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TRI-OLOGY

A PUBLICATION FROM THE DIVISION OF PLANT INDUSTRY, BUREAU OF ENTOMOLOGY, NEMATODOLOGY, AND PLANT PATHOLOGY

Dr. Trevor R. Smith, Division Director



BOTANY

Providing information about plants: native, exotic, protected and weeds



ENTOMOLOGY

Identifying arthropods, taxonomic research and curating collections



NEMATOLOGY

Providing certification programs and diagnoses of plant problems



PLANT PATHOLOGY

Offering plant disease diagnoses and management recommendations



Florida Department of Agriculture and Consumer Services • Adam H. Putnam, Commissioner



Lasioglossum poeyi, a sweat bee.
 Photograph courtesy of Jeffrey W. Lotz, DPI

ABOUT TRI-OLGY

The Florida Department of Agriculture and Consumer Services' Division of Plant Industry's Bureau of Entomology, Nematology and Plant Pathology (ENPP), (including the Botany Section), produces TRI-OLGY four times a year, covering three 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.

HOW TO CITE TRI-OLGY

Section Editor. Year. Section Name. P.J. Anderson and G.S Hodges (Editors). TRI-OLGY Volume (number): page. [date you accessed site] website address.

For example: S.E. Halbert. 2015. Entomology Section. P.J. Anderson and G.S Hodges (Editors). TRI-OLGY 54(4):9. [accessed June 5, 2016] <http://FreshFromFlorida.s3.amazonaws.com/Media%2FFiles%2FPlant-Industry-Files%2FTri-ology%2FTri-ology%2C+Volume+54%2C+Number+4%2C+May+-+June+2015.pdf>

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We welcome your suggestions for improvement of TRI-OLGY. Please feel free to contact the [helpline](#) with your comments. 1-888-397-1517

Thank you,

Greg Hodges
 Assistant Director
 FDACS - Division of Plant Industry

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HIGHLIGHTS



1 *Solanum diphyllum* L. (twoleaf nightshade; twinleaf nightshade) Solanaceae. Native to Mexico and Central America and escaped from cultivation in Texas and Florida, this shrub to 2m tall has been listed by the Florida Exotic Pest Plant Council as a Category II invasive and is found scattered throughout Florida's central and southern peninsula. Unlike many other species in this genus, twoleaf nightshade is not armed with prickles and is usually glabrous. This plant was vouchered in Pasco County for the first time.



1 - *Solanum diphyllum* twoleaf nightshade
Photograph courtesy of Mathew Merritt, [Atlas of Florida Vascular Plants](#)

2 *Calliprora* sp., a gelechiid moth, a New Continental USA record. This seems to be an undescribed species. Specimens were collected a month apart on the east and west coasts of Florida, so it is already widespread in the state. It has a distinctive black, white, and pink wing pattern.



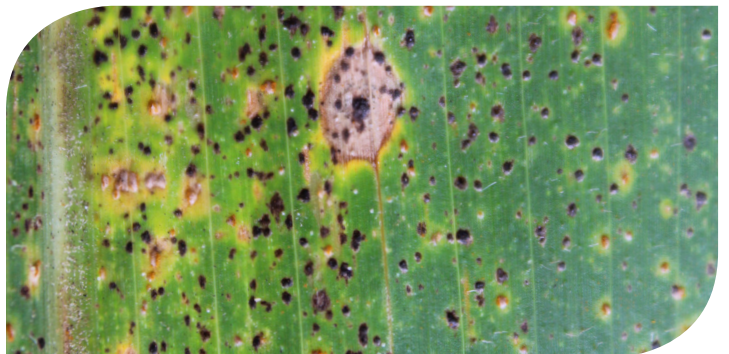
2 - *Calliprora* species, a gelechiid moth
Photograph courtesy of James E. Hayden, DPI

3 *Pratylenchus bolivianus* Corbett 1962, a root-lesion nematode was detected in the roots of sword fern, *Nephrolepis exaltata* (L.) Schott, a new state record. In 2013, an infestation of a root-lesion nematode was detected in a sword fern operation in Central Florida. Molecular findings provide evidence that *P. bolivianus* consists of two genetically identical morphotypes.



3 - A basket with a declining stand of sword fern after long (three years) exposure to the infestation of the root-lesion nematode, *Pratylenchus bolivianus*.

4 *Phyllachora maydis*, corn tar spot. In early June 2016, a *Zea mays* leaf sample with tar spot symptoms similar to those caused by *Phyllachora maydis* Maubl. was collected from a South Florida corn field.



4 - Chlorotic and necrotic spots on leaf surfaces of *Phyllanthus acidus* caused by *Phakopsora phyllanthi*.
Photograph courtesy of Jeffrey W. Lotz, DPI





BOTANY

Compiled by Patti J. Anderson, Ph.D.

This section identifies plants for the Division of Plant Industry, as well as for other governmental agencies and private individuals. The Botany Section maintains a reference herbarium with over 12,000 plants and 1,400 vials of seeds.

Some of the samples received for identification are discussed below:

QUARTERLY ACTIVITY REPORT

	APRIL - JUNE	YEAR TO DATE
Samples submitted by other DPI sections	1,869	3,008
Samples submitted for botanical identification only	177	305
Total samples submitted	2,046	3,313
Specimens added to the Herbarium	83	378



Solanum diphylum with flowers
Photograph courtesy of Mathew Merritt, [Atlas of Florida Vascular Plants](#)

1 *Solanum diphylum* L. (twoleaf nightshade; twinleaf nightshade), from a genus of about 1,500 species. Solanaceae. Native to Mexico and Central America and escaped from cultivation in Texas and Florida, this shrub to 2m tall has been listed by the Florida Exotic Pest Plant Council as a Category II invasive and is found scattered throughout Florida's central and southern peninsula. Unlike many other species in this genus, twoleaf nightshade is not armed with prickles and is usually glabrous. The name *diphylum* reflects the character that easily identifies this species: leaves of two different sizes at most nodes. The larger leaves are up to 7 cm long and 4 cm wide, while the smaller leaves are rarely more than 3 cm long. Both types of leaves are simple, with entire margins, but the larger leaves are more or less elliptic, while the smaller leaves are ovate to obovate. The axillary inflorescences are formed opposite the leaves and have a variable number of flowers in each cluster. The flower consists of a calyx about 1mm long, a white corolla with five recurved lobes 4-6 mm long, and stamens with yellow anthers circling the stigma, typical of *Solanum* species. The fruit is a globose, golden yellow or yellow orange berry about 1 cm in diameter. This was the first documented occurrence of the species in Pasco County. (Pasco County; B2016-281; Gary R. Webb; 6 June 2016.) (Langeland *et al.* 2008; Mabberley 2008; http://lee.ifas.ufl.edu/Hort/GardenPubsAZ/Two-leaf_Nightshade.pdf [accessed 2016 July 15]; <http://www.fleppc.org/list/2015FLEPPCLIST-LARGEFORMAT-FINAL.pdf> [accessed 2016 July 18].)



Solanum diphylum with fruit
Photograph courtesy of Allen Boatman, [Atlas of Florida Vascular Plants](#)





Soliva sessilis (field burrweed)
Photograph courtesy of [John Kunzer](#)

2 *Soliva sessilis* Ruiz & Pavon (field burrweed, lawn burrweed, field soliva), from a genus of eight species native to South America, but naturalized around the world. Compositae/Asteraceae. This weedy species is widely distributed in North America, in the Southeast from Virginia to Texas and in the Southwest from Arizona along the Pacific coast to British Columbia. In Florida, it is found mainly in the Panhandle and in a scattering of peninsular counties north of Lake Okeechobee. This lawn weed is a low-growing annual with fibrous roots; purplish, prostrate or ascending stems to 10 cm tall, often rooting at nodes; and pinnately dissected, alternate leaves. The inflorescence is a sessile head composed of small, inconspicuous greenish flowers with disc, but not ray, florets. The fruit is a spiny, 2-3 mm long achene which inspires the common name, burrweed. Each achene has lateral wings that become spine-like at the tips on either side of the persistent style which forms a larger central spine. This species grows in disturbed sites and on lawns and roadsides, often out-competing lawn grass and perhaps being easier to identify with bare feet than by sight. The plants survive mowing and grazing, but might be controlled with herbicides. (Taylor County; B2016-233; Clay Olson, UF/IFAS; 5 May 2016 and Alachua County; B2016-263; Cheryl A. Jones; 24 May 2016.) (Bryson and DeFelice 2009; Wunderlin and Hansen 2011; <http://www.clemson.edu/extension/hgic/pests/pdf/hgic2323.pdf> [accessed 12 July 2016]; http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=220012667 [accessed 5 July 2016].)

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



🔍 BOTANY IDENTIFICATION TABLE

The following table provides information about new records submitted in the current volume's time period. The table is organized alphabetically by collector name. The full version with more complete data is downloadable as a [PDF](#) or an [Excel](#) spreadsheet.

NEW RECORD	COLLECTOR 1	COLLECTOR 2	COUNTY	SAMPLE NUMBER	COLLECTION DATE	GENUS	SPECIES
🔍	Gary R. Webb		Hernando	2016-219	May 1 2016	<i>Trachelospermum</i>	<i>jasminoides</i> (Lindl.) Lem.
🔍	Gary R. Webb		Pasco	2016-281	June 6 2016	<i>Solanum</i>	<i>diphyllum</i> L.
🔍	Kelly K. Douglas		Columbia	2016-147	April 2 2016	<i>Lygodium</i>	<i>japonicum</i> (Thunb.) Sw.
🔍	Kelly K. Douglas	Cheryl A. Jones; John Selph, USDA	Taylor	2016-169	April 14 2016	<i>Sapium</i>	<i>sebiferum</i> (L.) Roxb.
🔍	Kelly K. Douglas		Levy	2016-259	May 18 2016	<i>Dioscorea</i>	<i>bulbifera</i> L.
🔍	Kelly K. Douglas	Cheryl A. Jones	Gilchrist	2016-270	June 1 2016	<i>Commelina</i>	<i>benghalensis</i> L.
🔍	Linda G. McRay		Pinellas	2016-153	April 6 2016	<i>Eulophia</i>	<i>graminea</i> Lindl.
🔍	Lisa M. Hassell		Duval	2016-276	June 1 2016	<i>Asparagus</i>	<i>aethiopicus</i> L.
🔍	Lisa M. Hassell		Nassau	2016-275	June 1 2016	<i>Ligustrum</i>	<i>sinense</i> Lour.
🔍	Roberto Delcid		Collier	2016-198	April 22 2016	<i>Ceratiola</i>	<i>ericoides</i> Michx.
🔍	Sol F. Looker		Flagler	2016-156	April 7 2016	<i>Lygodium</i>	<i>japonicum</i> (Thunb.) Sw.
🔍	Sol F. Looker		Lake	2016-221	April 29 2016	<i>Casuarina</i>	<i>glauca</i> Sieber ex Spreng.

ENTOMOLOGY

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 (FSCA) with over 9 million specimens) and investigates the biology, biological control and taxonomy of arthropods.

QUARTERLY ACTIVITY REPORT

	APRIL - JUNE	YEAR TO DATE
Sample Submitted	1,190	3,261
Specimens Identified	3,247	4,956

1 *Calliprora* sp., a gelechiid moth, a new Continental USA record. This seems to be an undescribed species. Specimens were collected a month apart on the east and west coasts of Florida, so it is already widespread in the state. It has a distinctive black, white and pink wing pattern. All known *Calliprora* species are Neotropical plus *C. sextrigella* (Chambers) in Texas. *Calliprora* Meyrick appears to be related to *Polyhymno* Chambers and should be included in Thiotrichinae. Plant damage has not been found, but since *C. sextrigella* bores in buds of mesquite (*Prosopis glandulosa*), and *Polyhymno* species fold leaves of *Chamaecrista* and *Acacia*, we predict either kind of damage on a leguminous tree. (Broward County; E2015-5313; Julio C. Garcia and Eric M. Dougherty; 3 September 2015 and Hillsborough County; E2015-4601; Travis J. Streeter; 5 August 2015.) (Dr. James E. Hayden.)



1 - *Calliprora* species, a gelechiid moth.
Photograph courtesy of James E. Hayden, DPI.

2 *Glaphyria decisa*, a crambid moth, a new Continental USA record. This is not a plant pest, and its host is not known. It has been collected in Cuba and Central and South America. The Florida State Collection of Arthropods has more specimens from Monroe and Collier counties dating back to 1986, so it is established in the state. The species has been confused with two other native *Glaphyria* species, *G. fulminalis* (Lederer) and *G. cappsii* Munroe. The white forewing lines of *G. decisa* are diffusely scaled, not distinctly sharp, as in the other species, and the genitalia of both sexes are very different. (Miami-Dade County; E2016-2810; James E. Hayden and Andrew I. Derksen; 23 April 2013.) (Dr. James E. Hayden.)



2 - *Glaphyria decisa*, a crambid moth.
Photograph courtesy of James E. Hayden, DPI.

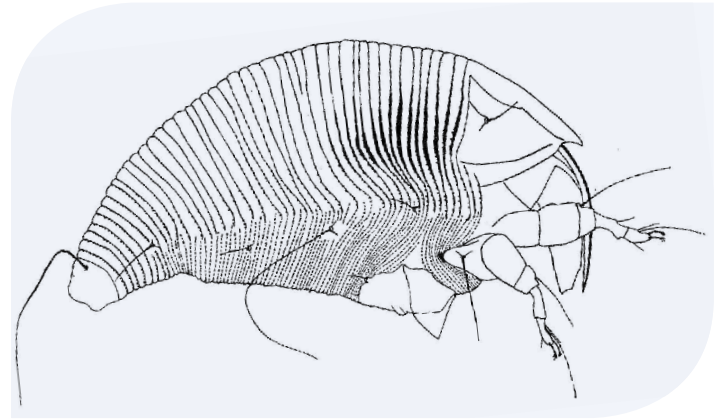


3 *Agrilus putillus*, a buprestid beetle, a new Florida State record. Two specimens of *Agrilus putillus* Say (Coleoptera: Buprestidae) were collected in a green Lindgren funnel trap placed at the eastbound I-10 rest stop in Gadsden County. This species is native to and widely distributed in the eastern United States. Larvae feed in dead twigs and branches and are not a pest; recorded larval hosts include *Acer* and *Gleditsia* (Nelson *et al.* 2008). (Gadsden County; E2016-2574; Bradley A. Danner, CAPS/DPI, and Robert M. Leahy CAPS/USDA; 9 May 2016.) (Kyle E. Schnepf.)



3 - *Agrilus putillus*, a buprestid beetle.
Photograph courtesy of Kyle E. Schnepf, DPI.

4 *Diptacus georgiana*, an eriophyoid mite, a new Florida State and Host record. This mite originally was described from *Quercus phellos* in Georgia, where it is a vagrant on the undersides of leaves. Live mites appear as a tiny white tuft of flocculent wax. Feeding is not reported to cause any observable damage to the leaves. In Florida, the mite was found on the underside of *Quercus laurifolia* leaves. Other mites on the leaves included two other phytophagous species (Tetranychidae) as well as predators and fungivores. This mite probably is widespread in Georgia and Florida. (Hillsborough County; E-2016-958; Jason M. Spiller; 14 March 2016.) (Dr. W. C. 'Cal' Welbourn.)



4 - *Diptacus georgiana*. Lateral view.
Modified from Davis 1964.

5 *Thiotricha* sp., a gelechiid moth, a new State Record. This may be *Thiotricha laterestriata* (Walsingham), a Caribbean species. The specimen from Key West was found while curating specimens for research. Confirmation of the identification will depend on examination of type material and records from other states, because the North American Gelechiidae fauna is poorly known. Thiotrichinae is a recently proposed subfamily (Karsholt *et al.* 2013). Prior to this discovery, the only thiotrichine in Florida was *Polyhymno luteostrigella* Chambers. The larval behavior of this species is unknown, but it is probably a bud borer in a shrub or tree. (Monroe County; E2013-5969; Michelle A. DaCosta and Phellicia P. Perez, CAPS/DPI; 1 August 2013 and Miami-Dade County; E2016-1591; James E. Hayden; 22 April 2013.) (Dr. James E. Hayden.)



5 - *Thiotricha* species, male specimen.
Photograph courtesy of James E. Hayden, DPI.

REFERENCES

- Davis, R. 1964.** Some Eriophyid mites occurring in Georgia with descriptions of three new species. *Florida Entomologist* 47(1): 17-27.
- Karsholt, O., M. Mutanen, S. Lee and L. Kaila. 2013.** A molecular analysis of the Gelechiidae (Lepidoptera, Gelechioidea) with an interpretative grouping of its taxa. *Systematic Entomology* 38:334–348.
- Nelson, G.H., G.C. Walters, Jr., R.D. Haines and C.L. Bellamy. 2008.** A catalog and bibliography of the Buprestoidea of America North of Mexico. The Coleopterists Society, Special Publication No. 4, 274 p.



🔍 ENTOMOLOGY IDENTIFICATION TABLE

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 [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	RECORD
<i>Acacia auriculiformis</i>	earpod acacia; earleaf acacia	<i>Acizzia</i> sp.	earpod acacia psyllid	COUNTY
<i>Allium ampeloprasum</i>	leek	<i>Helix aspersa</i>	brown garden snail	QUARANTINABLE PEST
<i>Allium cepa</i>	onion	<i>Colaspis brunnea</i>	grape colaspis	TRUCK INTERDICTION
<i>Alocasia</i> sp.		<i>Bellura</i> sp.	a noctuid moth	SIGNIFICANT FIND
<i>Ananas comosus</i>	pineapple	<i>Phyllocoptruta sakimurae</i>	an eriophyid mite	TRUCK INTERDICTION
<i>Ananas comosus</i>	pineapple	<i>Phyllocoptruta sakimurae</i>	an eriophyid mite	TRUCK INTERDICTION
<i>Ananas comosus</i>	pineapple	<i>Stenotarsonemus</i> sp.	a tarsonemid mite	TRUCK INTERDICTION
<i>Barringtonia edulis</i>	cut nut, pili nut, yum yum tree	<i>Toxoptera aurantii</i>	black citrus aphid	HOST
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Bagrada hilaris</i>	Bagrada bug	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pe-tsai, Chinese cabbage, Napa cabbage	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia longula</i>	a leafhopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia longula</i>	a leafhopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Ceratagallia longula</i>	a leafhopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Lygus elisus</i>	pale legume bug	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Lygus hesperus</i>	a western lygus bug	TRUCK INTERDICTION



PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Lygus hesperus</i>	a western lygus bug	TRUCK INTERDICTION
<i>Brassica rapa</i>	pak-choi, bok-choi, pak-choy, bok-choy, Chinese mustard, celery mustard	<i>Nothodelphax consimilis</i>	a delphacid planthopper	TRUCK INTERDICTION
<i>Brassica rapa</i>	pe-tsai, Chinese cabbage, Napa cabbage	<i>Phyllotreta striolata</i>	striped flea beetle	TRUCK INTERDICTION
<i>Carya illinoensis</i>	pecan	<i>Parthenolecanium corni</i>	European fruit lecanium	HOST
<i>Chamaedorea</i> sp.		<i>Aleurocerus palmae</i>	a whitefly	TRUCK INTERDICTION
<i>Chamaedorea</i> sp.		<i>Aleurocerus</i> sp.	a whitefly	REGULATORY INCIDENT
<i>Chrysobalanus icaco</i>	cocoplum, icaco	<i>Ommatius floridensis</i>	a robber fly	COUNTY
<i>Cichorium endivia</i>	escarole	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Cichorium endivia</i>	escarole	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Cichorium endivia</i>	escarole	<i>Closterotomus norwegicus</i>	a mirid plant bug	TRUCK INTERDICTION
<i>Cichorium endivia</i>	cultivated endive	<i>Deltocephalus fuscinervosus</i>	a leafhopper	TRUCK INTERDICTION
<i>Cichorium endivia</i>	escarole	<i>Deltocephalus fuscinervosus</i>	a leafhopper	TRUCK INTERDICTION
<i>Citrus sinensis</i>	sweet orange, navel orange	<i>Ocyptamus cubanus</i>	a flower fly	COUNTY
<i>Citrus</i> sp.		<i>Leucophenga maculosa</i>	a vinegar fly	COUNTY
<i>Citrus</i> sp.		<i>Succinea</i> sp.	amber snails	TRUCK INTERDICTION
<i>Citrus x paradisi</i>	grapefruit	<i>Atherigona reversura</i>	bermudagrass stem maggot	COUNTY
<i>Citrus x paradisi</i>	grapefruit	<i>Cadrema pallida</i>	a grass fly	COUNTY
<i>Citrus x paradisi</i>	grapefruit	<i>Euxesta alternans</i>	a picture-winged fly	COUNTY
<i>Coriandrum sativum</i>	coriander, cilantro, Chinese parsley, ngo	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Cycas revoluta</i>	king sago, king sago-palm	<i>Aulacaspis yasumatsui</i>	aulacaspis cycad scale	TRUCK INTERDICTION
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Aulacigaster mcalpinei</i>	a fly	HOST
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Banisia myrsualis</i>	thyridid moth	COUNTY
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Nacoleia charesalis</i>	a crambid moth	COUNTY
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Odinia mejirei</i>	an odiniid fly	COUNTY
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Poecilominettia slossonae</i>	a fly	COUNTY
<i>Eugenia uniflora</i>	Surinam cherry; Cayenne cherry	<i>Colliuris caymanensis</i>	a carabid beetle	COUNTY



PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
<i>Ficus benjamina</i>	weeping fig	<i>Gynaikothrips uzeli</i>	weeping fig thrips	COUNTY
<i>Flacourtia jangomas</i>	Indian plum	<i>Cabotia bonhoti</i>	a pyralid moth	COUNTY
<i>Foeniculum vulgare</i>	fennel	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Foeniculum vulgare</i>	fennel	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Fragaria x ananassa</i>	garden strawberry	<i>Chaetosiphon fragaefolii</i>	strawberry aphid	TRUCK INTERDICTION
<i>Hibiscus rosa-sinensis</i>	hibiscus	<i>Bemisia tabaci "Q"</i>	silverleaf whitefly, biotype Q	QUARANTINABLE PEST
<i>Hibiscus rosa-sinensis</i>	hibiscus	<i>Bemisia tabaci "Q"</i>	silverleaf whitefly, biotype Q	QUARANTINABLE PEST
<i>Hibiscus rosa-sinensis</i>	hibiscus	<i>Bemisia tabaci "Q"</i>	silverleaf whitefly, biotype Q	QUARANTINABLE PEST
<i>Hibiscus sp.</i>		<i>Bemisia tabaci "Q"</i>	silverleaf whitefly, biotype Q	QUARANTINABLE PEST
<i>Jacobaea maritima</i>	dusty miller, silver groundsel, silver ragwort	<i>Liriomyza langei</i>	California pea leafminer	REGULATORY INCIDENT
<i>Jasminum polyanthum</i>	pink jasmine	<i>Eupteryx decemnotata</i>	Ligurian leafhopper	REGULATORY INCIDENT
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Ceratagallia californica</i>	a leafhopper	TRUCK INTERDICTION



<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Lygus elisus</i>	pale legume bug	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Lygus elisus</i>	pale legume bug	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Lygus elisus</i>	pale legume bug	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Lygus hesperus</i>	a western lygus bug	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	REGULATORY INCIDENT
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nothodelphax consimilis</i>	a delphacid planthopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nothodelphax consimilis</i>	a delphacid planthopper	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Phyllotreta cruciferae</i>	crucifer leaf beetle	TRUCK INTERDICTION
<i>Maclura pomifera</i>	Osage orange	<i>Tetranychus magnoliae</i>	spider mite	HOST
<i>Mangifera indica</i>	mango	<i>Odinia conspicua</i>	an odiniid fly	COUNTY
<i>Michelia figo</i>	banana shrub	<i>Deroceras reticulatum</i>	gray garden slug	REGULATORY INCIDENT
<i>Passiflora</i> sp.		<i>Epiphyas postvittana</i>	light brown apple moth	REGULATORY INCIDENT
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	an armored scale	TRUCK INTERDICTION
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	an armored scale	TRUCK INTERDICTION
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	an armored scale	TRUCK INTERDICTION
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	an armored scale	TRUCK INTERDICTION
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	an armored scale	TRUCK INTERDICTION
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	an armored scale	TRUCK INTERDICTION
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Clavaspis persea</i>	an armored scale	TRUCK INTERDICTION
<i>Petroselinum crispum</i>	parsley	<i>Acizzia hakea</i>	Hakea psyllid	TRUCK INTERDICTION



<i>Phleum pratense</i>	timothy	<i>Ptinus raptor</i>	eastern spider beetle	TRUCK INTERDICTION
<i>Phoenix dactylifera</i>	date palm	<i>Phoenicococcus marlatti</i>	red date scale	TRUCK INTERDICTION
<i>Phoenix dactylifera</i>	date palm	<i>Phoenicococcus marlatti</i>	red date scale	TRUCK INTERDICTION
<i>Pinus clausa</i>	sand pine	<i>Ambrosiodmus tachygraphus</i>	an ambrosia beetle	COUNTY
<i>Plantago major</i>	common plantain	<i>Corimelaena minuta</i>	a negro bug	HOST
<i>Podocarpus</i> sp.		<i>Neophyllaphis varicolor</i>	multicolored podocarpus aphid	COUNTY
<i>Protea cynaroides</i>	king protea	<i>Delottococcus confusus</i>	A mealybug	REGULATORY INCIDENT
<i>Protea</i> sp.		<i>Neoselenaspilus</i> sp.	an armored scale	REGULATORY INCIDENT
<i>Protea</i> sp.		<i>Planococcus minor?</i>	passionvine mealybug?	REGULATORY INCIDENT
<i>Prunus persica</i>	peach, nectarine	<i>Epuraea ocularis</i>	a sap beetle	COUNTY
<i>Psidium cattleianum</i>	cattley guava; strawberry guava	<i>Burtinus notatipennis</i>	a broadheaded bug	COUNTY
<i>Quercus laurifolia</i>	laurel oak	<i>Diptacus georgiana</i>	an eriophyid mite	STATE & HOST
<i>Quercus</i> sp.	oak	<i>Nysius scutellatus</i>	a seed bug	COUNTY
<i>Quercus</i> sp.	oak	<i>Ora discoidea</i>	a scirtid beetle	COUNTY
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rhododendron</i> sp.		<i>Illinoia lambersi</i>	an azalea aphid	REGULATORY INCIDENT
<i>Rubus</i> sp.		<i>Eotetranychus</i> sp.	spider mite	TRUCK INTERDICTION
<i>Salix caroliniana</i>	coastal plain willow; Carolina willow	<i>Trioza</i> sp.	a jumping plant louse	COUNTY
<i>Schinus terebinthifolia</i>	Brazilian pepper tree; Florida holly; Christmas berry	<i>Myxosargus nigricornis</i>	soldier fly	COUNTY
<i>Schotia brachypetala</i>		<i>Mesophleps adustipennis</i>	soybean webworm	COUNTY & HOST
<i>Sedeveria hummellii</i>		<i>Vryburgia trionymoides</i>	A mealybug	REGULATORY INCIDENT
<i>Trachelospermum</i> sp.		<i>Deroceras reticulatum</i>	gray garden slug	QUARANTINABLE PEST



<i>Viburnum odoratissimum</i>	sweet arrowwood; sweet viburnum	<i>Parabemisia myricae</i>	bayberry whitefly	HOST
<i>Vitex trifolia</i>	simpleleaf chastetree	<i>Hyblaea puera</i>	teak moth	SIGNIFICANT FIND
		<i>Acrolophus walsinghami</i>	a grass tubeworm moth	COUNTY
		<i>Agrilus putillus</i>	a buprestid beetle	STATE
		<i>Ambrosiodmus minor</i>	an ambrosia beetle	COUNTY
		<i>Ambrosiodmus minor</i>	an ambrosia beetle	COUNTY
		<i>Ambrosiodmus minor</i>	an ambrosia beetle	COUNTY
		<i>Calliprora</i> sp.	a gelechiid moth	COUNTY
		<i>Calliprora</i> sp.	a gelechiid moth	US CONTINENTAL
		<i>Delphacodes vaccina</i>	a delphacid planthopper	COUNTY
		<i>Deroceras reticulatum</i>	gray garden slug	TRUCK INTERDICTION
		<i>Forcipomyia pluvialis</i>	a biting midge	COUNTY
		<i>Glaphyria decisa</i>	a crambid moth	US CONTINENTAL
		<i>Homaemus proteus</i>	a scutellerid bug	COUNTY
		<i>Lehmannia valentiana</i>	three-banded garden slug	REGULATORY INCIDENT
		<i>Leucania senescens</i>	a noctuid moth	COUNTY
		<i>Macrotomella carinata</i>	a delphacid planthopper	COUNTY
		<i>Myodocha annulicornis</i>	a seed bug	COUNTY
		<i>Nacoleia charesalis</i>	a crambid moth	COUNTY
		<i>Parandra brunnea</i>	pole borer	COUNTY
		<i>Ptinus villiger</i>	hairy spider beetle	TRUCK INTERDICTION
		<i>Ptosima gibbicollis</i>	redbud borer	COUNTY
		<i>Thiotricha</i> sp.	a gelechiid moth	STATE
		<i>Thiotricha</i> sp.	a gelechiid moth	COUNTY
		<i>Trypodendron scabricollis</i>	an ambrosia beetle	COUNTY
		<i>Vryburgia trionymoides</i>	a mealybug	REGULATORY INCIDENT
		<i>Xyleborus glabratus</i>	Redbay ambrosia beetle	COUNTY
		<i>Xyleborus glabratus</i>	Redbay ambrosia beetle	COUNTY



NEMATODOLOGY



Compiled by Renato N. Inserra, Ph.D., Jason D. Stanley, M.S., Larry L. Violet, B.S., Brian M. Alford, B.S., and Janete A. Brito, Ph.D.

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

QUARTERLY ACTIVITY REPORT

	APRIL - JUNE	YEAR TO DATE
Morphological identifications	3,408	6,072
Molecular identifications	437	1,952
Total samples submitted	3,845	8,024

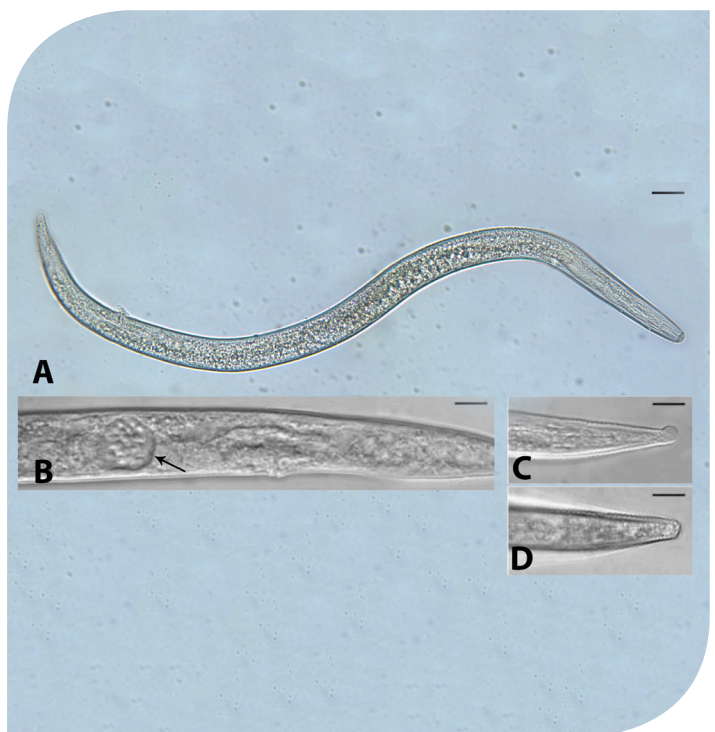


A basket with a declining stand of sword fern after long (three years) exposure to the infestation of the root-lesion nematode, *Pratylenchus bolivianus*.

1 *Pratylenchus bolivianus* Corbett 1962, a root-lesion nematode was detected in the roots of sword fern, *Nephrolepis exaltata* (L.) Schott. (Alachua County, N16-00788, Brian M. Alford, 9 June 2016 and Orange County, N13-00946, Larry L. Violet and Brian M. Alford, 27 August, 2013).

Sword fern, *Nephrolepis exaltata* (L.) Schott., is a common fern propagated from stolons of older plants kept in green beds in many gardens or in nurseries for the production of hanging baskets. Decline symptoms consisting of stunting, graying foliage and chlorosis have been reported in Florida sword fern operations and have been attributed to the root-lesion nematode *Pratylenchus penetrans* (Cobb, 1917) Filipjev & Schuurmans Stekhoven, 1941, which has been considered the most common causal agent involved in the decline of fern species, such as leatherleaf fern, *Rumhora adiantiformis* (Forst.) Ching, in Florida fern operations (Kaplan and Osborne 1986; O'Bannon *et al.* 1988). Until recently, the identification of this root-lesion nematode on fern has been based mainly on morphological analyses without any corroboration of molecular analyses.

In 2013, an infestation of a root-lesion nematode was detected in a sword fern operation in Central Florida. The infestation was localized to beds of three to four-year old declining sword fern stock plants. The morphology of the lesion nematode extracted from the roots, although fitting that of *P. penetrans* on the basis of the presence of abundant males in addition to females with three distinct lip annuli and a divided face, showed some differences as well. For example, a stylet of 17.4-18.3 μm , which in *P. penetrans* is shorter (15-17 μm), and an annulated tail terminus, whereas that of *P. penetrans* is smooth (Corbett 1973). Such discrepancies cast doubt on the reliability of identifications made in the past and



Pratylenchus bolivianus female. A) Entire body. B) Posterior portion of the body showing the large spermatheca (arrow). C, D) Shape variations of tail terminus. Scale bars = 19 μm in A and 10 μm in B-D.



prompted more examination of this root lesion nematode from sword fern. Subsequent morphological observations indicated that these amphimictic root-lesion nematodes are closely related to the parthenogenetic species, *Pratylenchus bolivianus*, a species described in Bolivia (Corbett 1963). Despite the reproductive and morphological dissimilarities between these populations, their separation into separate species was not supported by the results of molecular analyses of their DNA sequences. These molecular findings provide evidence that *P. bolivianus* consists of two genetically identical morphotypes, that differ morphologically and biologically (Troccoli *et al.* 2016). The amphimictic populations with numerous males have also been found in Costa Rica, whereas the parthenogenetic morphotype, without males is present, has been found in Bolivia; Colombia, where it causes decline of cape gooseberry (*Physalis peruviana* L.); and The Netherlands. The occurrence of *P. bolivianus* in Florida is a new state and country record.

Sword ferns tolerate the infestations of *P. bolivianus*, but the nematode exacerbates soil nutrient imbalance. These conditions develop in containerized sword fern after long exposure to *P. bolivianus*, (more than two years). Our investigations demonstrate that this nematode persists and reproduces on declining sword fern in pots at population levels of 17 specimens per gram of fresh roots. The adoption of appropriate phytosanitary practices and the use of nematode free stock will help prevent the infestation of this nematode in fern nurseries.

References

Inserra, R.N., J.D. Stanley, J.H. O'Bannon and R.P. Esser. 2005. Nematode quarantine and certifications programmes implemented in Florida. *Nematologia Mediterranea* 33, 113-123.

Corbett, D.C.M. 1973. *Pratylenchus penetrans*. CIH Descriptions of plant-parasitic nematodes Set 2, No. 25. Pp.4. Farnham Royal, UK, Commonwealth Agricultural Bureaux.

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Kaplan, D.T. and L.S. Osborne. 1986. Plant-parasitic nematodes associated with leatherleaf fern. *Journal of Nematology* 18, 26-30.

O'Bannon, J.H., R.P. Esser, P.S. Lehman, and C. Milatos. 1988. The root-lesion nematode, *Pratylenchus penetrans* and other nematodes associated with leatherleaf fern. *Nematology Circular, Florida Department of Agriculture and Consumer Services* No.157.

Troccoli, A., S.A. Subbotin, J.J. Chitambar, T. Janssen, L. Waeyenberge, J.D. Stanley, L.W. Duncan, P. Agudelo, G.E. Múnera Uribe, J. Franco and R.N. Inserra. 2016. Characterization of amphimictic and parthenogenetic populations of *Pratylenchus bolivianus* Corbett, 1983 (Nematoda: Pratylenchidae) and their phylogenetic relationships with closely related species. *Nematology* 18:651-678.

COLLECTORS

Collectors submitting five or more samples that were processed for nematological analysis from January through March

COLLECTOR NAME	SAMPLES PROCESSED
Bentley, Michael A.	44
Blaney, Richard L.	12
Berryman, Scott D.	30
Burgos, Frank A.	351
Clanton, Keith B.	86
Douglas, Kelly K.	5
Echols, Mary J.	17
Estok, Theresa R.	5
Flores, Mary A.	14
Hassell, Lisa M.	7
Jenner, Stephen R.	23
Llanos, Jose L.	21
LeBoutillier, Karen W.	363
Ochoa, Ana L.	154
Spriggs, Charles L.	152
Strange, Lisa S.	78
Terrell, Mark R.	22
Vasquez, Dagne A.	7
Violett, Larry L.	277
White, Sara M.	13

CERTIFICATION AND REGULATORY SAMPLES

	APRIL - JUNE	YEAR TO DATE
Multistate certification for national and international export	2,500	4,379
California certification	538	852
Pre-movement (citrus nursery certification)	70	134
Site or pit approval (citrus nursery and other certifications)	84	119

OTHER SAMPLES

	APRIL - JUNE	YEAR TO DATE
Identifications (Invertebrate)	1	1
Plant Problems	59	105
Random Intrastate Surveys	157	482

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





PLANT PATHOLOGY

Compiled by Jodi Hansen, M.S., Regina Cahoe, B.S., David Davison, M.S., and Debra Jones, M.S.

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

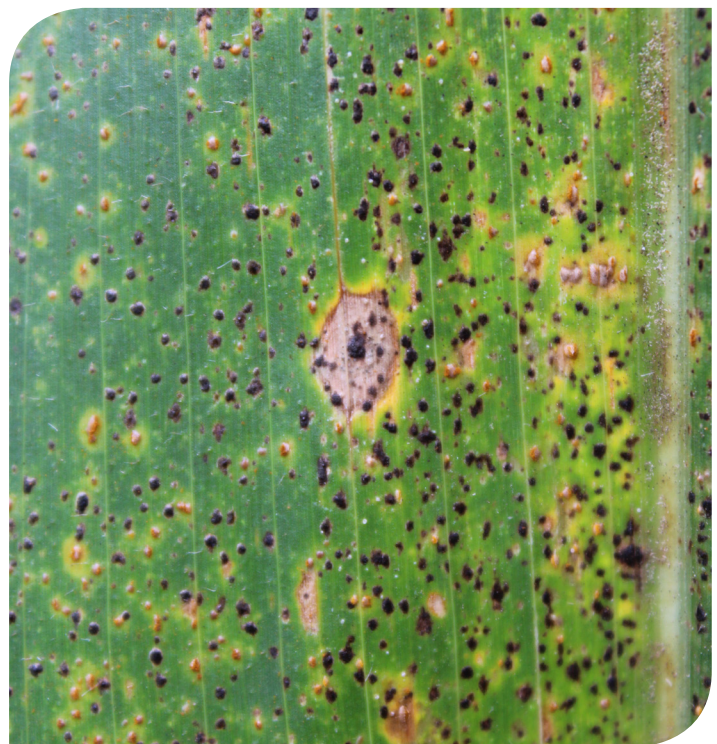
QUARTERLY ACTIVITY REPORT

	APRIL - JUNE	YEAR TO DATE
Citrus black spot	4	58
Citrus canker	52	103
Citrus greening / HLB	58	1,180
Honeybees	25	29
Interdictions	8	20
Laurel wilt	13	30
Pathology, general	824	1,267
Soil	17	17
Sudden oak death	4	4
Sweet orange scab-like disease	1	8
Texas phoenix palm decline	0	1
Water	0	0
Miscellaneous	6	7
Total	1,012	2,724



1a - Chlorotic and necrotic spots on leaf surface of *Phyllanthus acidus* caused by *Phakopsora phyllanthi*. Photograph courtesy of Jeffrey W. Lotz, DPI

1 *Phyllachora maydis*, **Corn Tar Spot**. In early June 2016, a University of Florida researcher collected a corn (*Zea mays* L.) leaf sample with tar spot symptoms similar to those caused by *Phyllachora maydis* Maubl. from a South Florida corn field. The researcher's initial diagnosis was confirmed by the USDA Systemic Mycology and Microbiology Laboratory in Beltsville, Maryland. Prior to this finding, *P. maydis* was first reported and confirmed in both Indiana and Illinois in September 2015. Symptoms of tar spot include smooth and shiny oval to circular lesions, made of fungal tissue (stroma), surrounded by chlorotic borders. More information is available from the recent *Phyllachora maydis*, corn tar spot Pest Alert. http://www.freshfromflorida.com/content/download/69885/1624208/Pest_Alert_-_Phyllachora_maydis_Corn_Tar_Spot.pdf



1b - Erumpent, powdery, white to brownish colored pustules on leaf. Photograph courtesy of Jeffrey W. Lotz, DPI



🔍 PLANT PATHOLOGY IDENTIFICATION TABLE

Following are table provides information about samples identified in the current volume's time. The table is organized alphabetically by plant species, with new records listed on the right.

PLANT SPECIES	COMMON NAME	CASUAL AGENT	DISEASE NAME	LOCATION TYPE	SPECIMEN NUMBER	COUNTY	COLLECTOR	NEW RECORDS	NOTES
<i>Argemone aurantiaca</i>	Texas pricklypoppy	<i>Deightoniella argemonensis</i>	leaf spot	road side	87923	Gilchrist	Robert M Leahy, Bradley A. Danner	host	<i>Deightoniella argemonensis</i> has previously been identified on <i>Argemone mexicana</i> (Mexican prickly poppy) however , this represents a new host record on <i>A. aurantiaca</i> .
<i>Dolichandra unguis-cacti</i>	cat's claw creeper	<i>Pseudocercospora jahnii</i>	leaf spot	natural area	87836	Alachua	Robert M Leahy, Bradley A. Danner	host	Leaf spots are black, amphigenous, up to 20 mm in diameter, with yellow margins. Lesions are covered with black conidial masses more pronounced on the lower leaf surfaces that can lead to premature leaf shedding
<i>Garcinia</i> sp.	garcinia	<i>Pestalotiopsis</i> sp.	leaf spot	natural area	87835	Broward	Anthony J. Tullock, Lindsay M. Wheeler, Enger S. Ramirez	host	<i>Pestalotiopsis</i> requires moisture for infection and the production of wind-borne conidia. Local dispersal is primarily by rain-splash and transport of infected plant material from infected areas.
<i>Hamamelis virginiana</i>	witch hazel	<i>Phoma</i> sp.	leaf spot	state park	88428	Jackson	Robert M Leahy, Bradley A. Danner	county	Members of the genus <i>Phoma</i> are found worldwide. Colonies are greyish-brown, powdery or suede-like and produce large, globose, membranous ostiolate pycnidia.
<i>Hyptis mutabilis</i>	tropical bushmint	<i>Cercospora apii</i>	leaf spot	road side	87916	Gilchrist	Robert M Leahy, Bradley A. Danner	host	<i>Cercospora apii</i> causes leaf spot on celery and other plants including <i>Impatiens</i> .
<i>Mangifera indica</i>	mango	<i>Pseudocercospora mangifericola</i>	leaf spot	residence	88224	Miami-Dade	Hilda Gomez	US	Mango trees are the only known hosts for <i>Pseudocercospora mangifericola</i> . Leaf spots occur on both sides of the leaves but are more pronounced on the lower side.
<i>Lavatera arborea</i>	tree mallow	<i>Puccinia malvacearum</i>	rust	agriculture center	87976	St. Johns	Robert M Leahy, Bradley A. Danner,	host	<i>Puccinia malvacearum</i> commonly called hollyhock rust for its propensity for infecting hollyhock is different from most other rust infections by not requiring two hosts to complete its life cycle. It is known for attacking plants in the Malvaceae family.



PLANT SPECIES	COMMON NAME	CASUAL AGENT	DISEASE NAME	LOCATION TYPE	SPECIMEN NUMBER	COUNTY	COLLECTOR	NEW RECORDS	NOTES
<i>Persea borbonia</i>	red bay	<i>Raffaelea lauricola</i>	laurel wilt	residence	87953	Escambia	Cathy Hardin	county	Laurel wilt is a deadly disease of redbay (<i>Persea borbonia</i>) and other tree species in the Laurel family (Lauraceae). The disease is caused by a fungus (<i>Raffaelea lauricola</i>) that is introduced into host trees by a nonnative insect, the redbay ambrosia beetle (<i>Xyleborus glabratus</i>).
<i>Punica granatum</i>	pomegranate	<i>Melanconium</i> sp.	stem canker	natural area	88134	Suwannee	Robert M Leahy, Bradley A. Danner, Joshua A. Hildebrandt	host	<i>Melanconium</i> sp. is a fungus associated with causing twig die-back in various woody trees.
<i>Tradescantia ohiensis</i>	Ohio spiderwort	<i>Kordyana tradescantiae</i>	leaf spot	residence	88252	Gilchrist	Cheryl A. Jones	county	<i>Kordyana tradescantiae</i> was first found on <i>Tradescantia ohiensis</i> in June 2009 and was new to North America in 2008. The pathogen behaves like a leaf smut and was approved for biocontrol of weedy <i>Tradescantia</i> species in January of 2013.





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