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TRI-OLOGY

A PUBLICATION FROM THE DIVISION OF PLANT INDUSTRY, BUREAU OF ENTOMOLOGY, NEMATODOLOGY, AND PLANT PATHOLOGY
Division Director, Trevor R. Smith, Ph.D.



BOTANY

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



ENTOMOLOGY

Identifying arthropods, taxonomic
research and curating collections



NEMATOLOGY

Providing certification programs and
diagnoses of plant problems



PLANT PATHOLOGY

Offering plant disease diagnoses
and information



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



Fruit flies attack multiple hosts.
 Photograph courtesy of Daderot. - First uploaded to en:wiki on 5 Apr 2005., CC BY-SA 3.0,

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

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

Thank you,

Gregory Hodges, Ph.D.
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Cover Photo

Bactrocera dorsalis, Oriental fruit fly.
 Photograph by Gary J. Steck, DPI



HIGHLIGHTS



1 *Parthenium hysterophorus* L. (parthenium, false ragweed, Santa Maria feverfew, whitetop weed).

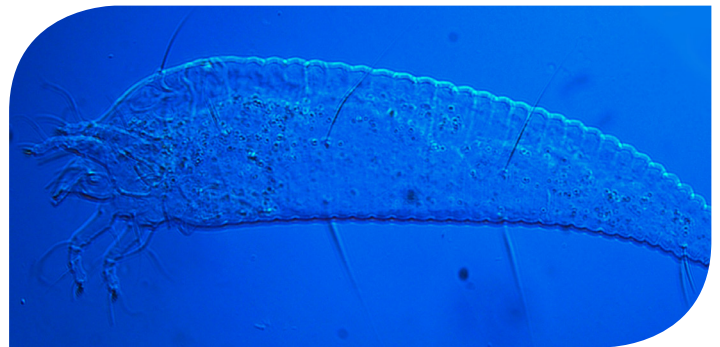
A weedy annual found in fields, disturbed or open areas and roadsides scattered through much of the eastern United States in the area roughly bounded by Massachusetts and Michigan to the north and south from Texas to Florida. This species can be toxic to livestock and can cause severe dermatitis in humans.



1 - *Parthenium hysterophorus* (false ragweed, Santa Maria feverfew), with leaves similar to common ragweed.
Photograph from Shutterstock

2 *Visinus dimocarpi* Chandrapatya, an eriophyid mite, a new Western Hemisphere record and a new host record.

The mite was originally collected and described from *Dimocarpus longan* (longan) in Thailand. This is the first known occurrence of this mite in the Western Hemisphere, and first known occurrence on *Litchii chinensis* (lychee).



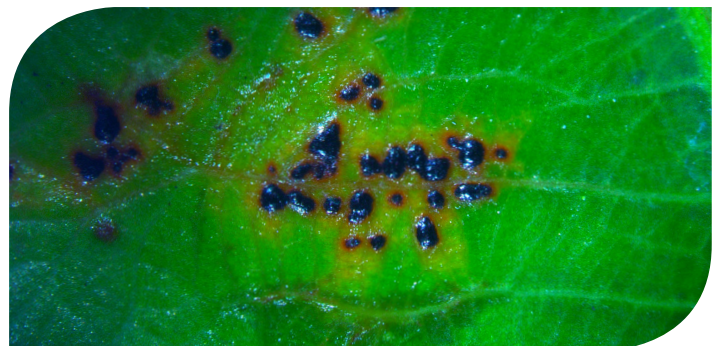
2 - *Visinus dimocarpi* (an eriophyid mite) whole body.
Photograph by Samuel J. Bolton, DPI

3 *Meloidogyne graminicola* Golden & Birchfield, 1965, the rice root-knot nematode, was first reported on grasses, oats and common bean (*Phaseolus vulgaris*). Since its first report, *M. graminicola* has been found primarily in irrigated rice crops in Asia, parts of the Americas, South Africa, and most recently, Northern Italy and Madagascar in 2016. In Florida, its recorded hosts include sandbur (*Cenchrus* spp.) and purple nutsedge (*Cyperus rotundus*).



3 - *Meloidogyne graminicola* (rice root-knot nematode) infection of *Cyperus rotundus* (purple nutsedge).
Photograph by Jeffrey W. Lotz and Janete A. Brito, DPI

4 *Phyllachora microstegia* (ochna tar spot), a new Continental USA record. In May 2018, a shipment of *Ochna integerrima* (Lour.) Merr. originating in St. Petersburg, Florida, infected with the fungus *Phyllachora* sp. was intercepted in San Diego, California, by the California Department of Food and Agriculture. DPI initiated a survey at two nursery sites associated with the shipment, targeting tar spot-like symptoms on various plant species. DPI plant pathology staff identified *P. microstegia* only on *O. integerrima* and none of the other plant species, consistent with the reported host range of this pathogen.



4 - *Phyllachora microstegia* (ochna tar spot), close-up of tar-spots on *Ochna integerrima*.
Photograph by Hector R. Urbina Yanez, 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 13,000 plants and 1,400 vials of seeds.

QUARTERLY ACTIVITY REPORT

	APRIL - JUNE 2018	2018 YEAR TO DATE
Samples submitted by other DPI sections	1,962	3,213
Samples submitted for botanical identification only	298	516
Total samples submitted	2,260	3,729
Specimens added to the Herbarium	80	138

Some of the samples submitted recently are described below:

1 *Emilia sonchifolia* (L.) DC. (**lilac tasselflower, Cupid's shaving brush**) from a genus of about 90 species from the Old World tropics in the plant family Compositae/Asteraceae. This weedy, herbaceous plant from Asia is now found worldwide in tropical and subtropical areas and can be a pest in plant nurseries and horticultural crops. *Emilia sonchifolia* grows in disturbed sites, old fields, roadsides, waste areas and sidewalk cracks. Plants can grow to 20–80 cm in height with glabrous or hairy stems that sometimes branch, but are often single and somewhat lax. The alternate leaves are usually petiolate at the base of the stem, but may be sessile higher on the stem. The leaf margins are often deeply lobed and, to some, resemble the leaves of sowthistle (*Sonchus oleraceus*; hence, *E. sonchifolia*). The inflorescence is urn-shaped with up to 40 lilac, purplish or white disc florets, exerted less than 2 mm from the involucre. The outer florets produce reddish-brown achenes; the inner florets, whitish-tan ones. Both colors are at most 3 mm long and have ten alternating glabrous and pubescent ridges. The young leaves have been used as food and medicine. In Florida, lilac tasselflower is found throughout most of the peninsula as well as in Escambia and Leon counties. (Flagler County; B2018-254; Melanie Cain; 13 April 2018; Hendry County; B2018-338; Terri L. Jones, USDA; 10 May 2018; and Marion County; B2018-503; Tavia L. Gordon; 21 June 2018.) (Mabberley 2017; Dickinson and Royer 2014.)



1- *Emilia sonchifolia* (lilac tasselflower).
Photograph from Shutterstock



2 *Eriobotrya japonica* (Thunb.) Lindl. (loquat, Japanese plum) from a genus of about 20 species native to Asia in the plant family Rosaceae. This species is a prized fruit tree in North Florida and an attractive landscape specimen farther south where fruit fly pests limit fruit crops. The tree requires little maintenance, but freezing temperatures can cause damage. The name of the genus, with the combination of *erion* (wool in Greek) and *botrys* (a bunch of grapes), reflects its distinctive, fuzzy fruits that some people think look like a bunch of wooly grapes, although the color is more apricot than grape colored. The trees grow from 8-10 m tall with a dense canopy of large (15-30 cm long), leathery, evergreen leaves. These glossy-green leaves are alternate and unlobed, with serrate margins; conspicuous, parallel veins; and pubescent undersides. The flowers with white to pinkish petals are born in large clusters. The edible fruit may be round or pear-shaped and 2-5 cm long. Several cultivars of this popular dooryard fruit have been developed and may differ from the species in fruit characteristics, such as time required for maturation. (Lake County; B2018-431; Melanie Cain and Carolyn P. Hall; 6 June 2018; Lake County; B2018-484; Nora V. Marquez; 19 June 2018; Citrus County; B2018-485; Nora V. Marquez; 19 June 2018; and Hernando County; B2018-488; Nora V. Marquez; 20 June 2018.) (Boning 2006; Wunderlin and Hansen 2011.)



2a - *Eriobotrya japonica* (loquat, Japanese plum) flowers.
Photograph from Shutterstock

3 *Parthenium hysterophorus* L. (parthenium, false ragweed, Santa Maria feverfew, whitetop weed) from a genus of 16 species in North America and the West Indies in the family Compositae/Asteraceae. This weedy annual is found in fields, disturbed or open areas and roadsides scattered through much of the eastern United States in the area roughly bounded by Massachusetts and Michigan to the north and south from Texas to Florida. Within Florida, the species has been documented in 30 counties, concentrated in the southern peninsula, but with nine counties in the Panhandle as well as Alachua, Duval, Marion, St. Johns and Seminole counties. Although the seedlings begin with a basal rosette of leaves, as the plant grows to 1-2 m in height, it produces pale green, pinnately-lobed, gland-dotted leaves along the stem and branches. The white flower heads are borne in open panicle-like clusters, with five (sometimes six) minute ray florets (0.3 - 1mm) and 12-30 disc florets. While the leaves are similar to those of *Ambrosia artemisiifolia* (common ragweed), ragweed has opposite leaves at the base of the stem with alternate leaf arrangement toward the apex. In parthenium, all leaves are alternate. This species can be toxic to livestock and can cause severe dermatitis in humans. It has become a serious weed of croplands and pastures through its aggressive spread in Australia, Asia and Africa and is becoming a pest plant in the southern United States. This species can overwhelm native plants through the production of massive seed crops and allelopathic chemicals. (Seminole County; B2018-241; Jesse M. Krok; 9 April 2018; Broward County; B2018-328; Justin K. Anto; 8 May 2018; and Alachua County; B2018-516; Kelly K. Douglas; 29 June 2018.) (Bryson and DeFelice 2009; http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=200024340 [accessed 12 July 2018]; <https://npgsweb.ars-grin.gov/gringlobal/taxonomydetail.aspx?id=315278> [accessed 12 July 2018].)



2b - *Eriobotrya japonica* (loquat, Japanese plum) fruit and leaves.
Photograph from Shutterstock



3 - *Parthenium hysterophorus* (false ragweed, Santa Maria feverfew).
Photograph by Bob Upcavage, [Atlas of Florida Plants](https://www.atlasoffloridaplants.com/)



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BOTANY IDENTIFICATION TABLE

The following table provides information about new county 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 also organized by collector name, except new county records are listed first.

NEW RECORD	COLLECTOR 1	COLLECTOR 2	COUNTY	SAMPLE NUMBER	COLLECTION DATE	GENUS	SPECIES
	Abby L. Bartlett	Nora V. Marquez	Sumter	B2018-435	Jun 8, 2018	<i>Abrus</i>	<i>precatorius</i> L.
	Abby L. Bartlett	Nora V. Marquez	Sumter	B2018-434	Jun 8, 2018	<i>Ardisia</i>	<i>crenata</i> Sims
	Abby L. Bartlett	Nora V. Marquez	Sumter	B2018-436	Jun 8, 2018	<i>Dioscorea</i>	<i>alata</i> L.
	Gary R. Webb		Pasco	B2018-459	Jun 13, 2018	<i>Podocarpus</i>	<i>macrophyllus</i> (Thunb.) Sweet
	Melanie Cain	Carolyn P. Hall	Volusia	B2018-411	May 31, 2018	<i>Albizia</i>	<i>julibrissin</i> Durazz.
	Melanie Cain	Carolyn P. Hall	Flagler	B2018-319	May 3, 2018	<i>Casuarina</i>	<i>glauca</i> Sieber ex Spreng.
	Melanie Cain		Flagler	B2018-253	Apr 13, 2018	<i>Emilia</i>	<i>fosbergii</i> Nicolson
	Melanie Cain		Flagler	B2018-254	Apr 13, 2018	<i>Emilia</i>	<i>sonchifolia</i> (L.) DC.
	Melanie Cain	Carolyn P. Hall	Lake	B2018-432	Jun 6, 2018	<i>Habranthus</i>	<i>robustus</i> Herb. ex Sweet
	Melanie Cain		Flagler	B2018-286	Apr 24, 2018	<i>Mimosa</i>	<i>strigillosa</i> Torr. & Gray
	Melanie Cain		Putnam	B2018-348	May 10, 2018	<i>Mimosa</i>	<i>strigillosa</i> Torr. & Gray
	Melanie Cain	P. Karen Coffey	Flagler	B2018-301	Apr 27, 2018	<i>Raphanus</i>	<i>raphanistrum</i> L.
	Melanie Cain		Putnam	B2018-296	Apr 26, 2018	<i>Salvia</i>	<i>misella</i> Kunth
	Melanie Cain		Volusia	B2018-320	May 2, 2018	<i>Sophora</i>	<i>tomentosa</i> L.
	Melanie Cain	Carolyn P. Hall	Volusia	B2018-412	May 31, 2018	<i>Wisteria</i>	<i>floribunda</i> (Willd.) DC.
	Melanie Cain		Flagler	B2018-227	Mar 29, 2018	<i>Xanthosoma</i>	<i>sagittifolium</i> (L.) Schott
	Nora V. Marquez		Lake	B2018-455	Jun 12, 2018	<i>Epipremnum</i>	<i>pinnatum</i> (L.) Engl.
	Nora V. Marquez		Lake	B2018-484	Jun 19, 2018	<i>Eriobotrya</i>	<i>japonica</i> (Thunb.) Lindl.
	Nora V. Marquez		Citrus	B2018-485	Jun 19, 2018	<i>Eriobotrya</i>	<i>japonica</i> (Thunb.) Lindl.
	Nora V. Marquez		Hernando	B2018-488	Jun 20, 2018	<i>Eriobotrya</i>	<i>japonica</i> (Thunb.) Lindl.
	Nora V. Marquez		Lake	B2018-483	Jun 19, 2018	<i>Lagerstroemia</i>	<i>indica</i> L.
	Nora V. Marquez		Hernando	B2018-489	Jun 20, 2018	<i>Leonotis</i>	<i>nepetifolia</i> (L.) R. Br.
	Nora V. Marquez		Lake	B2018-477	Jun 18, 2018	<i>Malvaviscus</i>	<i>penduliflorus</i> DC.
	Tamika S. Varela	Abby L. Bartlett	Lake	B2018-454	Jun 12, 2018	<i>Cuscuta</i>	<i>indecora</i> Choisy





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 with over 10 million prepared specimens), and investigates the biology, biological control, and taxonomy of arthropods.

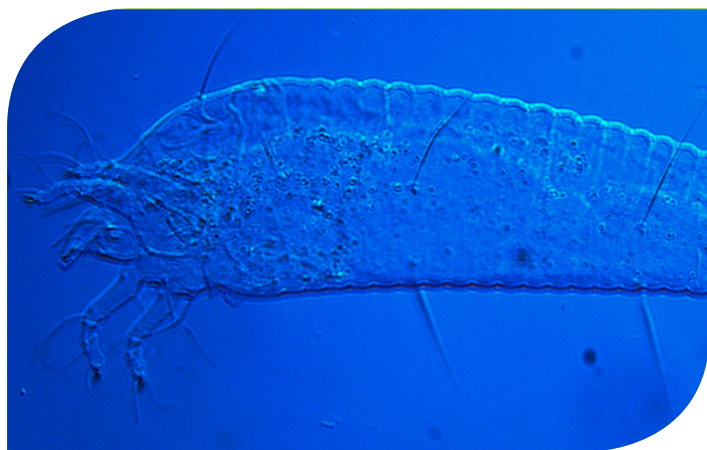
QUARTERLY ACTIVITY REPORT

APRIL - JUNE 2018

Samples submitted	2,139
Lots identified	2,800
Specimens identified	14,613

2018 - YEAR TO DATE

Samples submitted	3,545
Lots identified	4,637
Specimens identified	22,845



1 - *Visinus dimocarpi* (an eriophyid mite) whole body. Photograph by Samuel J. Bolton, DPI

1 *Visinus dimocarpi* Chandrapatya, an eriophyid mite, a new Western Hemisphere record and a new host record. This mite represents a new host plant and hemisphere record. The mite was originally collected and described from *Dimocarpus longan* (longan) in Thailand. This is the first known occurrence of this mite in the Western Hemisphere, and the first known occurrence on *Litchii chinensis* (lychee), in the same plant family, *Sapindaceae*, as the only other known host, *D. longan*. The mite is a harmless vagrant found on the upper surfaces of leaves. (Hendry County; E2018-1202; Mark R. Terrell; 21 March 2018.) (Dr. Samuel J. Bolton.)



2 - *Aleuroplatus validus* (Jamaican whitefly), pupae on leaf of *Mosiera longipes*, mangrove berry. Photograph by of Jake M. Farnum, DPI

2 *Aleuroplatus validus* Quaintance & Baker, Jamaican whitefly, a new Continental USA record. Jamaican whitefly was described first from Jamaica in 1917. Since then, the fly has been intercepted at United States ports from Antigua, Barbuda, the Dominican Republic, Haiti and Jamaica on leaves of *Annona* sp., including *Annona muricata* (soursop), and on other plants, such as *Canella winteriana* (wild cinnamon), *Citrus* sp., *Eucalyptus* sp., *Guatteria blainii* (haya minga) and *Pimenta* spp., including *Pimenta dioica* (allspice). Infestations of the species may cause damage to economically important ornamental plants in Florida. (Monroe County; E2017-2366; Jake M. Farnum; 12 June 2017.) (Dr. Muhammad Zee Ahmed.)



3 - *Phyllonorycter fragilella*, a leafmining moth. Photograph by James E. Hayden, DPI

3 *Phyllonorycter fragilella* (Frey & Boll), a leafmining moth, a new Florida State Record. The caterpillars of this species make tent-like mines in leaves of honeysuckle (*Lonicera*). It has been recorded from several other states, but it is not often collected. Since some other species of *Phyllonorycter* also feed on *Lonicera*, including Asian species, specific identification requires rearing. (Hillsborough County; E2018-2161; Travis J. Streeter; 26 April 2018.) (Dr. James E. Hayden.)



4 *Bactrocera dorsalis* (Hendel), Oriental fruit fly, a regulatory incident. A single male specimen was found in a Jackson trap baited with methyl eugenol (ME) in an avocado tree (*Persea americana*) in the Redland agricultural area (Miami-Dade County; E2018-2988; Vilmaliz Rodriguez, USDA, APHIS, PPQ; 1 June 2018). Two days later, two additional males were trapped in a nearby area (Miami-Dade County; E2018-3065 and E2018-3066; Miguel L. Justiz, USDA, APHIS, PPQ; 3 June 2018). Increased trap densities in a 59-square mile area around the detection sites were put in place to delimit the area of potential infestation. The three flies found in a short time and in close proximity triggered an eradication program. Spot treatments containing the attractant ME and killing agent Spinosad were applied around the detections sites. The first round of male annihilation treatment (MAT) was applied on 6 June, and two additional rounds were applied thereafter before the end of June. A fourth male fly was detected in the vicinity of the other flies on 26 June 2018 (Miami-Dade County; E2018-3480; Nora Marquez; 26 June 2018). An extensive survey of ripe fruit in the area, especially mango, did not reveal any larval infestation. Additional MAT treatments and surveillance will follow. If no further flies are found, the emergency program will continue until around 27 September 2018, the point at which three life cycles will have passed from the last detection. Note that this event follows a spate of oriental fruit fly incursions detected in 2017, in which single males were detected in Lake County (January), Pinellas County (June), and Broward County (July). (Dr. Gary J. Steck.)



4 - *Bactrocera dorsalis*, Oriental fruit fly.
Photograph by Gary J. Steck, DPI

5 *Bactrocera zonata* (Saunders), peach fruit fly, a regulatory incident. Two male specimens were found on successive days in jackfruit (*Artocarpus heterophyllus*) and sapodilla (*Manilkara zapota*) trees, respectively, in Jackson traps baited with methyl eugenol (ME). The detection sites, in Lake Worth, were about 1.25 miles apart. A delimitation program of high density trapping encompassed 87 square miles. A survey of potential breeding sites in the area of the first detection, where several tropical fruit nurseries are located, found little ripe fruit available at this early season and no evidence of peach fruit fly larvae. If no additional flies are detected, the program will conclude around 11 July 2018, after an estimated two life cycles have passed. Peach fruit fly was detected in Florida on only one other occasion (November 2010), in Miami-Dade County. (Palm Beach County; E2018-2437; Charles A. King, USDA, APHIS, PPQ; 9 May 2018; and Palm Beach County; E2018-2472; Charles A. King, USDA, APHIS, PPQ; 10 May 2018.) (Dr. Gary J. Steck.)



5 - *Bactrocera zonata*, peach fruit fly.
Photograph by Gary J. Steck, DPI

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🔍 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 webpage 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 having no plant information included are organized by arthropod name.

PLANT SPECIES	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Acer rubrum</i>	<i>Lymantria dispar</i>	gypsy moth	Michael C. McMahan	QUARANTINABLE PEST
<i>Allium ampeloprasum</i>	<i>Cavariella aegopodii</i>	carrot aphid	Catherine E. White, Dyra N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Allium ampeloprasum</i>	<i>Dysaphis foeniculus</i>	an aphid	Catherine E. White, Dyra N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Amorpha fruticosa</i>	<i>Amorhpicola amorphae</i>	amorpha psyllid	Carolyn P. Hall, Katherine E. O. Fairbanks, Kenneth B. Ellis, Kevin S. Loadholtz, Lisa M. Hassell, Melanie Cain, P. Karen Coffey, Patrick Sullivan, Patti J. Anderson, Susan E. Halbert, Tracy L. Wright	NEW FLORIDA COUNTY RECORD
<i>Annona squamosa</i>	<i>Aleurotrachelus anonae</i>	anonae whitefly	Olga Garcia	NEW FLORIDA COUNTY RECORD
<i>Antigonon leptopus</i>	<i>Metcalfa pruinosa</i>	a flatid planthopper	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Apium graveolens</i>	<i>Cavariella aegopodii</i>	carrot aphid	Daniel Merced, Ricardo D. Areingdale	REGULATORY SIGNIFICANT
<i>Apium graveolens</i>	<i>Myzus cymbalariae</i>	an aphid	Catherine E. White, Dyra N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Arenga engleri</i>	<i>Ormenaria rufifascia</i>	palm flatid	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Artocarpus heterophyllus</i>	<i>Bactrocera zonata</i>	peach fruit fly	Charles A. King	QUARANTINABLE PEST
<i>Asimina</i> sp.	<i>Cnestus mutilatus</i>	camphor shot hole borer	Michael A. Bentley	NEW FLORIDA COUNTY RECORD
<i>Asparagus officinalis</i>	<i>Frankliniella williamsi</i>	corn thrips	Catherine E. White, Dyra N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Avicennia germinans</i>	<i>Telmapsylla minuta</i>	minute black mangrove psyllid	Carolyn P. Hall, Katherine E. O. Fairbanks, Kenneth B. Ellis, Kevin S. Loadholtz, Lisa M. Hassell, Melanie Cain, Patricia "Karen" K. Coffey, Patrick Sullivan, Patti J. Anderson, Susan E. Halbert, Tracy L. Wright	NEW FLORIDA COUNTY RECORD
<i>Borrichia frutescens</i>	<i>Asphondylia borrichiae</i>	a gall midge	Charles A. 'Andy' Boring, Katherine E. O. Fairbanks, Mark J. Rothschild, Susan E. Halbert	NEW FLORIDA COUNTY RECORD
<i>Brassica oleracea</i>	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Catherine E. White, Dyra N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Callicarpa americana</i>	<i>Teleonemia belfragii</i>	a lace bug	Travis J. Streeter	NEW FLORIDA COUNTY RECORD
<i>Campsis radicans</i>	<i>Aphis illinoisensis</i>	grapevine aphid	Mark J. Rothschild	NEW FLORIDA HOST RECORD
<i>Celtis laevigata</i>	<i>Phytocoris tillandsiae</i>	a plant bug	Carolyn P. Hall	NEW FLORIDA COUNTY RECORD
<i>Chiococca alba</i>	<i>Podiasa chiococcella</i>	a moth	Jennifer K. Serviss	NEW FLORIDA COUNTY RECORD



PLANT SPECIES	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Cichorium endivia</i>	<i>Deltocephalus fuscinervosus</i>	a leafhopper	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Cichorium endivia</i>	<i>Euscelidius variegatus</i>	variegate leafhopper	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Cichorium endivia</i>	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Citrus limon</i>	<i>Phyllomydas parvulus</i>	a mydid fly	Prem Kumar	NEW FLORIDA COUNTY RECORD
<i>Citrus sinensis</i>	<i>Diogmites properans</i>	a robber fly	Denise L. Zywica	NEW FLORIDA COUNTY RECORD
<i>Citrus sinensis</i>	<i>Trupanea eclipa</i>	a fruit fly	Martha E. Bennett	NEW FLORIDA COUNTY RECORD
<i>Citrus</i> sp.	<i>Corythucha mollicula</i>	a lacebug	Olga Garcia	NEW FLORIDA COUNTY RECORD
<i>Citrus</i> sp.	<i>Froeschneria multispinus</i>	a seed bug	Olga Garcia	NEW FLORIDA COUNTY RECORD
<i>Citrus</i> sp.	<i>Paraleyrodes minei</i>	a whitefly	Sheila O. Dunning	NEW FLORIDA COUNTY RECORD
<i>Clerodendrum thomsoniae</i>	<i>Metcalfa pruinosa</i>	a flatid planthopper	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Cocos nucifera</i>	<i>Fiorinia phantasma</i>	phantasma scale	Olga Garcia, Muhammad Zee Ahmed	NEW FLORIDA HOST RECORD, QUARANTINABLE PEST
<i>Cycas revoluta</i>	<i>Fiorinia phantasma</i>	phantasma scale	Lance S. Osborne, Phellicia P. Perez, Yisell Velazquez Hernandez	NEW FLORIDA HOST RECORD, QUARANTINABLE PEST
<i>Daucus carota</i>	<i>Cavariella aegopodii</i>	carrot aphid	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Dimocarpus longan</i>	<i>Thysanofiorinia nephelii</i>	longan scale	Muhammad Zee Ahmed	NEW FLORIDA COUNTY RECORD
<i>Dracaena</i> sp.	<i>Dieuches armatipes</i>	an African seed bug	Laura Ureta-Cooper	NEW FLORIDA COUNTY RECORD
<i>Dypsis lutescens</i>	<i>Fiorinia phantasma</i>	phantasma scale	Janelly Vergel, Jake M. Farnum	NEW FLORIDA HOST RECORD, QUARANTINABLE PEST
<i>Eriobotrya japonica</i>	<i>Aphis eugeniae</i>	an aphid	Melanie Cain	NEW FLORIDA COUNTY RECORD
<i>Eriobotrya japonica</i>	<i>Corticoris signatus</i>	a plant bug	Carolyn P. Hall	NEW FLORIDA COUNTY RECORD
<i>Eriobotrya japonica</i>	<i>Hyalochloria unicolor</i>	a mirid bug	Carolyn P. Hall	NEW FLORIDA COUNTY RECORD
<i>Eriobotrya japonica</i>	<i>Stegasta capitella</i>	peanut budworm moth	Cecilia Carrero Turnbull	NEW FLORIDA COUNTY RECORD
<i>Eugenia uniflora</i>	<i>Stegasta capitella</i>	gelechiid moth	Carmen M. Escalante	NEW FLORIDA COUNTY RECORD
<i>Fraxinus</i> sp.	<i>Thione championi</i>	a root-eating beetle	P. Karen Coffey	NEW FLORIDA COUNTY RECORD
<i>Gardenia jasminoides</i>	<i>Thrips florum</i>	Oriental flower thrips	Abby L. Bartlett	NEW FLORIDA COUNTY RECORD
<i>Guapira obtusata</i>	<i>Nealyda kinzelella</i>	a gelechiid moth	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
<i>Hibiscus rosa-sinensis</i>	<i>Anthonomus testaceosquamosus</i>	hibiscus bud weevil	Training Class 89, Stephen R. Jenner	NEW FLORIDA COUNTY RECORD
<i>Hibiscus rosa-sinensis</i>	<i>Anthonomus testaceosquamosus</i>	hibiscus bud weevil	Jesse M. Krok	QUARANTINABLE PEST
<i>Hibiscus rosa-sinensis</i>	<i>Anthonomus testaceosquamosus</i>	hibiscus bud weevil	Scott D. Krueger	QUARANTINABLE PEST



PLANT SPECIES	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Hibiscus rosa-sinensis</i>	<i>Anthonomus testaceosquamosus</i>	hibiscus bud weevil	Lisa M. Hassell	QUARANTINABLE PEST
<i>Hibiscus</i> sp.	<i>Anthonomus testaceosquamosus</i>	hibiscus bud weevil	Marieta Figueroa	NEW FLORIDA FLORIDA STATE RECORD
<i>Hibiscus</i> sp.	<i>Anthonomus testaceosquamosus</i>	hibiscus bud weevil	Dawn Cermak	NEW FLORIDA COUNTY RECORD
<i>Ilex</i> sp.	<i>Strongylium aulicum</i>	a darkling beetle	Abby L. Bartlett, Larry L. 'Mo' Violett, Nora V. Marquez, Tamika S. Varela	NEW FLORIDA COUNTY RECORD
<i>Lactuca sativa</i>	<i>Ceratagallia californica</i>	a leafhopper	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Deltocephalus fuscinosus</i>	a leafhopper	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Deltocephalus fuscinosus</i>	a leafhopper	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Deltocephalus fuscinosus</i>	a leafhopper	Eric M. Dougherty, Scott Curry	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Deltocephalus fuscinosus</i>	a leafhopper	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Liriomyza langei</i>	California pea leafminer	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Metopolophium dirhodum</i>	rose grass aphid	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Lactuca sativa</i>	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Eric M. Dougherty, Scott Curry	REGULATORY SIGNIFICANT
<i>Limonium carolinianum</i>	<i>Palatka nymphaeella</i>	a pyralid moth	Carolyn P. Hall, Melanie Cain	NEW FLORIDA COUNTY RECORD
<i>Litchi chinensis</i>	<i>Aceria litchii</i>	lychee erinose mite	Sallie H. Simmons	NEW FLORIDA COUNTY RECORD, QUARANTINABLE PEST
<i>Litchi chinensis</i>	<i>Aceria litchii</i>	lychee erinose mite	LeAnn M. West	NEW FLORIDA COUNTY RECORD, QUARANTINABLE PEST
<i>Litchi chinensis</i>	<i>Aceria litchii</i>	lychee erinose mite	LeAnn M. West	NEW FLORIDA COUNTY RECORD, QUARANTINABLE PEST
<i>Litchi chinensis</i>	<i>Pseudococcus aurantiacus</i>	a mealybug	Bryan K. Benson, Cheryl A. Jones, Mary Jane Echols, Michael A. Bentley, Schiefer S. Buckles	REGULATORY SIGNIFICANT
<i>Litchi chinensis</i>	<i>Visinus dimocarpi</i>	an eriophyid mite	Mark R. Terrell	NEW WESTERN HEMISPHERE RECORD
<i>Lonicera sempervirens</i>	<i>Phyllonorycter fragilella</i>	a leafminer moth	Travis J. Streeter	NEW FLORIDA STATE RECORD
<i>Lyonia fruticosa</i>	<i>Stephanitis blatchleyi</i>	a lace bug	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Magnolia grandiflora</i>	<i>Aphis gossypii</i>	cotton aphid/melon aphid	Kelly K. Douglas	NEW FLORIDA HOST RECORD
<i>Magnolia grandiflora</i>	<i>Thysanoflorinia nephelii</i>	longan scale	Nora V. Marquez	NEW FLORIDA COUNTY RECORD
<i>Magnolia grandiflora</i>	<i>Vanduzea segmentata</i>	a treehopper	Kelly K. Douglas	NEW FLORIDA HOST RECORD
<i>Manilkara zapota</i>	<i>Bactrocera zonata</i>	peach fruit fly	Charles A. King	QUARANTINABLE PEST



PLANT SPECIES	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Mosiera longipes</i>	<i>Aleuroplatus validus</i>	a whitefly	Jake M. Farnum	NEW CONTINENTAL USA RECORD
<i>Nashia inaguensis</i>	<i>Teleonemia scrupulosa</i>	lantana lace bug	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Persea borbonia</i>	<i>Oceanaspidiotus spinosus</i>	Spinose scale	Abby L. Bartlett	NEW FLORIDA COUNTY RECORD
<i>Persea palustris</i>	<i>Tetraleurodes mori</i>	mulberry whitefly	Melanie Cain	NEW FLORIDA HOST RECORD
<i>Phoenix reclinata</i>	<i>Fiorinia phantasma</i>	phantasma scale	Henrique Mayer, Juleysy Rodriguez, Muhammad Zee Ahmed	NEW FLORIDA HOST RECORD, QUARANTINABLE PEST
<i>Phoenix roebelenii</i>	<i>Fiorinia phantasma</i>	phantasma scale	Catherine M. Mannion, Elijah J. Talamas, Elizabeth V. 'Vanessa' Campoverde	NEW FLORIDA HOST RECORD
<i>Phoenix roebelenii</i>	<i>Fiorinia phantasma</i>	phantasma scale	Charles M. 'Mike' Twyford, Jake M. Farnum	NEW FLORIDA HOST RECORD, QUARANTINABLE PEST
<i>Phoenix roebelenii</i>	<i>Phoenicococcus marlatti</i>	red date scale	LeAnn M. West	NEW FLORIDA COUNTY RECORD
<i>Phoenix</i> sp.	<i>Fiorinia phantasma</i>	phantasma scale	Janelly Vergel, Jake M. Farnum	NEW FLORIDA HOST RECORD, QUARANTINABLE PEST
<i>Phoenix</i> sp.	<i>Melanocinclis vibex</i>	a cosmopterigid moth	Abby L. Bartlett	NEW FLORIDA COUNTY RECORD
<i>Physalis philadelphica</i>	<i>Bactericera cockerelli</i>	potato psyllid	Travis J. Streeter	REGULATORY SIGNIFICANT
<i>Podocarpus macrophyllus</i>	<i>Neophyllaphis varicolor</i>	multicolored podocarpus aphid	David St. John	NEW FLORIDA COUNTY RECORD
<i>Prunus geniculata</i>	<i>Conotrachelus nenuphar</i>	plum curculio	Mike Jenkins	NEW FLORIDA HOST RECORD
<i>Prunus persica</i>	<i>Halyomorpha halys</i>	brown marmorated stink bug	Clayton A. Bania, Cory J. Penca	NEW FLORIDA STATE RECORD
<i>Quercus</i> sp.	<i>Atractotomus miniatus</i>	a mirid bug	Carolyn P. Hall	NEW FLORIDA COUNTY RECORD
<i>Quercus</i> sp.	<i>Clastoptera</i> sp.	oak spittlebug	Jennifer L. Patterson	NEW FLORIDA COUNTY RECORD
<i>Quercus</i> sp.	<i>Deraeocoris sayi</i>	a mirid bug	Yaritza Perez-Otero	NEW FLORIDA COUNTY RECORD
<i>Quercus</i> sp.	<i>Notogramma cimiciformis</i>	a ulidiid fly	Victor L. Reaume	NEW FLORIDA COUNTY RECORD
<i>Ravenea rivularis</i>	<i>Aspidiella sacchari</i>	sugarcane scale	LeAnn M. West	NEW FLORIDA HOST RECORD
<i>Rubus</i> sp.	<i>Rhinacloa forticornis</i>	western plant bug	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Sabal causiarum</i>	<i>Ormenaria ruffascia</i>	palm flatid	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Sabal palmetto</i>	<i>Homaledra</i> sp. 2	western palm skeletonizer	Nora V. Marquez	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	<i>Homaledra</i> sp. 2	western palm skeletonizer	Nora V. Marquez	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	<i>Homaledra</i> sp. 2	western palm skeletonizer	James E. Hayden	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	<i>Melanocinclis vibex</i>	cosmopterigid moths	James E. Hayden, Terhune S. Dickel	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	<i>Melanocinclis vibex</i>	a cosmopterigid moth	Nora V. Marquez	NEW FLORIDA COUNTY RECORD



PLANT SPECIES	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Sabal palmetto</i>	<i>Melanocinclis vibex</i>	a cosmopterigid moth	James E. Hayden	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	<i>Pseudoparlatoria parlatorioides</i>	false parlatoria scale	Nora V. Marquez	NEW FLORIDA COUNTY RECORD
<i>Silybum marianum</i>	<i>Metcalfa pruinosa</i>	a flatid planthopper	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Silybum marianum</i>	<i>Phenacoccus parvus</i>	a mealybug	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Spartina</i> sp.	<i>Neomegamelanus elongatus</i>	a delphacid planthopper	Training Class 89, Charles "Andy" A. Boring, Jodi L. Hansen, Patti J. Anderson, Samuel J. Bolton, Stephen R. Jenner, Susan E. Halbert	NEW FLORIDA COUNTY RECORD
<i>Stapelia</i> sp.	<i>Metcalfa pruinosa</i>	a flatid planthopper	Travis J. Streeter	NEW FLORIDA HOST RECORD
<i>Taxodium distichum</i>	<i>Crisicoccus taxodii</i>	bald cypress mealybug	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
<i>Vachellia farnesiana</i>	<i>Heteropsylla flexuosa</i>	an acacia psyllid	Travis J. Streeter	NEW FLORIDA COUNTY RECORD
<i>X Cupressocyparis leylandii</i>	<i>Eudocimimus mannerheimii</i>	cypress weevil	Jeffrey M. Eickwort	NEW FLORIDA HOST RECORD
<i>Zanthoxylum fagara</i>	<i>Pseudocaecilius tahitiensis</i>	bark louse	Justin K. Anto	NEW FLORIDA COUNTY RECORD
	<i>Achatina fulica</i>	giant African land snail	John T. McCormick	QUARANTINABLE PEST
	<i>Bactrocera dorsalis</i>	Oriental fruit fly	Miguel L. Justiz	QUARANTINABLE PEST
	<i>Bactrocera dorsalis</i>	Oriental fruit fly	Nora V. Marquez	QUARANTINABLE PEST
	<i>Bactrocera dorsalis</i>	Oriental fruit fly	Vilmaliz Rodriguez	QUARANTINABLE PEST
	<i>Copestylum trivittatum</i>	a flower fly	Natanael Valentin Esteves	NEW FLORIDA COUNTY RECORD
	<i>Dicyphus pallicornis</i>	foxglove bug	Michael L. Golub	REGULATORY SIGNIFICANT
	<i>Dysmicoccus diodium</i>	buttonweed mealybug	Kyle E. Schnepf	TRIOLOGY
	<i>Hermetia sexmaculata</i>	a soldier fly	Danielle Y. Hutchinson	NEW FLORIDA COUNTY RECORD
	<i>Homaledra</i> sp. 2	western palm skeletonizer	Training Class 89	NEW FLORIDA COUNTY RECORD
	<i>Hylesinus aculeatus</i>	ash bark beetle	Bradley A. Danner, Robert M. Leahy	NEW FLORIDA COUNTY RECORD
	<i>Matsucoccus alabamae</i>	a pine scale	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
	<i>Matsucoccus gallicolus</i>	pine twig gall scale	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
	<i>Matsucoccus gallicolus</i>	pine twig gall scale	Brian D. Saunders	NEW FLORIDA COUNTY RECORD
	<i>Matsucoccus gallicolus</i>	pine twig gall scale	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
	<i>Matsucoccus gallicolus</i>	pine twig gall scale	Kathleen A. Miller, Patricia Barker	NEW FLORIDA COUNTY RECORD
	<i>Megamelus gracilis</i>	a delphacid planthopper	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
	<i>Melanocinclis gnoma</i>	cosmopterigid moth	Jake M. Farnum	NEW FLORIDA COUNTY RECORD



PLANT SPECIES	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
	<i>Melanocinclis gnoma</i>	cosmopterigid moth	Douglas A. Restom-Gaskill	NEW FLORIDA COUNTY RECORD
	<i>Melanocinclis gnoma</i>	cosmopterigid moth	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
	<i>Melanocinclis gnoma</i>	cosmopterigid moth	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
	<i>Melanocinclis lineigera</i>	cosmopterigid moth	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
	<i>Melanocinclis vibex</i>	cosmopterigid moth	Training Class 89	NEW FLORIDA COUNTY RECORD
	<i>Menosoma stonei</i>	a leafhopper	Training Class 89, Charles "Andy" A. Boring, Samuel J. Bolton, Susan E. Halbert	NEW FLORIDA COUNTY RECORD
	<i>Neophyllaphis araucariae</i>	Norfolk Island pine aphid	Monica Triana	NEW FLORIDA COUNTY RECORD
	<i>Oxydia vesulia</i>	spurge spanworm moth	Kirra Cain, Melanie Cain	NEW FLORIDA COUNTY RECORD
	<i>Pseudomops septentrionalis</i>	pale bordered field cockroach	Bradley A. Danner, Robert M. Leahy	NEW FLORIDA COUNTY RECORD
	<i>Spodoptera androgea</i>	androgea armyworm	Kevin E. Everhart	NEW FLORIDA COUNTY RECORD
	<i>Spodoptera androgea</i>	androgea armyworm	Kevin E. Everhart	NEW FLORIDA COUNTY RECORD
	<i>Trichodesma klagesi</i>	a death-watch beetle	Bradley A. Danner, Robert M. Leahy	NEW FLORIDA STATE RECORD





NEMATOLOGY

Compiled by Janete A. Brito, Ph.D., Silvia Vau, Ph.D. and Jason D. Stanley, M.S.

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

QUARTERLY ACTIVITY REPORT

	APRIL - JUNE	2018 - YEAR TO DATE
Morphological identifications	3,194	6,648
Molecular identifications*	234	460
Total identifications	3,428	7,108

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



1 - *Meloidogyne graminicola* (rice root-knot nematode) infection of *Cyperus rotundus* (purple nutsedge).
Photography by Jeffrey W. Lotz and Janete A. Brito, DPI

Nematodes of Special Interest

1 *Meloidogyne graminicola*, Golden & Birchfield, 1965, the rice root-knot nematode was first reported on grasses (*Poa annua*, *Alopecurus carolinianus*, *Eleusine indica* and *Echinochloa colonum*), on oats (*Avena* sp.) and common bean (*Phaseolus vulgaris*). Since then, *M. graminicola* has been found primarily in irrigated rice crops in Asia, parts of the Americas, South Africa, and most recently, northern Italy and Madagascar in 2016. There are 98 host reports that include both cultivated crops and weed species. The most economically important host of the nematode is rice (*Oryza sativa*), which suffers yield losses of 8 to 97% in India, Nepal, Bangladesh, the Philippines and Indonesia. In the United States, this nematode has been reported in Louisiana on common bean, rice and weeds; in Georgia on grasses; and in Florida on sandbur (*Cenchrus* spp.) and purple nutsedge (*Cyperus rotundus*). *Meloidogyne graminicola* is listed as a quarantinable pest in all rice-growing countries; however, recent research has found that an isolate of *M. graminicola* from Florida does not infect rice.

Meloidogyne graminicola is found in upland soils, shallow soils and deeply flooded soils. The life cycle of this nematode has some peculiar adaptations to flooded conditions that distinguish it from other root-knot nematode species. The infective second-stage juvenile (J2) invades rice roots just behind the root tip in upland conditions. After establishing a feeding site, it goes through three molts until it reaches the adult stage. Males and females are present in the same



gall, and reproduction can be by amphimixis or meiotic parthenogenesis. Females lay eggs mainly in the root cortex. The second generation of infective juveniles stay in the maternal gall or migrate within the same root system through aerenchymatous tissues and form a new feeding site. The most common symptoms of *M. graminicola* include galls throughout the root system, hooked root tips, patchy growth reduction, unfilled spikelets, reduced tillering, chlorosis, wilting and poor yield.

The natural spread of *M. graminicola* is very limited since J2 can only move over short distances towards roots in the soil. However, plants for planting, soil, soil attached to machinery or other material and soil debris mixed with non-certified seeds from countries where the nematode occurs are the most common pathways. In Florida, nematode surveys and inspection of economically important hosts of this nematode are important for future management and regulatory decisions.

REFERENCES

- Brito, J.A., R. Kaur, R. Cetintas, J.D. Stanley, M.L. Mendes, E.J. McAvoy, T.O. Powers, and D.W. Dickson. 2008.** Identification and isozyme characterization of *Meloidogyne* spp. infecting horticultural and agronomic crops and weed plants in Florida. *Nematology* 10: 757-766.
- Pokharel, R.R., G.S. Abawi, J.M. Duxbury, C.D. Smart, X. Wang, and J.A. Brito. 2010.** Variability and the recognition of two races in *Meloidogyne graminicola*. *Australasian Plant Pathology* 39: 326-333.

COLLECTORS

Collectors submitting five or more samples that were processed for nematological analysis from April through June 2018.

COLLECTOR NAME	SAMPLES PROCESSED
Alford, Brian M.	6
Bentley, Michael A.	53
Blaney Richard L.	6
Bloom, Richard T.	67
Boyar, Jillian	135
Burgos, Frank A.	296
Douglas, Kelly K.	8
Echols, M. Jane	13
Frechette, Jeanie P.	10
McMahan, Michael L.	7
Nolen, Ashley M.	9
Ochoa, Ana L.	128
Rojas, Eric P.	19
Russell, Dyrana N.	9
Spriggs, Charles L.	116
St. John, David	51
Taylor, Donald G.	6
West, Leann M.	5
Williams, Kevin M.	39
Wolfe, C. David	75
Yates, Johnny J.	7

CERTIFICATION AND REGULATORY SAMPLES

	APRIL - JUNE	2018 - YEAR TO DATE
Multistate certification for national and international export	1,637	3,211
California certification	295	637
Pre-movement (citrus nursery certification)	52	146
Site or pit approval (citrus nursery and other certifications)	76	80

OTHER SAMPLES

	APRIL - JUNE	2018 - YEAR TO DATE
Identifications (other organisms)	1	2
Nematology Investigation	0	90
Plant Problems	50	97
Intrastate Survey, Random	156	316
Total	2,267	4,779

IDENTIFICATIONS

	APRIL - JUNE	2018 - YEAR TO DATE
Regulatory	0	0
Other Purposes		
Surveys	234	460
Total	234	460





PLANT PATHOLOGY

Compiled by Hector R. Urbina Yanez, Ph.D.; Jodi L. Hansen, M.S.; Taylor E. Smith, B.S.; Kishore Dey, Ph.D.; and Debra D. 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 staying 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.

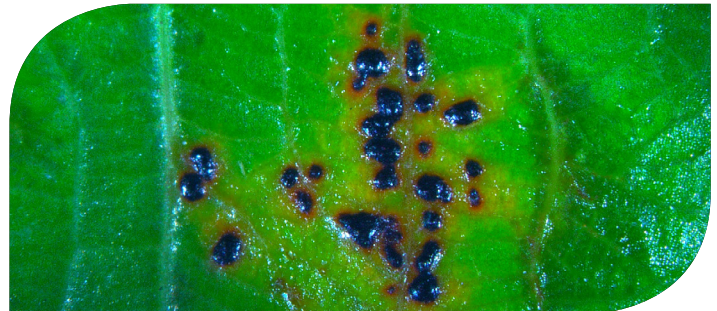
QUARTERLY ACTIVITY REPORT

	APRIL-JUNE	2018 - YEAR TO DATE
Budwood	968	968
Citrus black spot	36	57
Citrus canker	170	227
Citrus greening / HLB	920	1,019
Honeybees	1	1
Interdictions	10	13
Laurel wilt	0	1
Pathology, General	671	1,099
Soil	51	102
Sudden oak death	55	56
Sweet orange scab-like disease	3	5
Texas Phoenix palm decline	110	155
Water	0	2
Miscellaneous	7	15
Totals	3,002	3,720

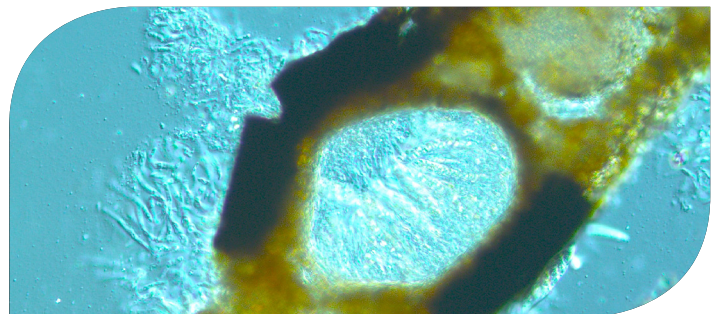
1 *Phyllachora microstegia* (ochna tar spot), a new Continental USA record. In May 2018, a shipment of *Ochna integerrima* (Lour.) Merr., originating in St. Petersburg, Florida, infected with the fungus *Phyllachora* sp., was intercepted in San Diego, California, by the California Department of Food and Agriculture. The fungus was subsequently identified as *Phyllachora microstegia* Syd. by Megan Romberg at USDA-APHIS-PPQ-PHP -National Identification Services in Beltsville, Maryland. DPI initiated a survey at two nursery sites associated with the shipment, targeting tar spot-like symptoms on various plant species. DPI plant pathology staff identified *P. microstegia* only on *O. integerrima* and none of the other plant species, consistent with the reported host range of this pathogen. Currently, this pathogen is a stop-sale organism due to its limited host range



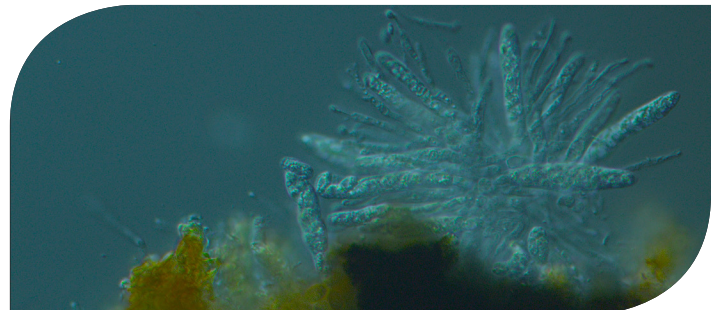
1a - *Phyllachora microstegia* (ochna tar spot) damage on *Ochna integerrima*. Tar spot symptoms. Photograph by Jason M. Spiller, Mark A. Spearman and Richard A. White, DPI



1b - *Phyllachora microstegia* (ochna tar spot) damage on *Ochna integerrima*. Close-up of tar-spots. Photograph by Hector R. Urbana, DPI



1c - *Phyllachora microstegia* (ochna tar spot) damage on *Ochna integerrima*. Cross section of a perithecium showing pseudostruma of *P. microstegia*. Photograph by Hector R. Urbana, DPI

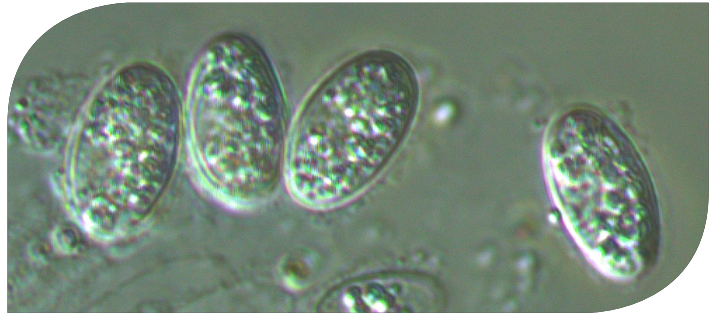


1d - *Phyllachora microstegia* (ochna tar spot) damage on *Ochna integerrima*. Asci. Photograph by Hector R. Urbana, DPI



and distribution.

Ochna integerrima is an ornamental shrub with bright yellow flowers common in Vietnam where it is sometimes called *mai*. It is also referred to as the Mickey Mouse plant due to the distinctive appearance of the fruit. Ochna tar spot symptoms observed on both sides of the leaves consist of smooth, shiny black lesions that are immersed perithecia, heavily melanized pseudostroma, 60-120 um, with slight chlorotic halo present (a-c). *Phyllachora microstegia* was identified based on morphological analysis. Microscopically, *P. microstegia* produces eight broadly-ellipsoidal spores in unitunicate, clavate asci (d-e). Interception of ochna tar spot has occurred at least five times in plants shipped from Hawaii to the United States mainland. (Pinellas County; P2018-96898; Jason M. Spiller, Mark A. Spearman and Richard A. White; 18 June 2018.)



1e - *Phyllachora microstegia* (ochna tar spot) damage on *Ochna integerrima*. Ascospores with gel around them. Photograph by Hector R. Urbana, DPI



1f - *Ochna integerrima* (mai or Mickey Mouse plant) fruit. Photograph from Shutterstock



1g - *Ochna integerrima* (mai or Mickey Mouse plant) flowers. Photograph from Shutterstock



🔍 PLANT PATHOLOGY IDENTIFICATION TABLE

The following table provides information about samples identified between April-June 2018. The table is organized alphabetically by plant species, with new records listed on the right. An abbreviated table, with all the new records, but less detail about them, is presented on this page and another version with more complete data is downloadable as a [PDF](#) or [Excel](#) spreadsheet.

PLANT SPECIES	PLANT COMMON NAME	CASUAL AGENT	DISEASE NAME	LOCATION TYPE	SPECIMEN #	COUNTY	COLLECTOR	DATE	NEW RECORDS	COMMENTS
<i>Hylocereus</i> sp.	nightblooming cactus	<i>Phyllosticta</i> sp.	leaf necrosis	botanical gardens	95738	Pinellas	Mark A. Spearman and David St. John	6/6/2018	host	Fungi in the genus <i>Phyllosticta</i> are common plant pathogens typically infecting foliage causing leaf spots. <i>Phyllosticta</i> may also infect fruits and stems.
<i>Lycium carolinianum</i>	Carolina desertthorn	<i>Cucumovirus cucumber mosaic virus</i>		business	96020	Alachua	Susan E. Halbert	4/19/2018	host	<i>Cucumber mosaic virus</i> (CMV) belongs to the genus <i>Cucumovirus</i> of the family Bromoviridae. This virus has a worldwide distribution and a very wide host range. In fact, it is believed to have the widest host range of any known plant virus. The symptoms may vary widely depending on the host plant and include distortion of foliage, mosaic, mottling, stunting and necrosis. This virus is spread by several aphid vectors. CMV can also be spread mechanically from infected plants to healthy plants.
<i>Ochna integerrima</i>	ochna	<i>Phyllachora microstegia</i>	tar spot	nursery	96898	Pinellas	Jason M. Spiller, Mark A. Spearman, Richard A. White	6/18/2018	continental	<i>Phyllachora</i> is a genus of fungi that causes tar spots, shiny black lesions, on grasses and other plants. <i>Phyllachora microstegia</i> causes tar spots both sides of the leaves of <i>Ochna integerrima</i> , its only known host.
<i>Ochna integerrima</i>	ochna	<i>Phyllachora microstegia</i>	tar spot	nursery	96946	Sarasota	Jennifer K. Serviss	6/18/2018	county	<i>Phyllachora</i> is a genus of fungi that causes tar spots, shiny black lesions, on grasses and other plants. <i>Phyllachora microstegia</i> causes tar spots both sides of the leaves of <i>Ochna integerrima</i> , its only known host.
<i>Sabal palmetto</i>	cabbage palm	<i>Phytoplasma palmae</i>	Texas phoenix palm decline	roadside	96943	Alachua	Owner	6/11/2018	no	Phytoplasma is in the taxonomic group of organisms that infect palms with lethal yellows or palm decline. The earliest symptom is a discoloration of the lower (oldest) leaves of the palms. Discoloration begins at the tips of the leaflets. The disease is thought to be transmitted by an insect vector, probably a planthopper or leafhopper.
<i>Quercus</i> sp.	oak	<i>Taphrina caerulescens</i>	oak leaf blister	nursery	96959	Lake	Mary C. Sellers	6/14/2018	no	<i>Taphria caerulescens</i> is a pathogenic ascomycete fungus that causes oak leaf blister disease on several species of oaks.
<i>Tulbaghia violacea</i>	society garlic	<i>Tomato spotted wilt tospovirus</i>	tomato spotted wilt virus	nursery	96954	Lake	Mary C. Sellers	6/13/2018	host	<i>Tomato spotted wilt tospovirus</i> (TSWV) causes serious diseases of vegetables, ornamentals and field crops representing 35 plant species. In recent years, there has been an upsurge of this virus due to the increased movement of its vector, the western flower thrips and the use of cuttings for plant propagation. Weeds also serve as reservoirs for TSWV.





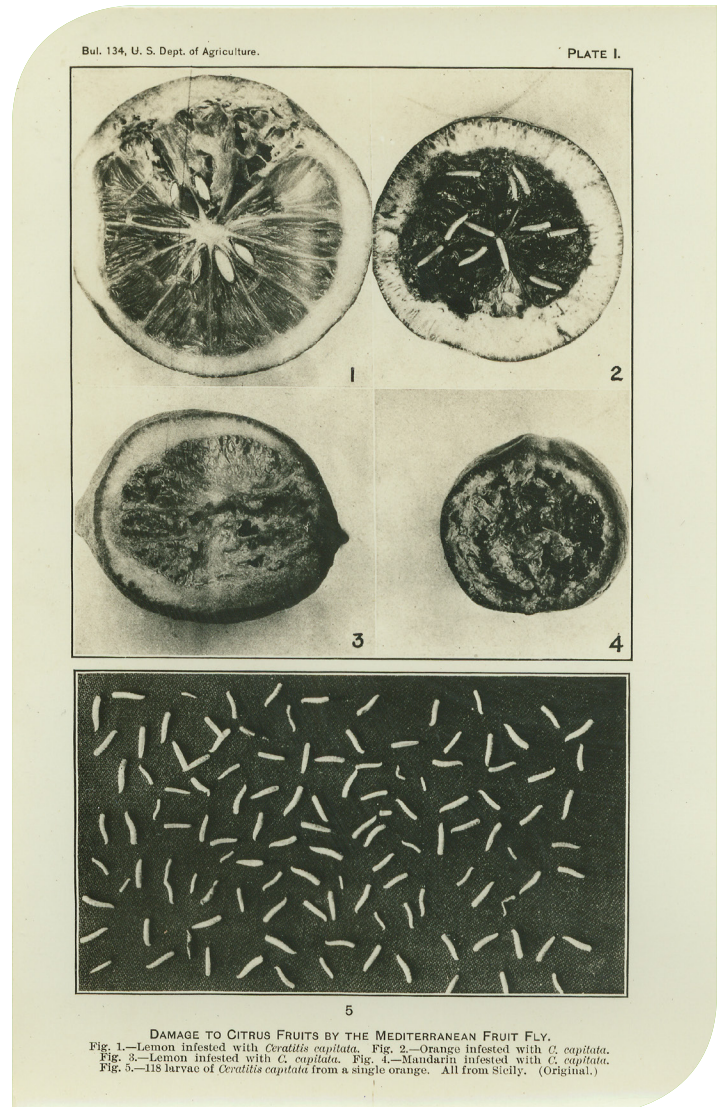
FROM THE EDITOR

By Patti J. Anderson, Ph.D.

Fruit Flies in Florida...Constant Conflict

In this issue, we report two regulatory incidents involving fruit flies: *Bactrocera dorsalis*, Oriental fruit fly, in Miami-Dade County and *Bactrocera zonata*, peach fruit fly, in Palm Beach County. Although we never want to find a fruit fly in our state, DPI staff are well trained to respond to outbreaks of these pests. Flies were discovered in traps monitored by DPI staff, demonstrating one element of the surveillance program that has consistently proven to prevent the widespread outbreak of these plant pests. Today, DPI relies on a system of early warning traps and rapid response to those early warnings. Using the Incident Command System, the federal emergency response program used in instances such as hurricanes, wildfires, industrial accidents and other natural and human caused disasters, DPI works with partners from USDA, local governments and news organizations and employs modern tools such as sterile insect release and GIS mapping to manage the situation. The basis for the quick and efficient response is decades of experience with fruit fly detection and eradication. But how did that experience develop? What did Florida's first first-responders do?

In April 1929, Florida entomologists identified *Ceratitis capitata*, the Mediterranean fruit fly, infesting an Orlando citrus grove. The scientists developed and carried out a plan to identify infested crops and destroy fruits and vegetables that could be hosts within a one-mile zone surrounding the infestation. A poisoned bait was sprayed in the groves, fruits were removed and transportation of produce within all infested areas was regulated as additional flies were found. In Deland, for example, local women organized block teams to assist with fruit removal and burial. Eventually, the fly was declared eradicated, but only after about 10,000,000 acres had been involved in the eradication program. Now, the early warning system of traps and lures helps avoid the magnitude of fruit loss seen in 1929. For example, the most recent outbreak of Mediterranean fruit fly, over the winter of 2010-2011, involved just over 94,000 acres. Looking toward the future, DPI entomologists continue to explore new techniques for identifying and eradicating plant pests and protecting the state's agriculture.



***Ceratitis capitata*, the Mediterranean fruit fly.** Fruit fly infested fruit from 1929. Photograph courtesy of USDA.





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