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# TRI-OLOGY

A PUBLICATION FROM THE DIVISION OF PLANT INDUSTRY, BUREAU OF ENTOMOLOGY, NEMATOLOGY, 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 • Division of Plant Industry



*Magnolia grandiflora*  
Photo by Patti Anderson, DPI

## ABOUT TRI-OLOGY

The Florida Department of Agriculture and Consumer Services-Division of Plant Industry's (FDACS-DPI) Bureau of Entomology, Nematology, and Plant Pathology (ENPP), including the Botany Section, produces TRI-OLOGY 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-OLOGY

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## ACKNOWLEDGEMENTS

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

Thank you,

Gregory Hodges, Ph.D.  
Editor  
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Cover Photo

*Ooencyrtus nezarae* Ishii, a parasitoid wasp.  
Photo by Jessica N. Awad and Brandon N. Hope, DPI



# HIGHLIGHTS



**1** *Cladosporium ramotenellum* K. Schub., Zalar, Crous & U. Braun (Capnodiales, Ascomycota) (citrus post harvesting disease), a new host record, was identified on the peels of *Citrus reticulata* (clementines or tangerines) imported from Peru. *Cladosporium* species have been often reported as causal agents of post harvesting diseases in citrus associated with the use of cardboard boxes for shipping.



1 - *Cladosporium ramotenellum*, early lesions showing dark brown spots on *Citrus reticulata*.  
Photo by Hector R. Urbina Yanez, DPI

**2** *Cycloplasis* sp., mosiera miner, a new Continental USA record. Numerous specimens of this strange moth have been collected on Big Pine Key and Sugarloaf Key since March 2018. The larvae mine the leaves of *Mosiera longipes*, a threatened shrub in the plant family Myrtaceae. Cooperative Agricultural Pest Survey (CAPS) personnel discovered them while surveying for a psyllid that attacks the plant.



2 - *Cycloplasis* sp., a leafmining moth.  
Photo by James E. Hayden, DPI

**3** *Meloidogyne javanica* on *Humulus lupulus* (hops) Because of the high demand for hops from the micro-brewing industry in the Tampa-St. Petersburg area, *Humulus lupulus* has recently been introduced in Florida. The crop grows rapidly in early spring to late summer. Hop rhizomes were planted in April 2016 at the UF/IFAS Gulf Coast Research and Education Center, in Hillsborough County. In October 2016, several plants exhibiting yellowing leaves and stunted growth were uprooted to reveal severe root galling. Rhizosphere soil samples were collected for nematode extraction and showed high numbers of root-knot nematode second-stage juveniles. Heavily galled root samples were sent to the Division of Plant Industry Nematology Laboratory in Gainesville, Florida.



3 - *Meloidogyne javanica* infecting *Humulus lupulus* (hops) Close view of the root system showing galls on primary, secondary and tertiary roots.  
Photo by Johan Desaegeer, University of Florida/IFAS Gulf Coast Research and Education Center

**4** *Ruellia blechum* L. (Browne's blechum; green shrimp plant) is native to tropical America but has escaped from cultivation in Florida and other areas. This trailing, much-branched herb is most easily recognized by its large, overlapping, foliaceous floral bracts. This species was known as *Blechum pyramidatum* until recent research determined it should be placed in the *Ruellia* genus. Under either name, this plant has spread rapidly and is potentially an invasive species.



4 - *Ruellia blechum* (Browne's blechum) leaf-like floral bracts.  
Photo by John R. Park, [Atlas of Florida Plants](#)





# BOTANY

Compiled by Patti J. Anderson, Ph.D.

This section identifies plants for the division, 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

	JANUARY - MARCH	2019 - YEAR TO DATE
Samples submitted by other DPI sections	1,382	1,382
Samples submitted for botanical identification only	288	288
Total samples submitted	1,670	1,670
Specimens added to the Herbarium	136	136

Some of the samples received for identification are discussed below:

**1** *Eulophia graminea* Lindl., (no common name), from a genus of approximately 200 species, found almost entirely in the Old World tropics, with a single species widespread in tropical and subtropical America, in the plant family Orchidaceae. This terrestrial species is an exotic orchid that has become naturalized in Florida. *Eulophia graminea* was first reported in 2007 from a residential garden in Miami. The species has since been found in numerous locations, usually in sunny habitats, and often in mulched areas. Currently the species has been documented in 13 Florida counties: Brevard, Broward, Collier, Hardee, Hillsborough, Lee, Miami-Dade, Okeechobee, Orange, Palm Beach, Pinellas, St. Lucie and now Indian River. This orchid is native over a wide area in Asia, from Pakistan to Japan, and has become naturalized in Australia. The pseudobulbs are partly buried and occur singly in young plants or in clusters in older ones. Each mature pseudobulb produces a single shoot with three to five grass-like leaves that die back in fall or winter. Several inflorescences appear in succession during the spring and summer, either before the leaves or with them. The inflorescences are branched and stand from 0.5-1.5 m tall. They bear as many as 60 small flowers, from 1.5-2.5 cm across with five tepals. The flowers can be greenish, purplish, or green with brownish-purple venation and a white lip marked with rose-pink spots. The lateral tepals spread horizontally, and a nectar-producing spur is present at the base of the flower. *Eulophia graminea* has definite weedy tendencies and would probably be cold-hardy anywhere in Florida and perhaps other states in the Southeast. The Florida Exotic Pest Plant Council



1 - *Eulophia graminea* flowers.  
Photo from Shutterstock



(FLEPPC) lists this non-native species as Category II, “exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species.” (Indian River County; B2019-209; Alexander Tasi; 15 February 2019.) (Mabberley 2017; Pemberton *et al.* 2008; Wunderlin and Hansen 2011; [http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019\\_Plant\\_List\\_ABSOLUTE\\_FINAL.pdf](http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019_Plant_List_ABSOLUTE_FINAL.pdf) [accessed 5 April 2019].)

***Parthenium hysterophorus* L. (parthenium, false ragweed, 2 Santa Maria feverfew, whitetop weed)**, from a genus of 16 species native to North America and the West Indies in the plant 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 is concentrated in counties of the southern peninsula and in nine counties of the Panhandle as well as Duval, St. Johns and Alachua counties. This quarter, we add Putnam and Flagler counties to the documented sightings of this non-native species. 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. *Ambrosia artemesiifolia* (common ragweed) has similar leaves, however, it has opposite leaves at the base of the stem with alternate leaf arrangement toward the apex. In parthenium, all leaves are alternate. The white flower heads are borne in open panicle-like clusters, with five (sometimes six) minute ray flowers (0.3-1 mm) and 12-30 disc flowers. This species can be toxic to livestock and can cause severe dermatitis in humans. Parthenium has become a serious weed of croplands and pastures through aggressive spread in Australia, Asia and Africa and is becoming a pest plant in the southern United States. This species can overwhelm native plants by producing massive seed crops and allelopathic chemicals inhibiting fruit set in other species. (Putnam County; B2019-81; Melanie Cain; 22 January 2019 and Flagler County; B2019-99; Melanie Cain; 25 January 2019.) (Bryson and DeFelice 2009; Mabberley 2017; Wunderlin and Hansen 2011; [https://keys.lucidcentral.org/keys/v3/eafrinet/weeds/key/weeds/Media/Html/Parthenium\\_hysterophorus\\_\(Parthenium\\_Weed\).htm](https://keys.lucidcentral.org/keys/v3/eafrinet/weeds/key/weeds/Media/Html/Parthenium_hysterophorus_(Parthenium_Weed).htm) [accessed 8 April 2019]; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3339593/> [accessed 8 April 2019].)



2 - *Parthenium hysterophorus* (parthenium, false ragweed) flower  
Photo by Shirley Denton, [Atlas of Florida Vascular Plants](#)



3a - *Ruellia blechum* (Browne's blechum) flower.  
Photo by John R. Park, [Atlas of Florida Plants](#)

***Ruellia blechum* L. (Browne's blechum; green shrimp plant)**  
3 from a genus of approximately 350 species, found in tropical and temperate North America, in the plant family Acanthaceae. *Ruellia blechum* is native to tropical America but has escaped from cultivation in Florida and other areas. This trailing, much-branched herb is most easily recognized by its large, overlapping, foliaceous floral bracts. The somewhat four-angled stems can grow to 50 cm tall. The opposite leaves have slender petioles, to about 2 cm long, and ovate to lanceolate blades acute to short-acuminate at the apex and rounded to broadly cuneate at the base. Mature leaves are typically about 8 cm long and 4 cm wide. The dense inflorescence spikes are up to 14 cm long, but there are occasionally solitary flowers in leaf axils. The imbricate floral bracts are ovate to suborbicular-ovate with acute tips, broadly rounded at base, 1-1.5 cm long and almost as wide. The calyx is 3.5-4 mm long with slightly



unequal segments. The corolla is whitish, pale mauve or bluish lavender, with a slender tube and a spreading five-lobed limb having rounded lobes a little longer to almost twice as long as the subtending bracts. Four stamens are borne at or above the middle of the corolla tube. The pubescent style is about 8 mm long. Fruits are downy, ellipsoid capsules, 6-7 mm long, containing brown seeds about 1-2 mm long. This species was known as *Blechum pyramidatum* (Lamarck) Urban until recent research determined it should be placed in the *Ruellia* genus. Under either name, this plant is potentially invasive and is listed by the Florida Exotic Pest Plant Council (FLEPPC) as Category II, "exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species." The University of Florida IFAS Assessment of Non-native Plants in Natural Areas concludes that caution should be used with this plant species. (Hernando County; B2019-140; Nora V. Marquez; 6 February 2019.) (Correll and Correll 1982; Mabberley 2017; Wunderlin *et al.* 2019; <https://assessment.ifas.ufl.edu/assessments/ruellia-blechum/> [accessed 5 April 2019]; [http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019\\_Plant\\_List\\_ABSOLUTE\\_FINAL.pdf](http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019_Plant_List_ABSOLUTE_FINAL.pdf) [accessed 5 April 2019].

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**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.

**Wunderlin, R.P., B.F. Hansen and A.R. Franck. (2019).** Flora of Florida, Volume VI: Dicotyledons, Convolvulaceae through Paulowniaceae. University Press of Florida, Gainesville, Florida. 355 p.



3b - *Ruellia blechum* (Browne's blechum) leaf-like floral bracts. Photo by John R. Park, [Atlas of Florida Plants](#)



## 🔍 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 NAME	COUNTY	SAMPLE NUMBER	COLLECTION DATE	GENUS	SPECIES
🔍	Abby L. Bartlett	Lake	B2019-8	1/3/2019	<i>Bromelia</i>	<i>pinguin</i>
🔍	Abby L. Bartlett	Sumter	B2019-9	1/2/2019	<i>Bromelia</i>	<i>pinguin</i>
🔍	Abby L. Bartlett	Lake	B2019-160	2/8/2019	<i>Tecoma</i>	<i>capensis</i>
🔍	Alexander Tasi	Indian River	B2019-209	2/15/2019	<i>Eulophia</i>	<i>graminea</i>
🔍	Alexander Tasi	Indian River	B2019-88	1/9/2019	<i>Lygodium</i>	<i>microphyllum</i>
🔍	Brandy Boisvert, Alexander Tasi, Harry Crocker	Indian River	B2019-154	2/7/2019	<i>Persea</i>	<i>palustris</i>
🔍	Carolyn Hall, Melanie Cain	Flagler	B2019-5	1/2/2019	<i>Macroptilium</i>	<i>lathyroides</i>
🔍	Carolyn P. Hall, Melanie Cain	Putnam	B2019-40	1/15/2019	<i>Broussonetia</i>	<i>papyrifera</i>
🔍	Carolyn P. Hall, Melanie Cain	Putnam	B2019-228	3/5/2019	<i>Rivina</i>	<i>humilis</i>
🔍	Carolyn P. Hall, Melanie Cain	Putnam	B2019-227	3/5/2019	<i>Tradescantia</i>	<i>fluminensis</i>
🔍	George A. Warden	Orange	B2019-262	3/12/2019	<i>Lemna</i>	<i>obscura</i>
🔍	Katherine Steinkamp	Orange	B2019-193	2/19/2019	<i>Eriobotrya</i>	<i>japonica</i>
🔍	Katherine Steinkamp	Orange	B2019-223	2/28/2019	<i>Morus</i>	<i>alba</i>
🔍	Lisa Hassell	Duval	B2019-124	2/5/2019	<i>Emilia</i>	<i>fosbergii</i>
🔍	Melanie Cain	Putnam	B2019-157	2/5/2019	<i>Brassica</i>	<i>juncea</i>
🔍	Melanie Cain	Putnam	B2019-229	2/28/2019	<i>Calypocarpus</i>	<i>vialis</i>
🔍	Melanie Cain	Putnam	B2019-34	1/14/2019	<i>Eriobotrya</i>	<i>japonica</i>
🔍	Melanie Cain	Putnam	B2019-79	1/22/2019	<i>Fumaria</i>	<i>officinalis</i>
🔍	Melanie Cain	Flagler	B2019-109	1/30/2019	<i>Kalanchoe</i>	<i>x houghtonii</i>
🔍	Melanie Cain	Putnam	B2019-78	1/22/2019	<i>Lamium</i>	<i>amplexicaule</i>
🔍	Melanie Cain	Putnam	B2019-156	2/5/2019	<i>Medicago</i>	<i>lupulina</i>
🔍	Melanie Cain	Putnam	B2019-80	1/22/2019	<i>Oxalis</i>	<i>intermedia</i>
🔍	Melanie Cain	Putnam	B2019-81	1/22/2019	<i>Parthenium</i>	<i>hysterophorus</i>
🔍	Melanie Cain	Flagler	B2019-99	1/25/2019	<i>Parthenium</i>	<i>hysterophorus</i>
🔍	Melanie Cain	Flagler	B2019-243	3/7/2019	<i>Tetrapanax</i>	<i>papyrifera</i>
🔍	Melanie Cain, Carolyn Hall	Flagler	B2019-7	1/3/2019	<i>Colocasia</i>	<i>esculenta</i>
🔍	Nora V. Marquez	Lake	B2019-53	1/16/2019	<i>Asparagus</i>	<i>aethiopicus</i>
🔍	Nora V. Marquez	Citrus	B2019-46	1/15/2019	<i>Bromelia</i>	<i>pinguin</i>
🔍	Nora V. Marquez	Lake	B2019-31	1/11/2019	<i>Carica</i>	<i>papaya</i>
🔍	Nora V. Marquez	Lake	B2019-51	1/17/2019	<i>Catharanthus</i>	<i>roseus</i>
🔍	Nora V. Marquez	Hernando	B2019-55	1/16/2019	<i>Emilia</i>	<i>fosbergii</i>
🔍	Nora V. Marquez	Hernando	B2019-54	1/16/2019	<i>Emilia</i>	<i>sonchifolia</i>
🔍	Nora V. Marquez	Citrus	B2019-56	1/16/2019	<i>Emilia</i>	<i>sonchifolia</i>
🔍	Nora V. Marquez	Lake	B2019-52	1/17/2019	<i>Kalanchoe</i>	<i>x houghtonii</i>
🔍	Nora V. Marquez	Citrus	B2019-137	2/5/2019	<i>Lamium</i>	<i>amplexicaule</i>
🔍	Nora V. Marquez	Citrus	B2019-57	1/15/2019	<i>Mirabilis</i>	<i>jalapa</i>
🔍	Nora V. Marquez	Lake	B2019-32	1/11/2019	<i>Psidium</i>	<i>guajava</i>
🔍	Nora V. Marquez	Sumter	B2019-138	2/5/2019	<i>Raphanus</i>	<i>raphanistrum</i>
🔍	Nora V. Marquez	Orange	B2019-159	2/8/2019	<i>Raphanus</i>	<i>raphanistrum</i>
🔍	Nora V. Marquez	Sumter	B2019-141	2/6/2019	<i>Ricinus</i>	<i>communis</i>
🔍	Nora V. Marquez	Hernando	B2019-140	2/6/2019	<i>Ruellia</i>	<i>blechum</i>
🔍	Nora V. Marquez	Lake	B2019-10	1/7/2019	<i>Spermacoce</i>	<i>verticillata</i>
🔍	Nora V. Marquez	Sumter	B2019-136	2/5/2019	<i>Spermacoce</i>	<i>verticillata</i>
🔍	Nora V. Marquez, Abby L. Bartlett	Sumter	B2019-127	2/1/2019	<i>Asparagus</i>	<i>aethiopicus</i>
🔍	Nora V. Marquez, Abby L. Bartlett	Sumter	B2019-126	2/1/2019	<i>Clerodendrum</i>	<i>x speciosum</i>
🔍	Nora V. Marquez, Abby L. Bartlett	Sumter	B2019-128	2/1/2019	<i>Lantana</i>	<i>montevidensis</i>
🔍	Nora V. Marquez, Abby L. Bartlett	Sumter	B2019-129	2/1/2019	<i>Tradescantia</i>	<i>pallida</i>
🔍	Tracy L. Wright, Melanie Cain	Flagler	B2019-202	2/25/2019	<i>Oxalis</i>	<i>debilis</i>





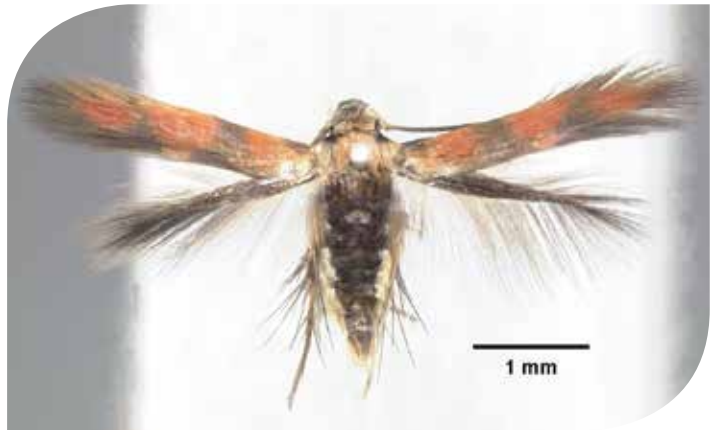
# ENTOMOLOGY

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

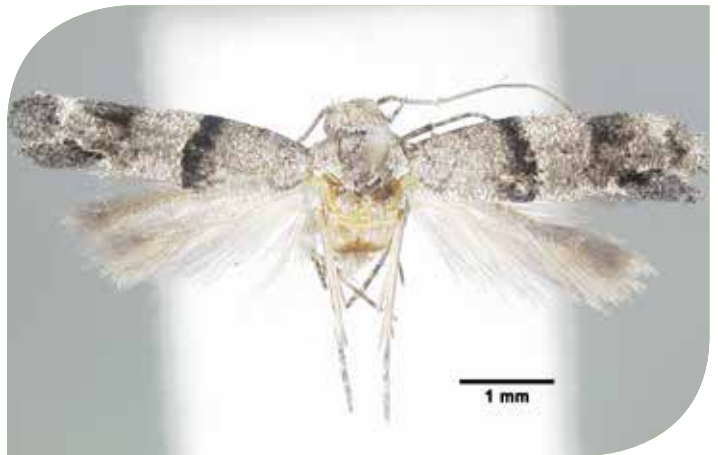
## QUARTERLY ACTIVITY REPORT

	JANUARY - MARCH	2019 - YEAR TO DATE
Samples submitted	1,479	1,479
Lots Identified	2,054	2,054
Specimens Identified	28,773	28,773



1 - *Cycloplasis* sp., a leafmining moth.  
Photo by James E. Hayden, DPI

**1 *Cycloplasis* sp., mosiera miner, a new Continental USA Record.** The larvae of this moth mine the leaves of the shrub *Mosiera longipes*, a threatened species in the plant family Myrtaceae. Numerous specimens of this strange moth have been collected on Big Pine Key and Sugarloaf Key since March 2018. Cooperative Agricultural Pest Survey (CAPS) personnel discovered them while surveying for a psyllid that attacks the plant. The small size of the moths and the reduced genitalia impeded identification even at the family level until more specimens could be collected, reared and carefully dissected. This moth seems to be an undescribed species of *Cycloplasis* Clemens, a genus of leafmining moths remaining unplaced in Apoditrysia. Preliminary molecular analyses also fail to resolve its relationships. Dr. Harrison reports he collected a specimen at light in Fakahatchee Strand (Collier County) in 1993, presently deposited in his collection in Charleston, Illinois. (Monroe County; E2018-1871; Jake M. Farnum; 22 March 2018.) (Dr. Terry L. Harrison, University of Illinois, Urbana-Champaign, and Dr. James E. Hayden.)



2 - *Nealyda* sp., a leafmining moth.  
Photo by James E. Hayden, DPI

**2 *Nealyda* sp., a leafmining moth, a new Continental USA Record.** Five male specimens of this moth were caught in an ultraviolet light trap on Big Pine Key in the Key Deer National Wildlife Refuge during a CAPS survey in April 2018. A male and female were subsequently collected in a malaise trap elsewhere on the same key. Three other species of *Nealyda* Dietz (Gelechiidae) are native to Florida. The new species differs by having pale gray maculation (markings or spots) without brown scales, male anellus lobes with many chaetae (bristles) in a row, and a curved female signum. The larvae of *Nealyda* species mine leaves on Nyctaginaceae and Phytolaccaceae, so the new species is predicted to do the same. (Monroe County; E2018-1830; James E. Hayden, Bradley A. Danner, Elijah J. Talamas, Jake M. Farnum, Jason D. Stanley, Leroy A. Whilby and Paul T. Corogin; 13 April 2018; Monroe County and E2019-94; Jake M. Farnum; 8 January 2019.) (Dr. James E. Hayden.)





**3 *Mimorista* sp., a crambid moth, a new Florida State Record.** This moth was first detected by FDACS-DPI in 2012 near Sarasota, and specimens were subsequently collected in Fakahatchee Strand (Collier County) by FSCA Research Associate, James T. Troubridge. It is distinct from the one native congener in Florida, *M. tristigmalis* (Hampson), but poor knowledge about the numerous tropical species of *Mimorista* Warren have impeded identification and delayed report of this record. DNA COI sequences group it with *Mimorista* “botyidalisDJH01,” which occurs in Costa Rica, and barcoded specimens that were collected in Collier County in 2011. It could be new for the Nearctic, but more needs to be collected in Texas to be sure. The new record from Brevard County greatly extends its range in Florida. It shares with *M. tristigmalis* two fibulae on the male valva, but it differs in the number of lobes on the female antrum. Hosts in Florida have not been reported, but in Costa Rica, *M. “botyidalisDJH01”* has been reared on *Psychotria horizontalis* and *P. nervosa*. *Mimorista* and relatives have complex wing patterns, and positive identification requires dissection or DNA barcoding. (Sarasota County; E2012-9179; Anna M. Jones, USDA; 5 December 2012 and Brevard County; E2019-169; Laura Ureta; 15 January 2019.) (Janzen and Hallwachs 2009; Ratnasingham and Hebert 2007.) (Dr. James E. Hayden.)



3 - *Mimorista* sp., a crambid moth.  
Photo by James E. Hayden, DPI

**4 *Ooencyrtus nezarae* Ishii, an encyrtid parasitoid wasp, a new Florida State record.** New to Florida, this parasitoid wasp was collected from eggs of the kudzu bug, *Megacopta cribraria* (Fabricius). *Ooencyrtus nezarae* has a broad host range including at least four hemipteran families. CO1 barcode sequences from the north Florida *O. nezarae* population are 1.3% different from barcodes of a previously reported Alabama population, indicating this adventive species is genetically diverse in the southern United States. The DPI Bureau of Methods Development and Biological Control has successfully established a colony of *O. nezarae* to facilitate future research on this species. (Alachua County; E-2018-4411; Nicholas C. Goltz; 30 May 2018.) (Ademokoya *et al.* 2018.) (Dr. Elijah J. Talamas, Matthew R. Moore, Jessica N. Awad and Nicholas C. Goltz.)



4 - *Ooencyrtus nezarae* Ishii, a parasitoid wasp.  
Photo by Jessica N. Awad and Brandon N. Hope, DPI

**5 *Zyginama rossi* Dietrich & Dmitriev, a leafhopper, a new Florida State record.** This is an oak-feeding leafhopper occurring in the eastern United States. The species was previously recorded only from Mississippi and southern Illinois. It is probably native to Florida and other southeastern states, but not noticed previously due to its small size and the difficulty of making confident species identifications in this group of leafhoppers. The only host records are from *Quercus lyrata* and *Quercus palustris*. No photograph is available. (Polk County; E2019-40; Kenneth D. Branch, Robinson L. Lawrence; 6 December 2018.) (Dr. Christopher H. Dietrich, Illinois Natural History Survey).

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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 below. The full 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, the entries with no plant information included are organized by arthropod.

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	COLLECTOR	RECORD
<i>Adenium obesum</i>	desert rose	<i>Coccus hesperidum</i>	Elizabeth L. 'Lane' Pritchard	NEW FLORIDA HOST RECORD
<i>Adenium obesum</i>	desert rose	<i>Planococcus citri</i>	Elizabeth L. 'Lane' Pritchard	NEW FLORIDA HOST RECORD
<i>Aloe</i> sp.		<i>Lepidocyrtus pallidus</i>	Anna J. Gourlay	NEW FLORIDA COUNTY RECORD
<i>Apium graveolens</i>	celery	<i>Cavariella aegopodii</i>	Jennifer K. Serviss	REGULATORY SIGNIFICANT
<i>Asclepias</i> sp.	milkweed	<i>Oncopeltus cingulifer</i>	Abby L. Bartlett	NEW FLORIDA COUNTY RECORD
<i>Bambusa</i> sp.	bamboo	<i>Poliaspoides formosana</i>	Jake M. Farnum	QUARANTINABLE PEST
Bromeliaceae	bromeliad	<i>Diaspis gilloglyi</i>	Abby L. Bartlett	QUARANTINABLE PEST
Bromeliaceae	bromeliad	<i>Diaspis gilloglyi</i>	Abby L. Bartlett	QUARANTINABLE PEST
<i>Capsicum annuum</i>	bell pepper	<i>Liriomyza langei</i>	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Carissa macrocarpa</i>	Natal plum; amotungulu	<i>Fiorinia phantasma</i>	Jake M. Farnum, Lane M. Smith	NEW FLORIDA HOST RECORD
<i>Chrysobalanus icaco</i>	cocoplum, icaco	<i>Cadrema pallida</i>	Scott D. Krueger	NEW FLORIDA COUNTY RECORD
<i>Citrus aurantium</i>	sour orange	<i>Aneurus leptocerus</i>	Diane McColl	NEW FLORIDA COUNTY RECORD
<i>Citrus aurantium</i>	sour orange	<i>Mimorista</i> sp.	Laura Ureta	NEW FLORIDA COUNTY RECORD
<i>Citrus aurantium</i>	sour orange	<i>Sophonia orientalis</i>	Diane McColl	NEW FLORIDA COUNTY RECORD
<i>Citrus sinensis</i>	sweet orange, navel orange	<i>Traginops irroratus</i>	Dawn Cermak	NEW FLORIDA COUNTY RECORD
<i>Citrus x paradisi</i>	grapefruit	<i>Mimorista</i> sp.	Anna M. Jones	NEW FLORIDA STATE RECORD
<i>Cupaniopsis anacardioides</i>	carrotwood; tuckeroo tree	<i>Ischnaspis longirostris</i>	Lane M. Smith	NEW FLORIDA HOST RECORD
<i>Cupaniopsis anacardioides</i>	carrotwood; tuckeroo tree	<i>Mycetaspis personatus</i>	Lane M. Smith	NEW FLORIDA HOST RECORD
<i>Cynara cardunculus</i>	cardoon, artichoke, globe artichoke	<i>Lygus</i> sp.	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Dracaena</i> sp.		<i>Lepidosaphes chinensis</i>	Mary P. Sellers	REGULATORY SIGNIFICANT
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Aneurus leptocerus</i>	Carolyn P. Hall	NEW FLORIDA COUNTY RECORD
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Ocyptamus antiphates</i>	Abby L. Bartlett	NEW FLORIDA COUNTY RECORD
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Pseudococcus maritimus</i>	Melanie Cain	NEW FLORIDA COUNTY RECORD; NEW FLORIDA HOST RECORD
<i>Eugenia uniflora</i>	Surinam cherry; Cayenne cherry	<i>Willowsia pyrrhopygia</i>	Olga Garcia	NEW FLORIDA COUNTY RECORD
<i>Ficus microcarpa</i>	Cuban laurel; Indian laurel; laurel fig; Chinese banyan; laurel rubber	<i>Fiorinia phantasma</i>	Jake M. Farnum, Lane M. Smith	NEW FLORIDA HOST RECORD
<i>Ficus rubiginosa</i>	Port Jackson fig; rusty fig	<i>Pinnaspis strachani</i>	Lane M. Smith	NEW FLORIDA HOST RECORD
<i>Ipomoea batatas</i>	sweet potato; boniato; camote; batata	<i>Empoasca fabalis</i>	Paul E. Skelley	SIGNIFICANT FIND
<i>Iva microcephala</i>	piedmont marshelder	<i>Phenacoccus solani</i>	Nora V. Marquez	NEW FLORIDA HOST RECORD
<i>Kyllinga brevifolia</i>	shortleaf spikeseed	<i>Macrotomella carinata</i>	Alexander D. Tasi	NEW FLORIDA HOST RECORD
<i>Lasiacis divaricata</i>	smallcane; wild bamboo; Florida tibisee	<i>Aspidiella sacchari</i>	Jake M. Farnum	NEW FLORIDA HOST RECORD



PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	COLLECTOR	RECORD
<i>Lasiacis divaricata</i>	smallcane; wild bamboo; Florida tibisee	<i>Odonaspis</i> sp.	Jake M. Farnum	NEW FLORIDA HOST RECORD
<i>Ligustrum japonicum</i>	waxleaf privet; Japanese privet; ligustrum	<i>Fiorinia phantasma</i>	Lane M. Smith	NEW FLORIDA HOST RECORD
<i>Litchi chinensis</i>	litchi, leechee	<i>Aceria litchii</i>	Richard T. Bloom, Scott D. Berryman	NEW FLORIDA COUNTY RECORD
<i>Litchi chinensis</i>	litchi, leechee	<i>Aceria litchii</i>	Richard L. Blaney	NEW FLORIDA COUNTY RECORD
<i>Magnolia grandiflora</i>	southern magnolia	<i>Salina</i> sp.	Carolyn P. Hall, Melanie Cain	NEW FLORIDA COUNTY RECORD
<i>Mangifera indica</i>	mango	<i>Liriomyza blechi</i>	Scott D. Krueger	NEW FLORIDA COUNTY RECORD
<i>Mosiera longipes</i>	mangrove berry	<i>Aleurodicus dispersus</i>	Jake M. Farnum	NEW FLORIDA HOST RECORD
<i>Mosiera longipes</i>	mangrove berry	<i>Aleuroplatus validus</i>	Jake M. Farnum	NEW FLORIDA HOST RECORD
<i>Mosiera longipes</i>	mangrove berry	<i>Cycloplasis</i> sp.	Jake M. Farnum	NEW US CONTINENTAL RECORD
<i>Murraya koenigii</i>	curryleaf tree	<i>Coccu capparidis</i>	Jake M. Farnum	NEW FLORIDA HOST RECORD
<i>Pandanus</i> sp.		<i>Fiorinia phantasma</i>	Lane M. Smith	NEW FLORIDA HOST RECORD
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	Abby L. Bartlett, Catherine E. White, Dyrana N. Russell, Eric M. Dougherty, John M. Piontek, Logan Cutts	REGULATORY SIGNIFICANT
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	Patricia "Karen" K. Coffey	REGULATORY SIGNIFICANT
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	Melanie Cain	REGULATORY SIGNIFICANT
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Abgrallaspis aguacatae</i>	Melanie Cain	REGULATORY SIGNIFICANT
<i>Persea palustris</i>	swamp bay	<i>Pseudacysta perseae</i>	Olga Garcia	NEW FLORIDA HOST RECORD
<i>Phoenix</i> sp.		<i>Macrotomella carinata</i>	Alexander D. Tasi	NEW FLORIDA COUNTY RECORD
<i>Phoenix</i> sp.		<i>Pseudoparlatoria parlatorioides</i>	Sara T. Harper	NEW FLORIDA COUNTY RECORD
<i>Physalis philadelphica</i>	Mexican groundcherry; husk tomato; tomatillo	<i>Deroceras reticulatum</i>	Catherine E. White, Dyrana N. Russell-Hughes, Logan Cutts	REGULATORY SIGNIFICANT
<i>Pinus palustris</i>	longleaf pine	<i>Heteromeria czernyi</i>	Patrick Sullivan	NEW FLORIDA COUNTY RECORD
<i>Pinus</i> sp.		<i>Acutaspis morrisonorum</i>	Carolyn P. Hall, Melanie Cain	NEW FLORIDA COUNTY RECORD
<i>Portulaca pilosa</i>	pink purslane	<i>Planococcus citri</i>	Nora V. Marquez	NEW FLORIDA HOST RECORD
<i>Prunus caroliniana</i>	Carolina laurelcherry; cherry laurel	<i>Omolicna joi</i>	Diane McColl, Melanie Cain	NEW FLORIDA COUNTY RECORD
<i>Quercus</i> sp.	oak	<i>Cyrtolobus fenestratus</i>	Robert E. Rocky	NEW FLORIDA COUNTY RECORD
<i>Quercus</i> sp.	oak	<i>Episimus rufatus</i>	Juan Carlos Ochoa	NEW FLORIDA COUNTY RECORD
<i>Quercus</i> sp.	oak	<i>Oliarus chuliotus</i>	Diane McColl	NEW FLORIDA COUNTY RECORD
<i>Quercus virginiana</i>	live oak	<i>Sinoe kwakae</i>	Diane McColl	NEW FLORIDA COUNTY RECORD
<i>Rhododendron</i> sp.		<i>Eriococcus azaleae</i>	Lisa M. Hassell	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	cabbage palm, palmetto	<i>Homaledra</i> sp. 2	Melanie Cain, Patrick Sullivan	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	cabbage palm, palmetto	<i>Homaledra</i> sp. 2	Mary Ellen Flowers, Tedd S. Greenwald	NEW FLORIDA COUNTY RECORD
<i>Sabal palmetto</i>	cabbage palm, palmetto	<i>Salina celebensis</i>	Melanie Cain	NEW FLORIDA COUNTY RECORD
<i>Serenoa repens</i>	saw palmetto	<i>Willowsia pyrrophygia</i>	Alexander D. Tasi, Brandy E. Boisvert, Harry L. Crocker	NEW FLORIDA COUNTY RECORD
<i>Thelypteris kunthii</i>	southern shield fern; widespread maiden fern; Kunth's maiden fern	<i>Pinnaspis aspidistrae</i>	Lane M. Smith	NEW FLORIDA COUNTY RECORD
<i>Viburnum obovatum</i>	Walter's viburnum; small-leaf viburnum	<i>Pseudaulacaspis cockerelli</i>	Mary P. Sellers	NEW FLORIDA COUNTY RECORD



PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	COLLECTOR	RECORD
<i>Xanthosoma sagittifolium</i>	malanga, elephant's ear	<i>Empoasca chelata</i>	Carolyn P. Hall, Diane McColl	NEW FLORIDA COUNTY RECORD
<i>Ziziphus jujuba</i>	jujube; common jujube; Chinese date; smooth-leave Chinese jujube; tsao	<i>Nipaecoccus viridis</i>	Kathy A. Gonzalez	NEW FLORIDA HOST RECORD
		<i>Ambrosiodmus minor</i>	Esteban Godinez	NEW FLORIDA COUNTY RECORD
		<i>Ambrosiodmus minor</i>	Michael C. McMahan	NEW FLORIDA COUNTY RECORD
		<i>Ambrosiodmus minor</i>	Bradley A. Danner, Robert M. Leahy	NEW FLORIDA COUNTY RECORD
		<i>Ambrosiodmus minor</i>	Mary Jane Echols	NEW FLORIDA COUNTY RECORD
		<i>Cnestus mutilatus</i>	Mary Jane Echols	NEW FLORIDA COUNTY RECORD
		<i>Cnestus mutilatus</i>	Michael C. McMahan	NEW FLORIDA COUNTY RECORD
		<i>Delottococcus confusus</i>	Michael L. Golub & K-9	REGULATORY SIGNIFICANT
		<i>Delphacodes andromeda</i>	Monica Triana	NEW FLORIDA COUNTY RECORD
		<i>Dryadaula n. sp.</i>	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
		<i>Eupteryx omani</i>	Monica Triana	NEW FLORIDA COUNTY RECORD
		<i>Euwallacea interjectus</i>	Brian M. Alford	NEW FLORIDA COUNTY RECORD
		<i>Euwallacea interjectus</i>	Morgan A. Byron, Robert M. Leahy	NEW FLORIDA COUNTY RECORD
		<i>Hermetia sexmaculata</i>	Oscar Orta	NEW FLORIDA COUNTY RECORD
		<i>Matsucoccus gallicolus</i>	Mary Jane Echols	NEW FLORIDA COUNTY RECORD
		<i>Matsucoccus gallicolus</i>	Patricia Barker	NEW FLORIDA COUNTY RECORD
		<i>Nealyda sp.</i>	Bradley A. Danner, Elijah J. Talamas, Jake M. Farnum, James E. Hayden, Jason Stanley, Leroy A. Whilby, Paul T. Corogin	NEW US CONTINENTAL RECORD
		<i>Ooencyrtus nezarae</i>	Nicholas C. Goltz	NEW FLORIDA STATE RECORD
		<i>Paracoccus herreni</i>	Michael L. Golub & K-9	REGULATORY SIGNIFICANT
		<i>Pissonotus muiri</i>	Monica Triana	NEW FLORIDA COUNTY RECORD
		<i>Pissonotus muiri</i>	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
		<i>Seira dowlingi</i>	Charles "Andy" A. Boring, Susan E. Halbert	NEW FLORIDA COUNTY RECORD
		<i>Theoborus ricini</i>	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
		<i>Xestocephalus subtessellatus</i>	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
		<i>Xestocephalus subtessellatus</i>	Jake M. Farnum	NEW FLORIDA COUNTY RECORD
		<i>Xyleborinus andrewesi</i>	Brian M. Alford	NEW FLORIDA COUNTY RECORD
		<i>Xylosandrus amputatus</i>	Mary Jane Echols	NEW FLORIDA COUNTY RECORD
		<i>Zyginama rossi</i>	Kenneth D. Branch, Robinson L. Lawrence	NEW FLORIDA STATE RECORD





## NEMATODOLOGY

Compiled by Janete Brito, Ph.D., Sergei Sabbitin, Ph.D., Johan Desaegeer, Ph.D.,  
F. Achitinelly, Ph.D. and Sai Qiu, M.S.

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

### QUARTERLY ACTIVITY REPORT

	JANUARY - MARCH	2019 - YEAR TO DATE
Morphological identifications	4,143	4,143
Molecular identifications *	405	405
Total identifications	4,548	4,548

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

### Nematodes of Special Interest

**1** *Humulus lupulus* (Cannabaceae), commonly referred to as hops, is a perennial, herbaceous, twining plant species, native to temperate northern climates. Hops is dioecious (with separate male and female flowers on different plants) and is cultivated for its short, bract-covered, cone-like female flower spikes, called strobiles, used for flavoring food, tea and beer. Because of the high demand for hops from the micro-brewing industry in the Tampa-St. Petersburg area, this species has recently been introduced in Florida. The crop grows rapidly in early spring to late summer. Plants reach a mature height of 5.5-7.6 m in one year and produce strobiles from mid-summer to early fall. Hop rhizomes were planted in April 2016 at the UF/IFAS Gulf Coast Research and Education Center, in Hillsborough County. In October 2016, several plants exhibiting yellowing leaves and stunted growth were uprooted to reveal severe root galling. Rhizosphere soil samples were collected for nematode extraction and showed high numbers of root-knot nematode second-stage juveniles (J2) (up to 1500 J2/200 cm<sup>3</sup> soil). Heavily galled root samples were sent to the DPI Nematology Laboratory in Gainesville, Florida. Species identification was performed using morphological analyses of female's perineal patterns (n=22), selected characters of second-stage juveniles (n=17), and isozyme phenotypes (esterase and malate dehydrogenase) of egg-laying females (n=26) extracted from the roots. Configuration of the perineal patterns, morphometrics of body, stylet and tail length of J2 and the esterase phenotype (EST= J3), and malate phenotype (MDH=N1) are consistent with those reported in the original



1a - *Meloidogyne javanica* infecting *Humulus lupulus* (hops) Close view of the root system showing galls on primary, secondary and tertiary roots. Photo by Johan Desaegeer, University of Florida/IFAS Gulf Coast Research and Education Center



1b - *Humulus lupulus* (hops) showing the above ground symptoms induced by *Meloidogyne javanica* in the field. Photo by Johan Desaegeer, University of Florida/IFAS Gulf Coast Research and Education Center



description of *M. javanica* and many other populations of this nematode species collected in Florida and other countries. For molecular analyses, DNA was extracted from individual females and mitochondrial DNA was amplified with MORF (5'- ATC GGG GTT TAA TAA TGG G - 3') and MTHIS (5' - AAA TTC AAT TGA AAT TAA TAG C - 3') primer set. A fragment of approximately 740 bp was produced, which has been reported for *M. incognita* and *M. javanica* found in Florida. To further confirm the species identification the species-specific SCAR primer set Fjav was used (5' - GGT GCG CGA TTG AAC TGA GC - 3') and Rjav (5' - CAG GCC CTT CAG TGG AAC TAT AC - 3'). This primer set yield a fragment of approximately 670 bp, which is identical to that previously reported for *M. javanica*. Additionally, NADH dehydrogenase subunit 5 gene was amplified using NAD5F2 (5'- TAT TTT TTG TTT GAG ATA TAT TAG - 3') and NAD5R1 (5'- CGTGAATCTTGATTTTCCATTTT-3') primer set. The GenBank accession number of the *nad5* gene sequence of *M. javanica* found infecting hops in Florida is MH230176. The obtained *nad5* gene sequence was identical to the reference sequence of *M. javanica* provided by Janssen *et al.* (2016). To our knowledge, this is the first report of *H. lupulus* as a host of the Javanese root-knot nematode (*M. javanica*) in Florida. (Almaguer *et al.* 2014; Baidoo *et al.* 2016; Janssen *et al.* 2016; Zijlstra *et al.* 2000.)

## COLLECTORS

Collectors submitting five or more samples that were processed for nematological analysis during January – March 2019.

COLLECTOR NAME	SAMPLES PROCESSED
Alford, Brian M.	10
Bentley, Michael A.	39
Blaney, Richard L.	33
Boyar, Jillian	146
Burgos, Frank A.	205
Carbon, Peter	10
Clanton, Keith B.	121
Dean, Randall A.	5
Echols, M. Janie	25
Nolen, Ashley M.	11
Ochoa, Ana L.	139
Paolillo, Ajia M.	8
Rojas, Eric P.	174
Russell, Dyrana N.	17
Smith, Larry W.	6
Spriggs, Charles L.	221
St. John, David	102
Tasi, Alexander D.	6
Terrell, Mark R.	8
Wolfe, C. David	81
Yates, Johnny J.	8

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- Zijlstra, C., Donkers-Venne, D.T.H.M., and Fargette, M. (2000).** Identification of *Meloidogyne incognita*, *M. javanica* and *M. arenaria* using sequence characterized amplified region (SCAR) based PCR assays. *Nematology* 2:847–853.

## SAMPLES FOR MORPHOLOGICAL ANALYSIS

	JANUARY - MARCH	2019 - YEAR TO DATE
Multistate certification for national and international export	2,202	2,202
California certification	358	358
Pre-movement (citrus nursery certification)	92	92
Site or pit approval (citrus nursery and other certifications)	16	16

## OTHER PURPOSES

	JANUARY - MARCH	2019 - YEAR TO DATE
Identifications (other organisms)	0	0
Nematology Investigation	0	0
Plant Problems	18	18
Intrastate Survey, Random	152	152
Total	170	170

## SAMPLES FOR MOLECULAR ANALYSIS

	JANUARY - MARCH	2019 - YEAR TO DATE
Regulatory Purposes	283	283
Other Purposes	0	0
Identifications	122	122
Surveys	0	0
Total	405	405





# PLANT PATHOLOGY

Compiled by Hector R. Urbina Yanez, Ph.D., Jodi L. Hansen, M.S., Taylor E. Smith, M.S., and Callie Jones

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.

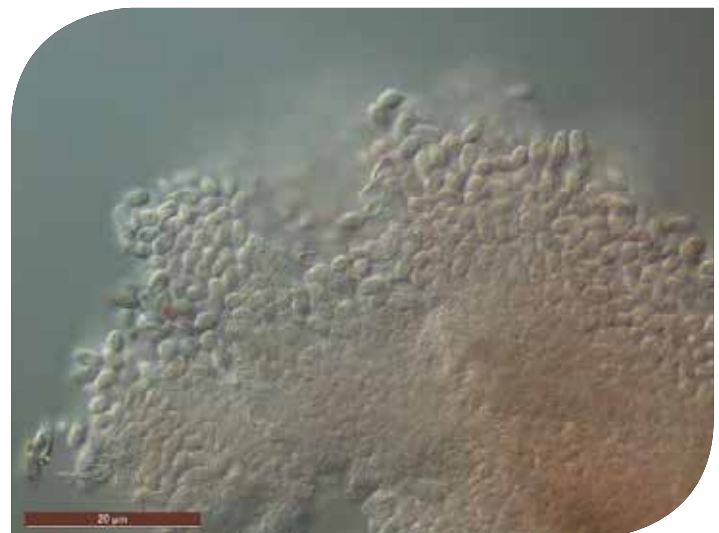
**1** *Nectria pseudotrichia* Berk. & M.A. Curtis (**Nectria die back**), a new state record, was identified on a dead twig of *Rosa* sp. collected at a plant nursery. Previous reports of *N. pseudotrichia* in Florida occurred on *Acer* sp., *Albizia julibrissin*, *Ficus* sp., *Grevillea robusta* and *Jussiaea peruviana* (a synonym of the plant now known as *Ludwigia peruviana*). Reports of the die back on *Rosa* spp. include the following countries: Cuba, El Salvador, Ghana, Mauritius and Nepal. *Nectria pseudotrichia* is considered a pathogen and facultative parasite and cosmopolitan ascomycete often found on woody substrates in the tropics with a widespread range of hosts including economically important crops such as *Citrus*, *Persea*, *Litchi*, *Manihot*, and *Theobroma* and is known to cause stem-end rot on the fruit of avocado, *Persea americana*. A pure culture was obtained from synnematosus (erect, stalked) fruiting bodies and identified by molecular means. Morphological characteristics of the mitosporic form (no sexual stage found) observed on the twigs matched the previous description of subglobose, abundant, smooth, pink to orange conidial masses. (Citrus County; P2018-97508; Stephen R. Jenner; 8 August 2018.) (Hirooka *et al.* 2012; Pérez-Jiménez 2008; Twizeyimana *et al.* 2013; Fungal Databases, U.S. National Fungus Collections, <https://nt.ars-grin.gov/fungal databases/> [accessed 4 April 2019].)



1a - *Nectria pseudotrichia*, Nectria die back, synnematosus fruiting bodies on dead twig.

Photos by Hector R. Urbina Yanez, DPI

**2** *Cladosporium ramotenellum* K. Schub., Zalar, Crous & U. Braun (**Capnodiales, Ascomycota**) (**citrus post harvesting disease**), a new host record, was identified on the peels of *Citrus reticulata* (clementines or tangerines) imported from Peru. *Cladosporium ramotenellum* was erected recently after molecular work to discriminate cryptic species within the *Cladosporium herbarum* complex. In the same study, authors stated *C. ramotenellum* is a ubiquitous saprophytic species occurring in diverse hosts (*Arundo*, *Dioscorea*, *Eucalyptus*, *Ginkgo*, *Leucadendron*, *Quercus*, *Paeonia*, *Populus*, *Rosa* and *Yucca*), numerous substrates (air conditioning system, cheese, deep mycosis, food, indoor building materials and margarine) and multiple countries (Australia, Cyprus, Denmark, Germany, Italy, New Zealand, Portugal, Slovenia, South Korea, Spain, the United Kingdom and the United States). *Cladosporium ramotenellum* lesions on tangerines are dark brown when young, changing to dark green as mature, reproductive structures with spores are produced. *Cladosporium* species have been often reported as causal agents of post harvesting



1b - *Nectria pseudotrichia*, Nectria die back, conidia in mass.

Photos by Hector R. Urbina Yanez, DPI



diseases in citrus associated with the use of cardboard boxes for shipping. Pure cultures of the fungus have been obtained from fruit lesions collected on other hosts in Alachua and Polk counties and identified by molecular means. (Alachua County; P2018-97764; Kelly Douglas, Hector R. Urbina and Xiaoan Sun; 7 September 2018). (Bensch *et al.* 2012; Bensch *et al.* 2015; Tashiro *et al.* 2013; Fungal Databases, <https://nt.ars-grin.gov/fungaldatabases/> [accessed 4 April 2019]).

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**QUARTERLY ACTIVITY REPORT**

	<b>JANUARY - MARCH</b>	<b>2019 - YEAR TO DATE</b>
Budwood Samples	0	0
Citrus black spot	191	191
Citrus canker	29	29
Citrus greening / HLB	84	84
General Pathology	500	500
Honeybees	0	0
Interdictions	23	23
Laurel wilt	2	2
Soil	46	46
Sudden oak death	1	1
Sweet orange scab-like disease	4	4
Texas Phoenix palm decline	80	80
Water	0	0
Miscellaneous	2	2
<b>Totals</b>	<b>927</b>	<b>927</b>



2a - *Cladosporium ramotenellum*, early lesions showing dark brown spots on clementines. Photo by Hector R. Urbina Yanez, DPI



2b - *Cladosporium ramotenellum*, after incubation in moist chamber, showing dark green spots on clementines. Photo by Hector R. Urbina Yanez, DPI



2c - *Cladosporium ramotenellum* yellowish microscopical reproductive structures (100X). Photo by Hector R. Urbina Yanez, DPI





## 🔍 PLANT PATHOLOGY IDENTIFICATION TABLE

The following table provides information about samples identified between January-March 2019. The table is organized alphabetically by plant species, with new records listed on the right.

PLANT SPECIES	PLANT COMMON NAME	CAUSAL AGENT	DISEASE NAME	LOCATION TYPE	SPECIMEN NUMBER	COUNTY	COLLECTOR	DATE	NEW RECORDS
<i>Ageratina jucunda</i>	hammock snakeroot	<i>Ragnhildiana perfoliati</i>	fungus	nature preserve	99514	Duval	Robert M. Leahy, Brad A. Danner, Morgan A. Byron	12/4/2018	host
<i>Cannabis</i> sp.	hemp; cannabis; marijuana	<i>Stemphylium</i> sp.	fungus	dispensary	99431	Orange	Leslie Wilber	2/20/2019	host
<i>Cannabis</i> sp.	hemp; cannabis; marijuana	<i>Oidium</i> sp.	fungus	dispensary	99432	Orange	Leslie Wilber	2/20/2019	host
<i>Cannabis</i> sp.	hemp; cannabis; marijuana	<i>Fusarium</i> sp.	fungus	dispensary	99662	Orange	dispensary employee	3/25/2019	host
<i>Cannabis</i> sp.	hemp; cannabis; marijuana	<i>Pythium</i> sp.	fungus	dispensary	99663	Orange	dispensary employee	3/25/2019	host
<i>Citrus reticulata</i>	clementine, tangerine	<i>Cladosporium ramotenellum</i>	fungus	retail	97764	Alachua	Kelly K. Douglas, Hector R. Urbina, and Xiaoan Sun	9/7/2018	host
<i>Glossostigma elatinoides</i>	glosso	<i>Athelia (=Sclerotium) rolfsii</i>	fungus	nursery	98890	Hillsborough	Jose L. Llanos	2/13/2019	host
<i>Ipomoea triloba</i>	little bell, morning glory	<i>Albugo ipomoeae-panduratae</i>	fungus	natural area	99145	Miami-Dade	Angel Colon-Riveria	1/14/2019	host
<i>Jasminum dichotomum</i>	Gold Coast jasmine	<i>Pelarspovirus Jasmine virus H</i>	virus	residence	98776	St. Lucie	Scott Adkins	12/12/2019	state
<i>Micropholis garciniifolia</i>	caimitillo verde	<i>Cephaleuros virescens</i>	fungus	nursery	99554	Miami-Dade	Maria C. Acosta	3/11/2019	host
<i>Rosa</i> sp.	rose	<i>Nectria pseudotrachia</i>	fungus	nursery	97508	Citrus	Stephen R. Jenner	8/8/2018	host





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## FROM THE EDITOR

By Patti J. Anderson

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*Inquiring minds want to know...* about what to plant in a Florida home landscape!

Although the Division of Plant Industry regulates the nursery trade, and DPI staff diagnose plant problems, the division does not provide advice about what to plant. You can find great information about gardening and horticultural research from some great resources here in Florida. The University of Florida/IFAS extension program, Florida Friendly Landscaping, provides information about plants and landscaping that are good for Florida. So, save some time and some water by putting the right plant in the right place, then enjoy watching your Florida landscape grow.

See more about the Florida Friendly Landscaping Program at <https://ffl.ifas.ufl.edu/> or the Florida Yards & Neighborhoods (FYN) Program in your county at <https://ffl.ifas.ufl.edu/local.htm>.



1 - Coontie.  
Photo from Shutterstock



2 - Purple Cone flowers.  
Photo from Shutterstock



3 - Sandhill Milkweed.  
Photo by Michael Meads, [Atlas of Florida Plants](#)



4 - Blue Flag Iris.  
Photo from Shutterstock





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