreid bug	Broward	COUNTY
		Leptostylus asperatus	a cerambycid beetle	Escambia	COUNTY
		Lupaeus sp.	a cunaxid mite	Sumter	STATE
		Pilorhagidia sp.	a strandtmanid mite	Sumter	US CONTINENTAL
		Pseudopityophthorus pubescens	a scolytid beetle	Nassau	STATE
		Salbia mizaralis	a crambid moth	Martin	COUNTY
		Zosis geniculata	a cellar spider	Pinellas	COUNTY

Nematology Section

Compiled by Janete A. Brito, Ph.D.

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

Nematodes of Special Interest

***Radopholus similis* Thorne, 1949, the burrowing nematode,** was found infecting the roots of the palm, *Phoenix reclinata*. (Pinellas County; N13-000345; Mark A. Spearman; 20 March 2013.)

The burrowing nematode, *Radopholus similis,* is an endoparasitic migratory species that parasitizes a large number of plants, including palms. Coconut palms (*Cocos nucifera*) are commonly damaged by the nematode in many tropical areas. Other palm hosts include African oil palm (*Elaeis guineensis*), betel-nut palm (*Areca catecu*) and other *Areca* (*A. calapparia*, *A. langlosiana, A. macrocalyx, A. normanbyii and A. triandria*), lady palm (*Raphis excelsa*), parlor palms (*Chamaedorea cataractarum* and *C. elegans*), queen palm (*Syagrus romanzoffianum*), seaforthia palm (*Arachontophoenix cunninghamiana*), royal palm (*Roystonea regia*), and two species of the genus *Phoenix*, Canary Island date palm (*P. canariensis*) and date palm (*P. dactylifera*) (Griffith *et al.* 2005). An infestation of this parasite was observed recently on the ornamental Senegal date palm (*Phoenix reclinata*) which, as far as we know, has not been reported among the hosts of the burrowing nematode. The nematode infested feeder roots of this ornamental palm showed dark lesions and deterioration of the epidermis and cortical tissues. The nematode infestation was associated with a fungal infection by *Rhizoctonia solani*, which resulted in root decay and egression of the nematodes from the deteriorated root tissues. The population levels of the nematode in these decaying roots were low (< 1 nematode/ gram of fresh roots). In contrast, the soil nematode population levels ranged from 1-2 nematodes/cm^3 of soil. The association of the burrowing nematode and *R. solani* in the roots of *Phoenix reclinata* debilitates and stunts the affected plants. In addition, the presence of the burrowing nematode prevents the export of infested palms to markets that regulate the burrowing nematode. The implementation of rigorous sanitation practices is the best approach for the production of healthy palms to be marketed nationally and internationally.

Sample Submissions

	March April	Year to date
Morphological Identifications	2,401	**4,344**
Molecular Identifications	228	**608**
Total Samples Submitted	2,629	**4,952**

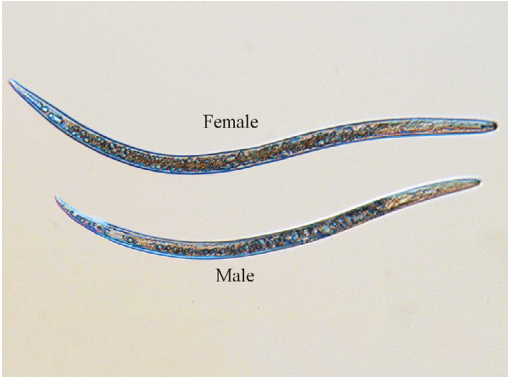
Certification and Regulatory Samples

	March April	Year to date
Multistate Certification for National and International Export	1,915	**3,097**
California Certification	455	**765**
Pre-movement (Citrus Nursery Certification)	50	**70**
Site or Pit Approval (Citrus Nursery and Other Certifications)	21	**42**

Other Samples

	March April	Year to date
Identifications (invertebrate)	0	**0**
Plant Problems	15	**44**
Intrastate Survey, Random	173	**326**
Molecular Identifica-tions*	228	**608**

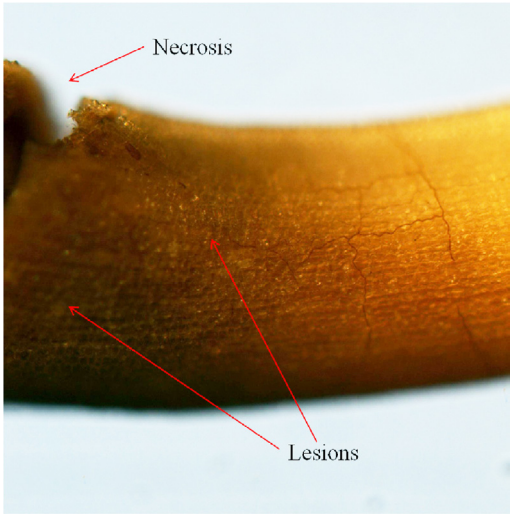
* The majority of these analyses involved root-knot nematode species.



***Radopholus similis* (a burrowing nematode), dimorphic male and female specimens.**
Photograph courtesy of Jason D. Stanley, DPI

Collectors submitting five or more samples that were processed for nematological analysis.

Bailey, W. Wayne	5		Lynch, Megan R.	20
Bentley, Michael A.	11		Merced, Daniel	5
Bloom, Richard T.	34		Ochoa, Ana L.	99
Burgos, Frank A.	287		Qiao, Ping	166
Clanton, Keith B.	20		Spearman, Mark A.	9
Keen, Emily I.	95		Spriggs, Charles L.	183
Kennedy, Jeanie P.	8		Terrell, Mark R.	14
Krueger, Scott D.	10		Tordi, Riccardo G.	5
LeBoutillier, Karen W.	270		Vasquez, Dagne A.	11



***Phoenix reclinata* roots showing dark lesions induced by tunneling and feeding of the burrowing nematode, *Radopholous similis*.**
Photograph courtesy of Jason D. Stanley, DPI

References

Griffith, R., Robin M. Giblin-Davis, P.K. Kosby and V.K. Sosamma. 2005. Nematode parasites of coconut and other palms. Pp. 493-527 in M. Luc, R.A. Sikora and J. Bridge, eds. Plant Parasitic Nematodes in Subtropical and Tropical Agriculture. CAB International, Wallingford, Oxfordshire United Kingdom.

A stand of ***Phoenix reclinata*.**
Photograph courtesy of Patti J. Anderson, DPI

Plant Pathology Section

Compiled by Timothy S. Schubert, Ph.D.

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.

During this past winter and spring, a rust disease on the popular and showy *Senna surattensis* (Burm.f.) H.S.Irwin & Barneby has been very aggressive in South Florida, causing defoliation, twig dieback and general unsightliness of this formerly relatively carefree ornamental landscape tree. Historically, the rust diseases on flowering *Senna* spp. (sometimes classified in the genus *Cassia*) have been attributed to *Ravenelia cassiaecola*. The unprecedented severity of the rust disease on this particular host in southwestern Florida is prompting speculation that a new rust pathogen may be at work. Mycologists with USDA-APHIS-PPQ who have expertise in the genus *Ravenelia* on tropical legumes have been consulted to see if some new rust has taken up residence in South Florida, especially Lee and Collier counties. For more information on Senna rust, visit the extension web site below. http://lee.ifas.ufl.edu/Hort/GardenPubsAZ/Senna_Cassia_Rust.pdf

Sample Submissions

	March April	Year to date
Pathology	485	**1,051**
Bee	6	**6**
Black Spot	2	**33**
Box Blight	3	**3**
Citrus Canker	355	**517**
Greening	664	**980**
Interdiction	6	**16**
Laurel Wilt	22	**39**
Soil	3	**18**
Sudden Oak Death	3	**13**
Sweet Orange Scab-like Disease	6	**8**
Water	0	**0**
Miscellaneous	2	**3**
Total Samples	1,557	**2,687**

***Senna surattensis* (glossy shower)**
Photograph courtesy of Rob Curtis
Atlas of Florida Vascular Plants

Tri-ology Column

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. As part of that mission, DPI works to develop tools to help identify pests, diseases, and the plants themselves. More and more, extension agents, inspectors and other plant professionals and anyone else interested in identifying biological organisms in the field are ditching books and printed specimen cards in favor of their mobile devices.

The Entomology Section of the Bureau of Entomology, Nematology and Plant Pathology (ENPP) identifies terrestrial arthropods (*e.g.*, insects, arachnids and myriapods) and plant-feeding snails for the Division of Plant Industry. It also performs those services for other government agencies, universities and other organizations. Members of the public may also submit specimens for identification. The section also examines the contents of more than 264,000 fruit fly traps each year, supporting DPI's continuing efforts to intercept pests before they can become established in the state.

The section supervises the integrity of the Florida Biological Control Laboratory (FDACS-DPI) in Gainesville and the Norman C. Hayslip Biological Control and Research Containment Laboratory (UF-IFAS) in Ft. Pierce, where regulations and standard operating procedures are followed to prevent the escape of any organism. Inside these containment facilities, scientists evaluate natural enemies of invasive insects and plants to make informed decisions about their potential effect on the Florida environment. State and Federal regulators decide whether the control organism is to be released into the environment. This is usually one of the last steps in a classical biological control project.

In addition, the Entomology Section maintains the Florida State Collection of Arthropods, which houses more than 10 million specimens. The ENPP Bureau also has a nematode collection, a herbarium, a plant pathology collection, a fruit fly identification laboratory and an advanced diagnostics laboratory.

Liliocerис lilii, **lily leaf beetle**
Photograph courtesy of http://www.insectimages.org/browse/detail.cfm?imgnum=5501024