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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 • Adam H. Putnam, Commissioner





*Apis mellifera* (honey bee)

Photograph courtesy of Jeffrey W. Lotz, DPI

## ABOUT TRI-OLGY

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

The report includes detection activities from nursery plant inspections, routine and emergency program surveys, and requests for identification of plants and pests from the public. Samples are also occasionally sent from other states or countries for identification or diagnosis.

## HOW TO CITE TRI-OLGY

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## ACKNOWLEDGEMENTS

The editors would like to acknowledge the work of all those who contributed information and explanations by providing data, photographs or text, and by carefully reading early drafts.







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.  
Editor  
Assistant Director, Division of Plant Industry

Patti J. Anderson, Ph.D.  
Managing Editor  
Botanist, Division of Plant Industry

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Cover Photo

*Erigeron quercifolius* Poir.  
Photograph courtesy of Patti J. Anderson, DPI



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# HIGHLIGHTS

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**1 *Blastobasis inana* (Butler), a blastobasid moth, a new Western Hemisphere record.** This species is a tramp of Asian origin. Its presence was first discovered through larvae intercepted by the California Department of Food and Agriculture on a shipment from Florida in June 2017.



1 - *Blastobasis inana* (Butler), a blastobasid moth.  
Photograph courtesy of James E. Hayden, DPI

**2 *Platanthera chapmanii* (Small) Luer (Chapman's fringed orchid).** This terrestrial orchid is currently found in a few sites in North Florida, South Georgia and East Texas. It has been recommended for listing as a Florida endangered species by the state's Endangered Plant Advisory Council. The orchid's showy tepals are orange to yellow-orange with a fringed lip and a slender nectar spur. This sample provides the first vouchered specimen in Nassau County.



2 - *Platanthera chapmanii* (Chapman's fringed orchid)  
Photograph courtesy of Roger L. Hammer, [Atlas of Florida Plants](#).

**3 *Meloidogyne partityla*,** for many years, was reported to be pathogenic only to pecan (*Carya illinoensis*), which is the major host, hickory (*Carya* spp.) and walnut (*Juglans* spp.), all of which belong to only one plant family, Juglandaceae. However, more recently, laurel oak (*Quercus laurifolia*) (Florida and South Carolina), water oak (*Quercus nigra*) (Florida) and post oak (*Quercus stellata*) (Arkansas) were also found to be hosts of this nematode species.



3 - *Meloidogyne partityla* induced galls, a typical symptom, on roots of water oak (*Quercus nigra*).  
Photograph courtesy of Janete A. Brito, DPI

**4 *Puccinia arachidis* Speg.** (peanut rust) was found on perennial peanut, *Arachis glabrata*, at a nursery located in Clay County. During the same week, DPI scientists found rust pustules on perennial peanut grown as a ground cover in Alachua County. The samples were submitted to John McKemy at the Mycology and Nematology Genetic Diversity and Biology Laboratory, US Department of Agriculture, in Beltsville, Maryland, where the fungus was confirmed to be peanut rust, *Puccinia arachidis*.



4 - *Puccinia arachidis* (peanut rust) on perennial peanut (*Arachis glabrata*), close view  
Photograph courtesy of Jeffrey W. Lotz, DPI





# BOTANY

Compiled by Patti J. Anderson, Ph.D.

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

## QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	2017 - YEAR TO DATE
Samples submitted by other DPI sections	919	3,148
Samples submitted for botanical identification only	132	405
Total samples submitted	1,051	3,553
Specimens added to the Herbarium	156	295

Some of the samples received for identification are discussed below:

**1 *Agrimonia incisa* Torr. & Gray (incised agrimony; harvest-lice).** This genus of 20 widespread species is a member of the Rosaceae. *Agrimonia incisa*, listed in Florida Rule 5B-40 as threatened, is a perennial herb with alternate, pinnately compound leaves, consisting of 3-15 pubescent leaflets with serrate margins. The stems and leaf undersides are ornamented with amber-colored glands. The flowers have five sepals, five yellow petals and five to 15 stamens. The fruit glisten with amber, glandular hairs and have three or four rows of hooked bristles. Plants within this genus have been used as medicinal cure-alls for respiratory, digestive, skin and eye problems by Europeans and native Americans, although no reports of pharmacological use of this species within Florida have been found. This is the first documented specimen of *A. incisa* in Levy County. (Levy County; B2017-314; Charles W. Pedersen, Florida Forest Service; 24 July 2017.) (Austin 2004; Mabberley 2017; Wunderlin and Hansen 2016; [http://efloras.org/florataxon.aspx?flora\\_id=1&taxon\\_id=100836](http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=100836) [accessed 19 September 2017].)



1a - *Agrimonia incisa* (incised agrimony).  
Photograph courtesy of Tova Specter, [Atlas of Florida Plants](#)





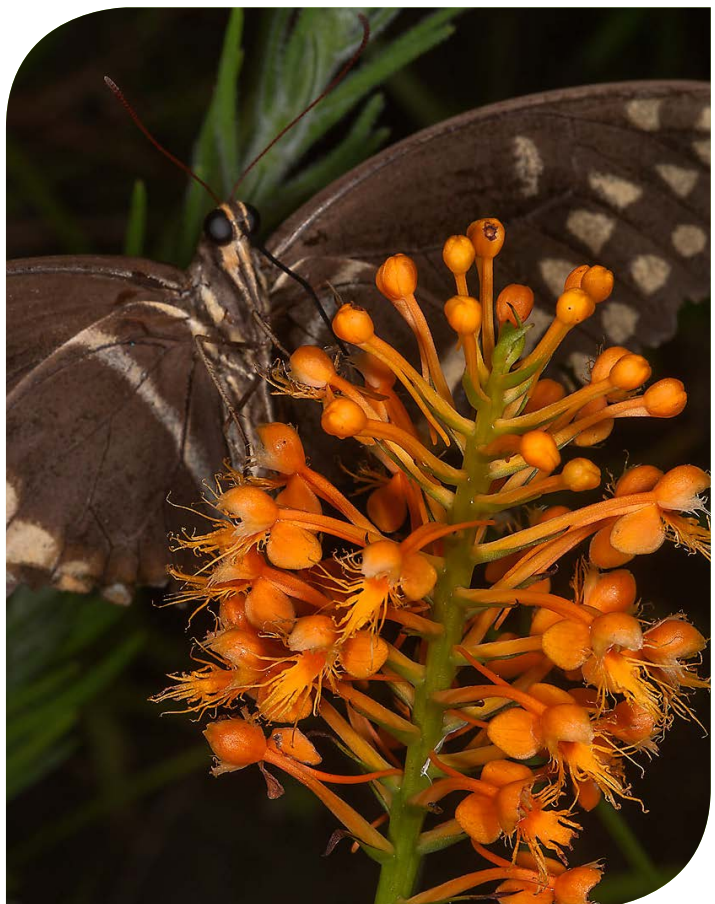
**2 *Platanthera chapmanii* (Small) Luer (Chapman's fringed orchid).** The genus *Platanthera* in the Orchidaceae consists of 135 species native to the Northern Hemisphere. This terrestrial orchid is currently found in a few sites in North Florida, South Georgia and East Texas. It has been recommended for listing as a Florida endangered species by the state's Endangered Plant Advisory Council. Individuals of this species can reach 77 cm in height with a few linear to oblong lanceolate leaves along the stem. These are reduced to bracts nearer the inflorescence, a dense terminal raceme with 30-65 flowers. The showy tepals are orange to yellow-orange with a fringed lip and a slender nectar spur. *Platanthera chapmanii* has been confused with a naturally occurring hybrid of *P. ciliaris* and *P. cristata*, but can be distinguished by the backward curving lobes on the rostellum, while those of the hybrid and its parents project forward and outward. The members of this genus are usually pollinated by Lepidoptera, but one, *P. obtusata*, found in Alaska is pollinated by *Aedes* mosquitos. This sample provides the first vouchered specimen in Nassau County. (Nassau County; B2017-303; Lisa M. Hassell; 24 August 2016.) (Brown 2002; Mabberley 2017; Wunderlin and Hansen 2011; [http://efloras.org/florataxon.aspx?flora\\_id=1&taxon\\_id=242101828](http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=242101828) [accessed 19 September 2017]; <http://goorchids.northamericanorchidcenter.org/species/platanthera/chapmanii/> [accessed 20 September 2017].)



2a - *Platanthera chapmanii* (Chapman's fringed orchid).  
Photograph courtesy of Roger L. Hammer, [Atlas of Florida Plants](#).

#### REFERENCES

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- Mabberley, D.J. 2017.** Mabberley's plant-book: a portable dictionary of plants, their classification and uses, 4th edition. Cambridge University Press, New York, New York. 1,120 p.
- Wunderlin, R. P. and B. F. Hansen. 2011.** Guide to the vascular plants of Florida, 3rd edition. University Press of Florida, Gainesville, Florida. 783 p.
- Wunderlin, R. P. and B. F. Hansen. 2016.** Flora of Florida, Volume III. University Press of Florida, Gainesville, Florida. 328 p.



2b - *Platanthera chapmanii* (Chapman's fringed orchid) with pollinator *Papilio glaucus* (Eastern tiger swallowtail).  
Photograph courtesy of Alexey Sergeev, <http://www.asergeev.com>



## 🔍 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 of all botany samples for the period is downloadable as a [PDF](#) or [Excel Spreadsheet](#).

NEW RECORD	COLLECTOR 1	COLLECTOR 2	COUNTY	SAMPLE NUMBER	COLLECTION DATE	GENUS	SPECIES
🔍	Charles W. Pedersen, FFS		Levy	2017-314	Jul 24, 2017	<i>Agrimonia</i>	<i>incisa</i> Torr. & Gray
🔍	Jason A. Jones, USDA		Collier	2017-290	Jul 10, 2017	<i>Kallstroemia</i>	<i>maxima</i> (L.) Hook. & Arn.
🔍	Lisa M. Hassell		Duval	2017-311	Jul 20, 2017	<i>Imperata</i>	<i>cylindrica</i> (L.) P. Beauv.
🔍	Lisa M. Hassell		Nassau	2017-303	Aug 24, 2016	<i>Platanthera</i>	<i>chapmanii</i> (Small) Luer
🔍	Nora V. Marquez		Sumter	2017-312	Jul 20, 2017	<i>Arundo</i>	<i>donax</i> L.





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

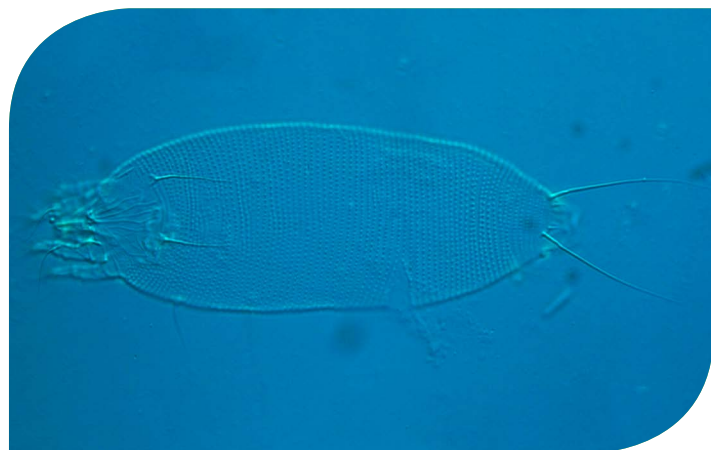
## QUARTERLY ACTIVITY REPORT

### JULY - SEPTEMBER

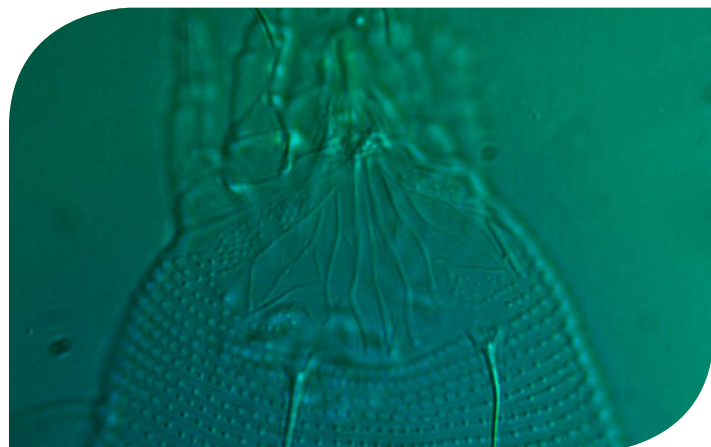
Samples submitted	1,098
Lots identified	1,800
Specimens identified	9,992

### 2017 - YEAR TO DATE

Samples submitted	3,758
Lots identified	5,110
Specimens identified	44,001



1 - *Aceria artemisiifoliae* Vidović & Petanović, whole body of mite. Photograph courtesy of Samuel J. Bolton, DPI



2 - *Aceria artemisiifoliae* Vidović & Petanović, anterior region of mite. Photograph courtesy of Samuel J. Bolton, DPI



3 - *Blastobasis inana* (Butler), a blastobasid moth. Photograph courtesy of James E. Hayden, DPI

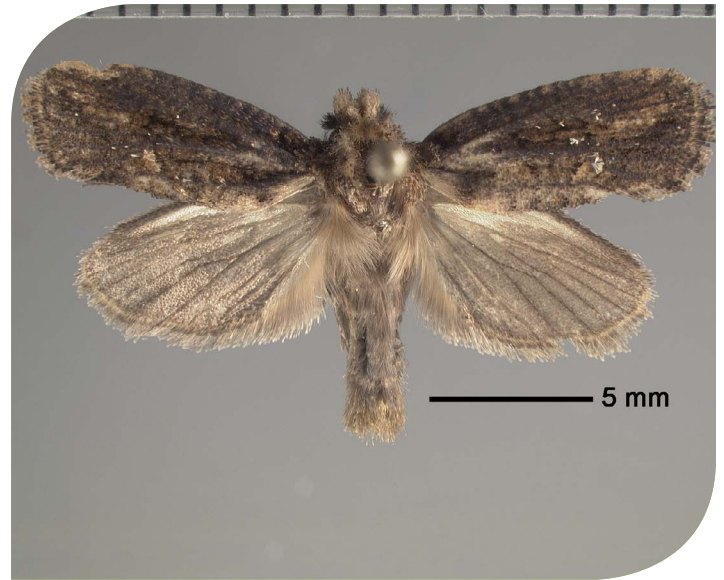
**1 *Aceria artemisiifoliae* Vidović & Petanović, an eriophyid mite, a new Western Hemisphere record.** This species, which is host-specific to *Ambrosia artemisiifolia* (common ragweed), was described only last year (2016) from Europe, specifically Serbia. In Europe, Asia and Australia, common ragweed is an invasive species. Therefore, *Aceria artemisiifoliae* was described as part of an initiative to find biological control agents to target this important weed. Because this weed originated in North America, the discovery of *Aceria artemisiifoliae* in Florida represents the first record of this mite from within its native range. (Miami-Dade County; E2017-2318; Eric G. LeVeon, CAPS, and Marcus L. Jones II; 8 June 2017.) (Dr. Samuel J. Bolton.)

**2 *Blastobasis inana* (Butler), a blastobasid moth, a new Western Hemisphere record.** This species is a tramp of Asian origin. The larvae scavenge in vegetable detritus such as berries. Its presence was first discovered through larvae intercepted by the California Department of Food and Agriculture on a shipment from Florida in June 2017. They preliminarily identified it by sequencing DNA and communicated this to DPI, prompting re-examination of unidentified specimens of by-catch from moth traps set in 2016. The moth is distinguished by its pale brown color, dark collar, enlarged male palps and the spine on the valva of the genitalia. Specimens also often occur in suction trap samples from Miami. We hope the interception was an accident that will not occur again. (Miami-Dade County; E2017-2771; Amy L. Roda, USDA, APHIS, PPQ, Carina Teri L. Allen, Daniel Carrillo, Rita E. Duncan, Scott W. Weihman, Teresa I. Narvaez, all University of Florida, Tropical Research and Education Center; 11 April 2016.) (Dr. James E. Hayden.)





**3 *Acrolophus* sp., an acrolophine moth, a new Continental USA record.** These grass tubeworm moths appeared in a residence, but the source of the larvae has not been located. This is unusual, and the source of the larvae may be soil or environmental detritus. *Acrolophus* includes many species, and this is the twentieth known in Florida. This one resembles species of Caribbean origin, and more moths were caught to send to experts for a more precise identification. The larval feeding habits of most *Acrolophus* species are not known, but they tend to consume detritus, not live, green plants. This new species can be distinguished from *A. walsinghami* (Möschler), which is common in urban areas, by the larger size, hairy eyes, and genitalic morphology. (Hillsborough County; E2017-2919; Donald L. Roetter, homeowner; 9 July 2017.) (Dr. James E. Hayden.)



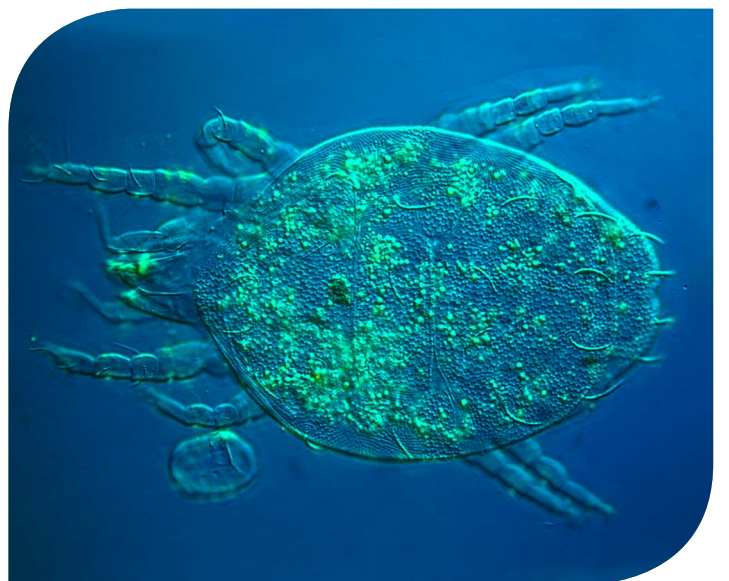
4 - *Acrolophus* sp., an acrolophine moth.  
Photograph courtesy of James E. Hayden, DPI

**4 *Graminella nigripennis* (DeLong), a leafhopper, a new Continental USA record.** This leafhopper is known from the Neotropics. It was described from Puerto Rico and is known from Cuba and northern South America. Little is known about its biology. The original specimens in Puerto Rico were collected from marshy areas in the lowlands (Caldwell and Martorell 1952). Other species in the genus feed on grasses, as their name suggests. This species is not known to be a pest. The specimen was a female collected in a suction trap. A second specimen, a male, was collected in a Jackson TML trap in Sebring. (Female: Collier County; E2017-2659; Monica Triana, University of Florida, IFAS, Southwest Florida Research and Education Center; 27 June 2017.) (Male: Highlands County; E2017-3473; Cecilia Carrero-Turnbull, USDA/APHIS/PPQ; 28 August 2017.) (Dr. Christopher H. Dietrich, Illinois Natural History Survey, and Dr. Susan E. Halbert.)



5 - *Graminella nigripennis* (DeLong) a leafhopper.  
Photograph courtesy of Susan E Halbert, DPI

**5 *Neolorryia pandana* (Baker), a tydeid mite, a new Continental USA record.** This species was originally described from Hawaii, and a single specimen has since been found in Brazil, although the latter appears to have noticeably broader body setae than the Hawaiian specimens, based on a comparison of published figures. Two specimens recovered from Monroe County, documented for the first time on the continent of North America, have lanceolate and slightly serrate body setae that cause them to bear a closer resemblance to the Hawaiian specimens. Although the feeding habits of this species are not known, almost all members of the broader family, Tydeidae, are predators and/or fungivores. (Monroe County; E2017-2365; Jake M. Farnum; 12 June 2017.) (Dr. Samuel J. Bolton.)

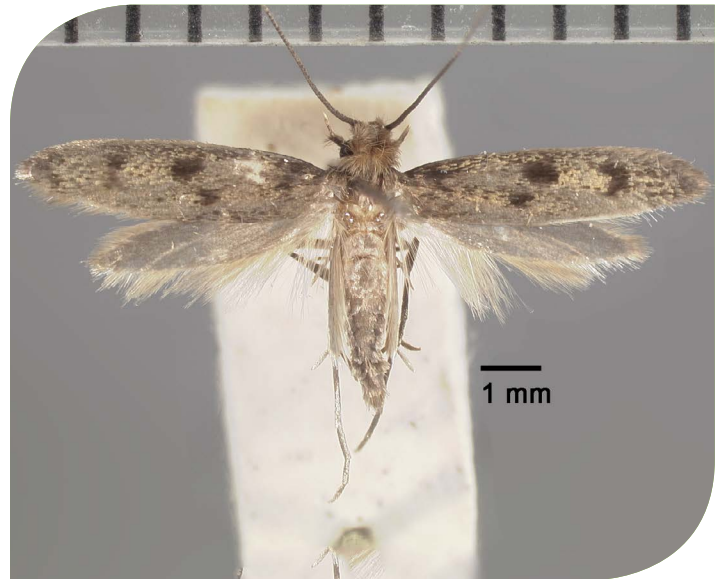


6 - *Neolorryia pandana* (Baker) whole body of mite.  
Photograph courtesy of Samuel J. Bolton, DPI





**6 *Phereoeca allutella* (Rebel), a household casebearer moth, a new Continental USA record.** *Phereoeca allutella* is related to *P. uterella*, the plaster bagworm or household casebearer, which is very common in houses in Florida. Its habits are basically the same: the larvae scavenge dead arthropod remains and other proteinaceous detritus on walls and corners. They are synanthropic (occurring only in houses and moved by humans) and are nuisances at worst. The caterpillar lives in a case made of detritus shaped like a pumpkinseed. *Phereoeca allutella* occurs in the New World tropics (Central America and Brazil) and on many oceanic islands, probably spread by trade. A third species, *P. praecox*, known from Africa and California, was recently reported in South Carolina and could turn up in Florida. All three should be identified by dissection of adult moths, since larval chaetotaxy (the arrangement or pattern of bristles) is unreliable. The newly recorded species may therefore be more widely distributed in Florida than currently known. (Orange County; E2017-3716; John M. Bartlett, homeowner; 15 March 2014.) (Dr. James E. Hayden.)



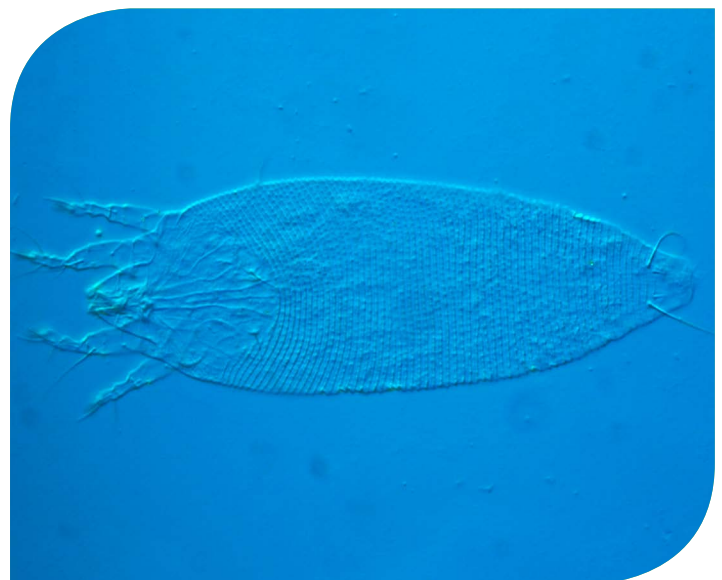
7 - *Phereoeca allutella* (Rebel), a household casebearer moth. Photograph courtesy of James E. Hayden, DPI

**7 *Prelorryia* (André) n. sp., a tydeid mite, a new Continental USA record.** This genus was originally described from Java, Indonesia. A species has also been described from Brazil. A single specimen of a new species, like the one from Indonesia, was found on *Cephalanthus occidentalis*. This represents a first record of this genus for North America. Although the feeding habits of this new species are not known, almost all members of the broader family, Tydeidae, are predators and/or fungivores. (Lake County; E2017-1953; Harry L. Morrison and Mary C. Sellers; 15 May 2017.) (Dr. Samuel J. Bolton.)



8 - *Seira dowlingi*, springtail, habitus adult. Photograph courtesy of Felipe N. Soto-Adames, DPI

**8 *Seira dowlingi* (Wray), springtail, a new Continental USA Record.** The genus *Seira* includes approximately 224 species distributed mainly throughout dry, xeric habitats in South America and Africa. In Europe, a few species reach as far north as England and Poland, but in North America, field populations of *Seira* sp. are almost exclusively restricted to the southern states. *Seira dowlingi* was first described from the Dominican Republic but is now known from Cuba, Puerto Rico, Panama and the Galapagos Islands. The species is often found in disturbed habitats and appears to be an adventive form transported by human activity. The actual distribution of *S. dowlingi* in North America is unclear. *Seira dowlingi* is very similar to *S. bipunctata* and *S. steinmetzi*, two species common in the United States. A definitive distinction among the three species was only realized recently, and some previous North American records of *S. bipunctata* and *S. steinmetzi* may refer to *S. dowlingi*. In any case, this is the first time *S. dowlingi* is reported from Florida, and given the information available, it also appears to be the first continental USA record for the species. (Osceola County; E2017-3498; Laura Ureta-Cooper; 29 August 2017.) (Dr. Felipe N. Soto-Adames.)



9 - *Phyllocoptes gracilis* (Nalepa), whole body of mite. Photograph courtesy of Samuel J. Bolton, DPI

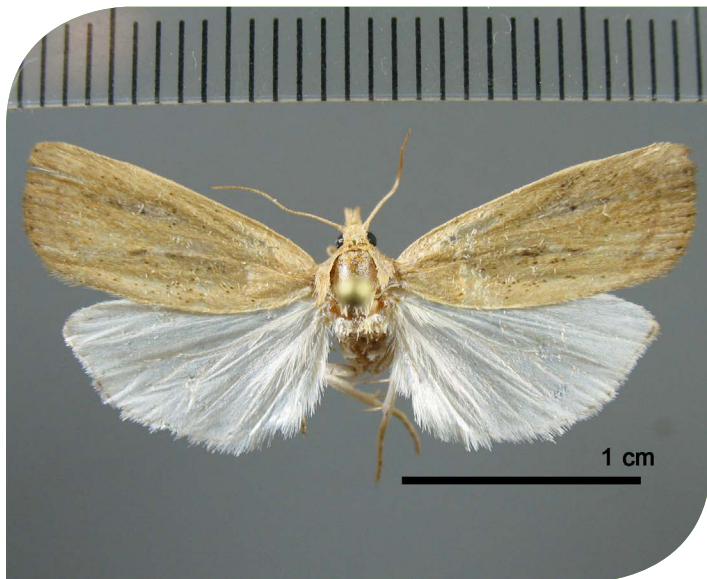


**9** *Phyllocoptes gracilis* (Nalepa), raspberry leaf and bud mite, a new Florida state record. This species is an important pest on raspberries, but it also feeds on a range of species of *Rubus* in Europe. It is known from China, Europe, Russia and the United States. It is more common in the western states of California, Oregon and Washington. This mite causes mottling and discoloration. It can also cause leaves to crumple and berries to ripen prematurely. (Orange County; E2017-745; Susan E. Halbert; 25 February 2017.) (Dr. Samuel J. Bolton.)

**10** *Thopeutis forbesellus* (Fernald), a stem boring moth, a new Florida state record. This northern species evidently reaches the edge of its distribution in North Central Florida. The caterpillars bore in the stalks of *Scirpus*, and populations tend to be localized. This moth was caught in an ultraviolet light trap at the edge of a swamp in Split Rock Conservation Area. Two other specimens were found from Putnam and Volusia counties. It is not a pest, although some related species are stem boring pests in grasses. (Alachua County; E2017-2916; James E. Hayden; 23 July 2017.) (Dr. James E. Hayden.)

**11** *Agrilus fuscipennis* Gory, a buprestid beetle, recorded from Florida with definitive locality. A single specimen of *A. fuscipennis* was collected in a z3-hexen-1-ol-baited green Lindgren funnel trap located at the Paynes Prairie I-75 rest stop in Gainesville. *A. fuscipennis* is 12-13 mm long; the scutellum and elytra are black, and the pronotum is a striking mélange of yellow, blue and purple. This native species was recorded in literature (Nelson *et al.* 2008) as occurring in Florida, but with no definite locality. Cited references pertaining to distribution in that work do not mention Florida (Chamberlin 1926; Fisher 1928; Nelson *et al.* 2008; Nelson and Westcott 1976). There are also no specimens from Florida in the Florida State Collection of Arthropods. *Agrilus fuscipennis* occurs throughout the southeastern United States, north to Ohio and Indiana, and west to Missouri and Texas. This species feeds in living persimmon, in the heartwood of the xylem, which is unusual for *Agrilus*. (Alachua County; E2017-2489; Bradley A. Danner and Robert M. Leahy; 26 May 2017.) (Kyle E. Schnepf and Katherine E. O. Fairbanks.)

**12** *Bactrocera dorsalis* (Hendel), Oriental fruit fly, a regulatory incident. A single male specimen was trapped in a Jackson trap baited with methyl eugenol, hung in a seagrape (*Coccoloba uvifera*), in Weston. Increased trap densities in a 51-square-mile area around the detection site were maintained and traps were monitored closely for an estimated two life cycles. No additional flies were found, and the delimitation program was terminated on 21 September 2017. (Broward County; E2017-2956; Antonio Demien, USDA/APHIS/PPQ; 26 July 2017.) (Dr. Gary J. Steck.)



10 - *Thopeutis forbesellus* (Fernald), a stem boring moth. Photograph courtesy of James E. Hayden, DPI



11 - *Agrilus fuscipennis*, a buprestid beetle. Photograph courtesy of Katherine E. O. Fairbanks, DPI



12 - *Bactrocera dorsalis*, Oriental fruit fly, captured on methyl eugenol-baited sticky trap. Photograph courtesy of Gary J. Steck, DPI





**13** *Calliprora* new species, a leadtree leaftier moth, a noteworthy record. Since the first report of this species in Tri-ology 2016-2, it has been discovered in Miami-Dade (Tri-ology 2017-2) and Alachua counties in addition to Broward and Hillsborough counties. Its host was unknown at first, but now at all locations, adult moths have been raised from *Leucaena leucocephala* (leadtree). Young larvae make blotch mines on leaflets, and older larvae tie two adjacent leaflets to feed and pupate within. It has not yet been observed on other hosts, such as *Albizia julibrissin*. Leadtree is a weed in Florida, but a forage crop in other countries. Damage is moderate and concentrated on low, shaded foliage. (Alachua County; E2017-2772; James E. Hayden; 18 June 2017.) (Dr. James E. Hayden.)

**14** *Carnus hemapterus* Nitzsch, a bird fly, a noteworthy record. Two specimens were collected from nestling woodpeckers in the Osceola National Forest. Winged adults emerge in the spring, search out nestlings of tree-nesting birds, shed their wings, and feed as ectoparasites on blood and skin. Fly pupae overwinter in the nest. This species is widespread in the Holarctic region. (Osceola National Forest, Baker County or Columbia County; E2017-3011; Sarah Lauerman; 13 May 2017.) (Dr. Gary J. Steck.)

**REFERENCES**

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**Chamberlin, W.J. 1926.** Catalogue of the Buprestidae of North America north of Mexico. W. J. Chamberlin, Corvallis, Oregon. 289 p.

**Fisher W.S. 1928.** A revision of the North American species of buprestid beetles belonging to the genus *Agrilus*. Bull. U.S. Nat. Mus. 145: 1-347.

**Nelson, G.H., G.C. Walters, Jr., R.D. Haines, and C.L. Bellamy. 2008.** A catalog and bibliography of the Buprestoidea of America north of Mexico. The Coleopterists Society, Special Publication No. 4, 274 p.

**Nelson, G.H. and R.L. Westcott. 1976.** Notes on the distribution, synonymy, and biology of Buprestidae (Coleoptera) of North America. The Coleopterists Bulletin 30: 273-284.



13 - *Calliprora* new species, a leadtree leaftier moth. Photograph courtesy of James E. Hayden, DPI



14 - *Carnus hemapterus*, a bird fly. Photograph courtesy of Lyle J. Buss, University of Florida



## ENTOMOLOGY IDENTIFICATION TABLE

Below 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 on this page and another version with more complete data is downloadable as a [PDF](#) or [Excel](#) spreadsheet.

The tables are organized alphabetically by plant host, if the specimen has a plant host. Some arthropod specimens are not collected on plants and are not necessarily plant pests. In the table below, those entries that have no plant information included are organized by arthropod name.

PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
<i>Acacia pinetorum</i>	pineland wattle	<i>Heteropsylla flexuosa</i>	an acacia psyllid	NEW FLORIDA HOST RECORD
<i>Acer</i> sp.	maple	<i>Japananus hyalinus</i>	a leafhopper	NEW FLORIDA COUNTY RECORD
<i>Ambrosia artemisiifolia</i>	common ragweed	<i>Aceria artemisiifoliae</i>	an eriophyid mite	NEW HEMISPHERE RECORD
<i>Asclepias</i> sp.	milkweed	<i>Oncopeltus cingulifer</i>	a milkweed bug	NEW FLORIDA COUNTY RECORD
<i>Asclepias tuberosa</i>	butterfly milkweed	<i>Oncopeltus cingulifer</i>	a milkweed bug	NEW FLORIDA COUNTY RECORD
<i>Bursera simaruba</i>	gumbo-limbo; West Indian birch	<i>Pseudophacopteron</i> sp.	gumbo limbo psyllid	NEW FLORIDA COUNTY RECORD
<i>Capsicum annuum</i>	pepper	<i>Bactericera cockerelli</i>	potato psyllid	REGULATORY INCIDENT
<i>Capsicum annuum</i>	pepper	<i>Liriomyza langei</i>	California pea leafminer	REGULATORY INCIDENT
<i>Cephalanthus occidentalis</i>	common buttonbush	<i>Prelorriya nr. Indionensis</i>	a tydeid mite	NEW US CONTINENTAL RECORD
<i>Cinnamomum camphora</i>	camphortree	<i>Eulepte anticostalis</i>	a crambid moth	NEW FLORIDA COUNTY RECORD
<i>Coccoloba uvifera</i>	seagrape	<i>Bactrocera dorsalis</i>	oriental fruit fly	REGULATORY INCIDENT
<i>Coccoloba uvifera</i>	seagrape	<i>Graminella nigripennis</i>	a leafhopper	NEW FLORIDA COUNTY RECORD
<i>Colocasia esculenta</i>	dasheen; wild taro; taro	<i>Anadenobolus monilicornis</i>	yellow-banded millipede	NEW FLORIDA COUNTY RECORD
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Euthera tentatrix</i>	a tachinid fly	NEW FLORIDA COUNTY RECORD
<i>Eriobotrya japonica</i>	loquat, Japanese plum	<i>Leptoglossus fulvicornis</i>	leaffooted bug	NEW FLORIDA COUNTY RECORD
<i>Fraxinus</i> sp.		<i>Agrilus fuscipennis</i>	a buprestid beetle	NEW FLORIDA STATE RECORD
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Acyrtosiphon lactucae</i>	lettuce aphid	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	TRUCK INTERDICTION
<i>Lactuca sativa</i>	lettuce, romaine lettuce, leaf lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	TRUCK INTERDICTION
<i>Lasiacis divaricata</i>	smallcane; wild bamboo; Florida tibisee	<i>Aclerda takahashii</i>	a flat grass scale	NEW FLORIDA HOST RECORD
<i>Leucaena leucocephala</i>	leadtree	<i>Calliprora</i> sp.	a gelechiid moth	NEW FLORIDA COUNTY RECORD
<i>Mangifera indica</i>	mango	<i>Hoplocheiloma totliana</i>	a stilt-legged fly	NEW FLORIDA COUNTY RECORD





PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
<i>Olea europaea</i>	olive	<i>Bactrocera oleae</i>	olive fruit fly	REGULATORY INCIDENT
<i>Olea europaea</i>	olive	<i>Bactrocera oleae</i>	olive fruit fly	REGULATORY INCIDENT
<i>Paspalum repens</i>	water paspalum; watergrass	<i>Liriomyza marginalis</i>	a leaf miner	NEW FLORIDA COUNTY RECORD
<i>Paspalum repens</i>	water paspalum; watergrass	<i>Rhopalosiphum maidis</i>	corn leaf aphid	NEW FLORIDA HOST RECORD
<i>Paspalum repens</i>	water paspalum; watergrass	<i>Sthenaridea vulgaris</i>	a plant bug	NEW FLORIDA HOST RECORD
<i>Persea americana</i>	avocado; alligator pear; aguacate	<i>Elaphidion tectum</i>	a longhorn beetle	NEW FLORIDA COUNTY RECORD
<i>Piscidia piscipula</i>	Florida fish-poison tree, Jamaican-dogwood	<i>Neolorryia pandana</i>	a tydeid mite	NEW US CONTINENTAL RECORD
<i>Platanthera chapmanii</i>	Chapman's bog orchid	<i>Anasaitis canosa</i>	twinflagged jumping spider	NEW FLORIDA COUNTY RECORD
<i>Platanthera chapmanii</i>	Chapman's bog orchid	<i>Stethobaris incompta</i>	a weevil	NEW FLORIDA COUNTY RECORD
<i>Quercus hemisphaerica</i>	Darlington's oak; laurel oak	<i>Vanduzea segmentata</i>	a treehopper	NEW FLORIDA HOST RECORD
<i>Quercus</i> sp.	oak	<i>Clastoptera</i> sp.	a spittlebug	NEW FLORIDA COUNTY RECORD
<i>Rubus</i> sp.		<i>Phyllocoptes gracilis</i>	raspberry leaf and bud mite	NEW FLORIDA STATE RECORD
<i>Ruellia ciliatiflora</i>	hairyflower wild petunia	<i>Tripudia paraplesia</i>	a noctuid moth	NEW FLORIDA COUNTY RECORD; NEW FLORIDA HOST RECORD
<i>Sabal palmetto</i>	cabbage palm, palmetto	<i>Monopis longella</i>	nest moth	NEW FLORIDA COUNTY RECORD
<i>Saccharum officinarum</i>	sugarcane	<i>Aclerda takahashii</i>	a flat grass scale	QUARANTINABLE PEST; NEW FLORIDA COUNTY RECORD
<i>Sideroxylon foetidissimum</i>	false mastic	<i>Ceropsylla sideroxyli</i>	false mastic psylla	NEW FLORIDA COUNTY RECORD
<i>Solanum melongena</i>	eggplant	<i>Bemisia tabaci</i> "Q"	sweetpotato whitefly	REGULATORY INCIDENT
<i>Solanum tampicense</i>	wetland soda-apple; wetland nightshade; aquatic soda-apple	<i>Spartocera fusca</i>	coreid bug	NEW FLORIDA HOST RECORD
<i>Wodyetia bifurcata</i>	foxtail palm	<i>Epiplatea erosa</i>	a richardiid fly	NEW FLORIDA COUNTY RECORD
		<i>Acrolophus</i> sp.	a grass tubeworm moth	NEW US CONTINENTAL RECORD
		<i>Anadenobolus monilicornis</i>	yellow-banded millipede	NEW FLORIDA COUNTY RECORD
		<i>Anthonomus subfasciatus</i>	a weevil	NEW FLORIDA COUNTY RECORD
		<i>Bemisia tabaci</i> "Q"	sweetpotato whitefly	QUARANTINABLE PEST; NEW FLORIDA COUNTY RECORD
		<i>Bemisia tabaci</i> "Q"	sweetpotato whitefly	REGULATORY INCIDENT



PLANT NAME	PLANT COMMON NAME	ARTHROPOD	ARTHROPOD COMMON NAME	RECORD
		<i>Blastobasis inana</i>	a blastobasid moth	NEW HEMISPHERE RECORD
		<i>Carnus hemapterus</i>	a bird parasitic fly	NOTABLE FIND
		<i>Dectes texanus</i>	a longhorn beetle	NEW FLORIDA COUNTY RECORD
		<i>Diogmites neoternatus</i>	a robber fly	NEW FLORIDA COUNTY RECORD
		<i>Elaphria agrotina</i>	a midget moth	NEW FLORIDA COUNTY RECORD
		<i>Graminella nigripennis</i>	a leafhopper	NEW US CONTINENTAL RECORD
		<i>Ischnodemus variegatus</i>	West Indian marsh grass bug	NEW FLORIDA COUNTY RECORD
		<i>Litoprosopus</i> sp.	a cabbage palm moth	NEW FLORIDA COUNTY RECORD
		<i>Neacoryphus bicrucis</i>	a seed bug	NEW FLORIDA COUNTY RECORD
		<i>Oncopeltus aulicus</i>	a milkweed bug	NEW FLORIDA COUNTY RECORD
		<i>Oncopeltus cingulifer</i>	a milkweed bug	NEW FLORIDA COUNTY RECORD
		<i>Paratelenomus saccharalis</i>	parasitoid wasp	NEW FLORIDA COUNTY RECORD
		<i>Pheroeca allutella</i>	a plaster bagworm moth	NEW US CONTINENTAL RECORD
		<i>Seira dowlingi</i>	tropical springtail	CONTINENTAL USA RECORD
		<i>Stenocoris furcifera</i>	a broad headed bug	NEW FLORIDA COUNTY RECORD
		<i>Tangia breviceps</i>	a tropiduchid planthopper	NEW FLORIDA COUNTY RECORD
		<i>Thopeutis forbesellus</i>	a stem boring moth	NEW FLORIDA STATE RECORD
		<i>Thrips setosus</i>	Japanese flower thrips	REGULATORY INCIDENT
		<i>Trotorhombia metachromata</i>	a crenulate moth	NEW FLORIDA COUNTY RECORD
	a succulent	<i>Vryburgia trionymoides</i>	a mealybug	REGULATORY INCIDENT
		<i>Zygogramma heterothecae</i>	a leaf beetle	NEW FLORIDA COUNTY RECORD





# NEMATOTOLOGY

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

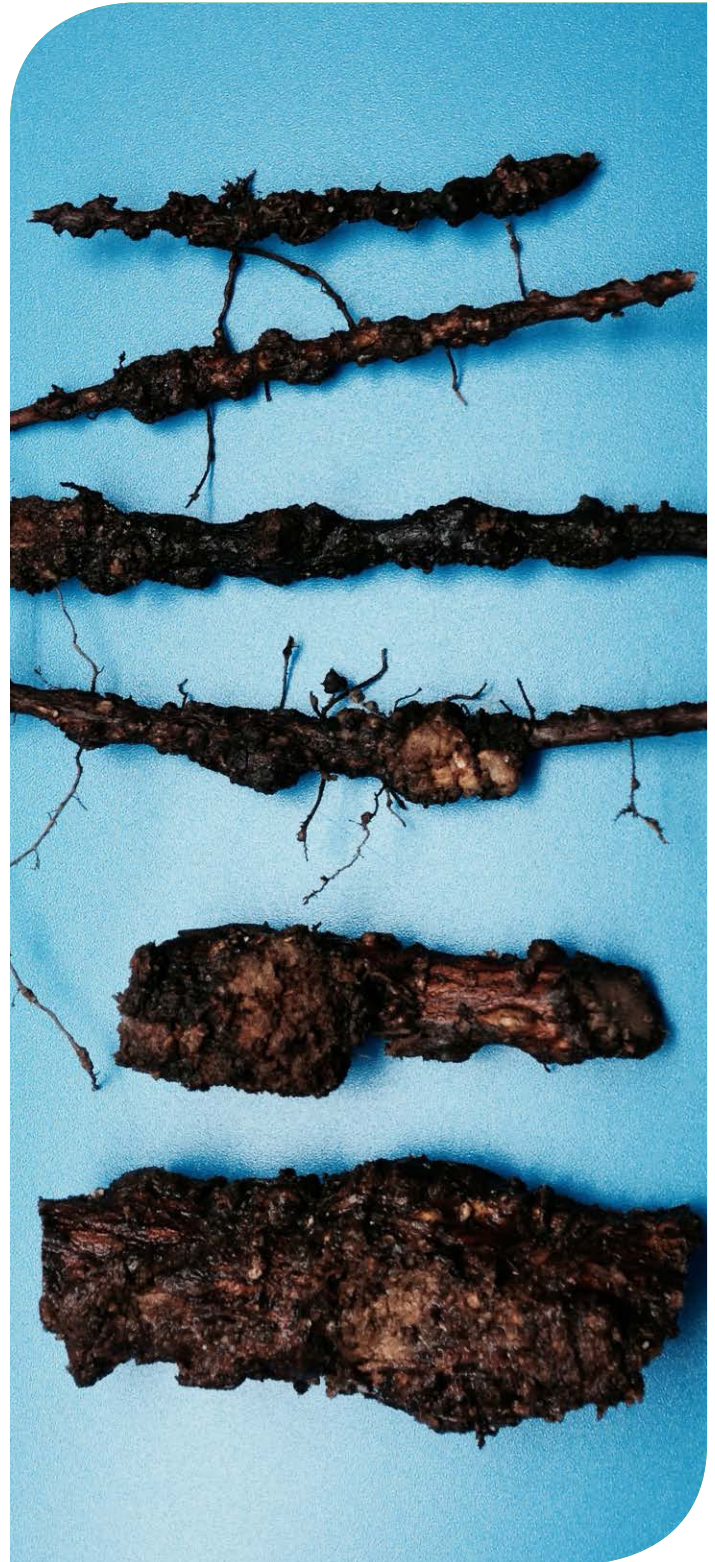
This section analyzes soil and plant samples for nematodes, conducts pest detection surveys and provides diagnoses of plant problems, in addition to completing identification of plant parasitic nematodes involved in regulatory and certification programs. State of Florida statutes and rules mandate the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

## QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	2017 - YEAR TO DATE
Morphological identifications	3,524	10,820
Molecular identifications	1,248	2,866
Total identifications	4,772	13,686

### Nematodes of Special Interest

**1** *Meloidogyne partityla*, for many years was reported to be pathogenic only to pecan (*Carya illinoensis*), which is the major host, hickory (*Carya* spp.), and walnut (*Juglans* spp.), all of which belong to only one plant family, Juglandaceae. However, more recently, laurel oak (*Quercus laurifolia*) (Florida and South Carolina), water oak (*Quercus nigra*) (Florida) and post oak (*Quercus stellata*) (Arkansas) were also found to be hosts of this nematode species. In 2015, roots presumably infected with root-knot nematodes (*Meloidogyne* spp.) were collected from water oak growing in Alachua County, Florida. Samples were sent to the DPI Nematode Diagnostic Laboratory. Galls were observed on secondary and tertiary roots; large and coalesced galls were found only on secondary roots. Nematode species were identified using both morphological and molecular analyses. A notably thickened region between the stylet cone and stylet shaft in males ( $n = 10$ ) and swollen rectums with deep longitudinal grooves were present in second-stage juveniles ( $n = 15$ ), two defining morphological characteristics reported in the original description of *Meloidogyne partityla*. Perineal patterns of females were consistent with that previously reported for *M. partityla*. Isozyme phenotypes (EST = Mp3; MDH = N1a) were identical to earlier reports of this species.



1 - *Meloidogyne partityla* induced galls, a typical symptom, on roots of water oak (*Quercus nigra*).

Photograph courtesy of Janete A. Brito, DPI

An amplicon of 530 bp was produced with mtDNA primers C2F3 (5'-GGTCAATGTTTCAGAAATTTGTGG-3') and 1108 (5'-TACCTTTGACCAATCACGCT-3'), which coincided to previously published data for *M. partityla*. Additionally, a region in the ribosomal ITS was amplified with ITS-1 F (5'-CGCAGTGGCTTGAACCGG-3') and a species-specific primer, MpSpec (5'-TGAACCTTTATTGGTAAAAG-3'). This primer set produced a fragment of 630 bp, identical to *M. partityla* found infecting pecan in Arizona, Florida, Georgia, New Mexico, Oklahoma and Texas (GenBank Accession No. KR047556). A GenBank BLAST search produced a 99 percent match to an isolate of *M. partityla* from New Mexico (AY757874.1). This finding strengthens the hypothesis that this nematode species can survive in the wild on hosts outside of Juglandaceae. This is of particular importance when establishing new pecan nurseries and orchards. Areas in which planting material will be produced where oaks were previously growing should be sampled prior to establishing new pecan seed beds to make sure they are free of this nematode species, thus avoiding spread of the nematode via infected plants, a major pathway of spreading *M. partityla*.

## REFERENCES

- Brito, J.A., T.E. Smith, F. Achitinelly, T.S.V. Monteiro, and D.W. Dickson. 2016.** First report of *Meloidogyne partityla* infecting water oak (*Quercus nigra*) in Florida. Plant Disease 100:1246.
- Brito, J.A., H. Han, J.D. Stanley, M. Hao, and D.W. Dickson. 2012.** First report of laurel oak as a host for the pecan root-knot nematode, *Meloidogyne partityla* in Florida. Plant Disease 97:151.
- Eisenback, J.D., V. dos S. Paes-Takahashi, and L.S. Graney 2015.** First report of the pecan root-knot nematode, *Meloidogyne partityla*, causing dieback to laurel oak in South Carolina. Plant Disease 99:1041.
- Khanal, C., A.L. Szalanski, and R.T. Robbins. 2016.** First report of *Meloidogyne partityla* parasitizing pecan in Arkansas and confirmation of *Quercus stellata* as a host. Nematropica 46:1-7.
- Stamler, R.A. 2009.** Molecular identification and characterization of the pecan root-knot nematode (*Meloidogyne partityla*). M.S. thesis, New Mexico State University, Las Cruces, New Mexico.





## COLLECTORS

Collectors submitting five or more samples that were processed for nematological analysis from April through June 2017.

COLLECTOR NAME	SAMPLES PROCESSED
Alford, Brian M.	14
Anderson, James E.	5
Anto, Justin K.	38
Averhoff-Chirino, Carlos M.	8
Bentley, Michael A.	6
Bloom, Richard T.	94
Boyar, Jillian	8
Brown, Lance A.	26
Churchill, William C.	13
Clanton, Keith B.	28
Echols, M. Janie	5
Golden, Walter W.	9
Gonzalez, Kathy A.	34
Gourlay, Anna J.	11
Gubler, Anthony P.	5
Krok, Jesse M.	7
LeBoutillier, Karen W.	157
McCarthy, Sean P.	5
Ochoa, Ana L.	324
Smith, Lane M.	15
Spriggs, Charles L.	270
Stokes, Williams R.	6
Taylor, Donald D.	7
Terrell, Mark R.	15
Violett, Larry L.	6
Warden, George A.	13
Webb, Gary R.	7
Webb, Shannan T.	5
West, LeAnn J.	49
Wright, Albert L.	10
Wates, Johnny J.	7
Youngblood, Susan B.	8

## CERTIFICATION AND REGULATORY SAMPLES

	JULY - SEPTEMBER	2017 - YEAR TO DATE
Multistate certification for national and international export	1,859	5,740
California certification	473	1,199
Pre-movement (citrus nursery certification)	40	180
Site or pit approval (citrus nursery and other certifications)	32	121

## OTHER SAMPLES

	JULY - SEPTEMBER	2017 - YEAR TO DATE
Identifications (invertebrate)	0	14
Plant problems	36	66
Random intrastate surveys	97	364

## SAMPLES FOR MOLECULAR ANALYSIS

	JULY - SEPTEMBER	2017 - YEAR TO DATE
Regulatory	0	0
Other Purposes		
Surveys	1,248	2,866
Total	1,248	2,866

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





## PLANT PATHOLOGY

Compiled by Jodi Hansen, M.S., Taylor Smith, B.S., Kishore Dey, Ph.D., David Davison, Debra Jones, M.S.

This 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 diseases and disorders active outside Florida in order to be prepared for potential introductions of new pathogens to our area.

**1** *Puccinia arachidis* Speg. (**peanut rust**) was found on perennial peanut, *Arachis glabrata* Benth, at a nursery located in Clay County. (Clay County; P2017-93640; Lisa M. Hassell; 24 July 2017.) In the same week, DPI scientists found rust pustules on perennial peanut grown as a ground cover in Alachua County. The samples were submitted to John McKemy at the Mycology and Nematology Genetic Diversity and Biology Laboratory, U.S. Department of Agriculture, in Beltsville, Maryland, where the fungus was confirmed to be peanut rust, *Puccinia arachidis*.

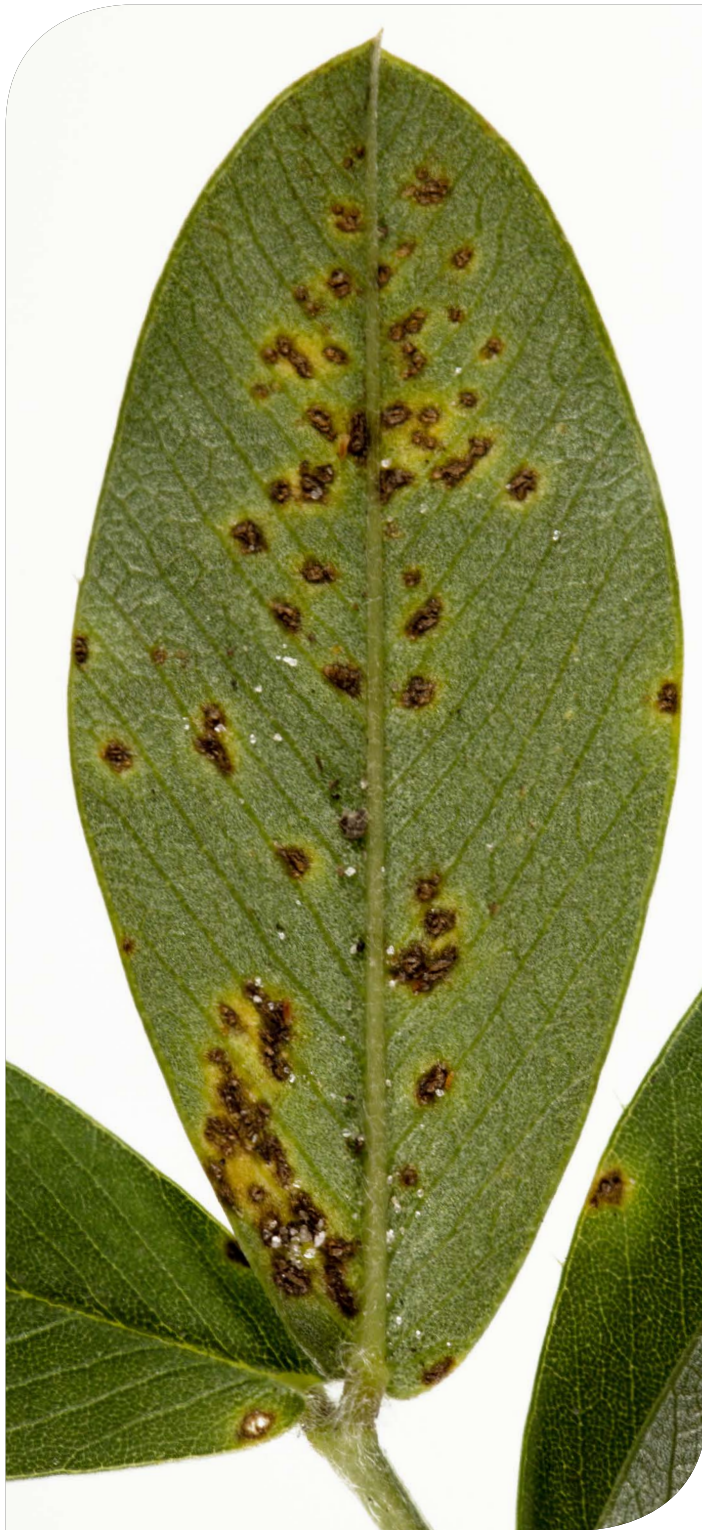
The common pegging peanut (*A. hypogaea* L.) is a known host of the pathogen, but there are no previous reports of the fungus infecting perennial peanut in the United States. In Florida, peanut rust is controlled on common peanut with fungicides and the use of resistant varieties. Perennial peanut is native to South America, and although in the United States the plant is reported resistant to peanut rust, it is reported to infect the plant in its native growing region. Perennial peanut grows well in the southern coastal plains of the United States, and in Florida, it is commonly used as forage, cover crop and ground cover.

Symptoms of peanut rust on perennial peanut are lesions on the underside of leaves. Early lesions are raised and blister-like, but as the spores mature, they become darker and more erumpent. Because a yellow halo is present, from above, lesions appear as lighter green spots scattered on the darker green leaf of the prostrate-growing plants. Under magnification, the cinnamon-brown urediniospores may be visible after the epidermis over the lesion has ruptured.



1a -*Puccinia arachidis* (peanut rust) on perennial peanut (*Arachis glabrata*).  
Photograph courtesy of Jeffrey W. Lotz, DPI





1b -*Puccinia arachidis* (peanut rust) on perennial peanut (*Arachis glabrata*), close view.  
 Photograph courtesy of Jeffrey W. Lotz, DPI

## REFERENCES

**Kokalis-Burelle, N., D.M. Porter, R. Rodríguez-Kábana, D.H. Smith, and P. Subrahmanyam. 1997.** Compendium of peanut diseases, 2<sup>nd</sup> edition. APS Press, St. Paul, Minnesota. 94p.

**Mondal, S. and A.M. Badigannavar. 2015.** Peanut rust (*Puccinia arachidis* Speg.) disease: its background and recent accomplishments towards disease resistance breeding. *Protoplasma* 252:1409-1420.

**Dubeux, J. 2016.** Perennial peanut provides opportunities and challenges. *Hay & Forage Grower*, February: 8-9.

## QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	2017 - YEAR TO DATE
Citrus black spot	0	25
Citrus canker	153	333
Citrus greening / HLB	211	979
Honey bees	3	21
Interdictions	1	24
Laurel wilt	8	23
Pathology, General	363	1,828
Soil	36	100
Sudden oak death	0	3
Sweet orange scab-like disease	2	3
Texas Phoenix palm decline	141	211
Water	0	0
Miscellaneous	4	4
Budwood Samples	899	2,326
<b>Total</b>	<b>1,820</b>	<b>5,880</b>





## 🔍 PLANT PATHOLOGY IDENTIFICATION TABLE

The following table provides information about samples identified between April-June 2017. 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	COLLECTOR	COMMENTS
<i>Arachis glabrata</i>	perennial peanut	<i>Puccinia arachidis</i>	leaf spots	Lisa M. Hassell	Perennial peanut has been commonly considered to be resistant to peanut rust, which is a sporadic problem on Florida on common peanut, <i>Arachis hypogaea</i> . Symptoms are raised, blister-like lesions on the leaf undersides that become darker and more erumpent as spores mature. A yellow halo is visible from above.
<i>Arachis glabrata</i>	perennial peanut	<i>Peanut mottle virus</i>	none	Scott D. Berryman	Peanut mottle virus (PeMoV) is a member of the genus <i>Potyvirus</i> , family <i>Potyviridae</i> . This virus is known to infect peanuts ( <i>Arachis hypogaea</i> ) soybean ( <i>Glycine max</i> ), peas ( <i>Pisum sativum</i> ) and beans ( <i>Phaseolus vulgaris</i> ). It was first reported to infect perennial peanut in 2007 from Georgia, USA. The virus is transmitted by aphids in a non-persistent manner. As perennial peanut are vegetatively propagated through rhizome, infection in the mother stock could lead to rapid spread of the virus in the field.
<i>Bambusa</i> sp.	bamboo	<i>Pyricularia</i> sp.	leaf spots	Haylett Cruz-Escoto	Species of the fungus <i>Pyricularia</i> are known for major diseases on grasses. Gray leaf spot, a well known disease of St. Augustine grass, is caused by <i>Pyricularia grisea</i> . The fungus in this case was found sporulating on a leaf that was completely blighted.
<i>Clusia rosea</i>	cupey, balsam apple, pitch apple, Scotch attorney	<i>Cylindrocladium</i> sp.	leaf spots	Scott D. Krueger	<i>Cylindrocladium</i> spp. are commonly associated with leaf spot symptoms. Leaf spot symptoms vary according to host, host age and pathogen species. Typically, however, they initially appear as water-soaked lesions, causing some red or purple discoloration of the lamina, ultimately turning light to dark brown, usually surrounded by a red, dark brown, or purple border and chlorotic zone. Spots vary in shape but tend to be circular to irregular, and occur on young as well as old foliage.



PLANT NAME	PLANT COMMON NAME	CASUAL AGENT	DISEASE NAME	COLLECTOR	COMMENTS
<i>Hylocereus</i> sp.	nightblooming cactus	<i>Cactus virus X</i>	none	homeowner	<i>Cactus virus X</i> belongs to the genus <i>Potexvirus</i> of the family <i>Alphaflexiviridae</i> . It infects many species in Cactaceae: <i>Cereus</i> , <i>Saguaro</i> , <i>Opuntia</i> , <i>Zygocactus</i> and <i>Hylocereus</i> . It is found worldwide. The symptoms usually range from mottling, necrosis, distorted areoles and also deformed spines. There is no known insect vector. It can be easily transmitted mechanically by plant contact or grafting. It does not transmit by seed.
<i>Livistona chinensis</i>	chinese fan palm, fountain palm	<i>Phytoplasma palmae</i> subgroup 16SrIV-D	Texas Phoenix Palm Decline	David A. Davison, Regina D. Fairbanks	The phytoplasma is in the taxonomic group of organisms that produce lethal yellows or palm decline in palms. 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>Phoenix</i> sp.	phoenix palm	<i>Pyricularia</i> sp.	leaf spots	David A. Davison, Jodi L. Hansen	The phytoplasma is in the taxonomic group of organisms that produce lethal yellows or palm decline in palms. 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>Rhipsalis puniceodiscus</i>	rhipsalis, mistletoe cactus	<i>Lasiodiplodia</i> sp.	stem canker, dieback	James E. Anderson	<i>Lasiodiplodia</i> sp. is a member of the family Botryosphaeriaceae. Members of this family can be pathogenic, or saprophytic, especially on woody plants.
<i>Vigna luteola</i>	hairy luteola, hairy pod cowpea	unknown ( <i>Begomovirus</i> )	none	Scott D. Krueger	Begomoviruses are whitefly-transmitted geminiviruses. Begomoviruses have wide host range and can infect a wide range of dicotyledonous plants although, individually, most have limited host range. Worldwide they are responsible for a considerable amount of economic damage to many important crops such as tomatoes, beans, squash, cassava and cotton.





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## FROM THE EDITOR

By Patti J. Anderson, Ph.D.

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### Who's New in Entomology???

This year has been remarkable for so many reasons, not just the weather. Our Entomology section has seen so many retirements and relocations, we need a roadmap to know who is who and who is new. Here's a summary to help if you should find yourself searching for an entomologist in Gainesville.

<b>Former Staff Member</b>	<b>New Staff Member</b>	<b>Duties</b>
Cal Welbourn	Sam Bolton	Mites
G.B. Edwards	Felipe Soto-Adames	Thrips
Ian Stocks	Zee Ahmed	Scales and Whiteflies
Jacque Laspeyre	Deborah Greer	Full-time Senior Clerk
Kate Fairbanks	Krystal Ashman	Beetles
Kevin Williams	Elijah Talamas	Wasps and Mollusks
Michael Dornberg	Jessica Awad	Scales and Whiteflies
new position	Kate Fairbanks	Beetles and Hemiptera

If you find yourself in the Gainesville Doyle Connor Building, please stop by and welcome our new (or changed) staff members. They all have good stories about our six or eight legged friends.







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