



FDACS-P-00124

July - September 2024

Volume 63, Number 3

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



Catalpa bignonioides, southern catalpa, inflorescence.
Photo by Le.Loup.Gris, wikipedia

ABOUT TRI-LOGY

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-LOGY 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-LOGY

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

For example: S.E. Halbert. 2015. Entomology Section. P.J. Anderson and G.S. Hodges (Editors). TRI-LOGY 54(4): 9. [Accessed 5 June 2016.]

Copies of TRI-LOGY are kept on the FDACS website for two years. To obtain older copies, contact the FDACS-DPI Library at (352) 395-4722 or PlantIndustry@FDACS.gov.

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-LOGY. 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

TABLE OF CONTENTS

	HIGHLIGHTS	03
Noteworthy examples from the diagnostic groups throughout the ENPP Bureau.		
	BOTANY	04
Quarterly activity reports from Botany and selected plant identification samples.		
	ENTOMOLOGY	08
Quarterly activity reports from Entomology and samples reported as new introductions or interceptions.		
	NEMATOLOGY	15
Quarterly activity reports from Nematology and descriptions of nematodes of special interest.		
	PLANT PATHOLOGY	17
Quarterly activity reports from Plant Pathology and selected identified plant pest and disease samples.		
	FROM THE EDITOR	19
Articles of interest that vary in subject matter.		

Cover Photo

Adraneothrips russatus, a thrips.
Photo by Dale Traficante, FDACS-DPI



HIGHLIGHTS



1 *Lagerstroemia indica* L. (crapemyrtle) is native to China and other countries of southern Asia where these deciduous shrubs or small trees (often with multiple trunks) grow in warm areas with rich soil. This commonly cultivated species was found growing on its own (naturalized) in four new counties this quarter.

2 *Appolonius* sp., a seed bug, a new Western Hemisphere record. This genus is known from eastern and southeastern Asia, Africa and Australia. As a seed feeder, it is unlikely to become a pest. Like several other adventive species in Florida, this one was detected by one of our suction traps.

3 *Aphelenchoides bicaudatus* (Imamura, 1931) Filipjev & Schuurmans Stekoven 1941, a foliar nematode, was detected in the desiccated leaves of strawberry, *Fragaria x ananassa*. Although several species of foliar nematodes (*Aphelenchoides* spp.) have been detected during a cooperative project (begun in 2016) between FDACS-DPI nematologists and those at the UF/IFAS Gulf Coast Research and Education Center, Wimauma, Florida, this is a **new Florida Host record** and a **new State record** for this species.

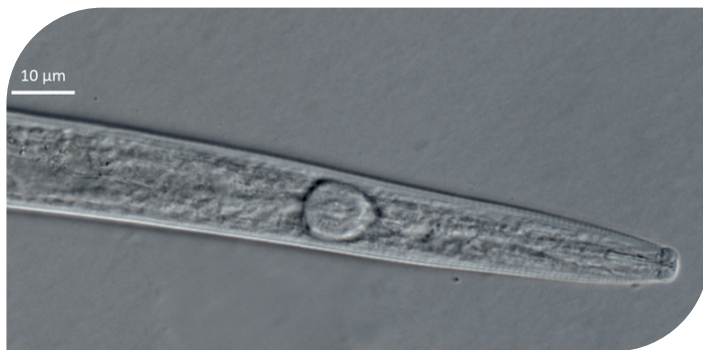
4 *Agroathelia* (= *Sclerotium*) *rolfsii* (Sacc.) Redhead & Mullineux (Atheliaceae, Atheliales), a **new Host record**, was found on *Staurogyne repens* at a nursery in Hillsborough County, Florida. The sample exhibited foliar wilt symptoms, and red sclerotia (survival structures of *Agroathelia rolfii*) were observed on the roots.



1 - *Lagerstroemia indica* L., crapemyrtle, ornamental landscape tree.
Photo by Terry English, USDA APHIS PPQ, Bugwood.org



2 - *Appolonius* sp., a dirt-colored seed bug, dorsal view.
Photo by Susan Halbert, FDACS-DPI



3 - *Aphelenchoides bicaudatus*.
Photo from Journal of Nematology



4 - *Agroathelia rolfii* culture on APDA (Acidified Potato Dextrose Agar).
Photo by Claudia Paez, FDACS-DPI





BOTANY

Compiled by Patti J. Anderson, Ph.D. and Alex de la Paz, B.S.

The Botany section of the Division of Plant Industry identifies plants for regulatory purposes as well as for other governmental agencies and private individuals. The section maintains a reference herbarium with over 18,000 plants and 1,400 vials of seeds.

QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	2024 - YEAR TO DATE
Samples Submitted by Other DPI Sections	1,452	4,741
Samples Submitted for Botanical Identification Only	267	996
Total Samples Submitted	1,719	5,737
Specimens Added to the Herbarium	227	488

Some of the samples submitted recently are described below.

1 *Lagerstroemia indica* L. (**crapemyrtle**) from a genus of 55 species native to tropical Asia and Australia, in the plant family Lythraceae, the loosestrife family. Our common crapemyrtle is native to China and other countries of southern Asia where these deciduous shrubs or small trees (often with multiple trunks) grow in warm areas with rich soil to over 7 m tall. These trees have distinctive peeling bark, adding to their year-round interest in landscapes. Leaves are opposite to sub-opposite, have no petiole or a very short one (up to 2 mm); leaf blades may be suborbicular to obovate or oblong. The inflorescence is a loosely pyramidal, densely flowered, panicle, 7-20 cm long. Flower petals with a wrinkled, tissue paper texture range in color from purple, fuchsia or pink to pale lavender or white, with cultivars of deep red. The fruit is a woody, brown capsule about 1-1.3 × 0.7-1.2 cm, with four to six valves, opening to release winged seeds about 8 mm long. Breeders have developed numerous cultivars and hybrids of the species, especially staff of the United States National Arboretum in collaboration with the United States Department of Agriculture. Crapemyrtles are available in sizes from large trees of over 10 m tall to hanging basket miniatures about 0.5 m in height. This commonly cultivated species was found growing on its own (naturalized) in four new counties this quarter. This adds to the 29 counties already documented with this species; vouchers for five of those (Alachua, Flagler, Lake, St. Johns and Volusia) were collected for the first time by DPI staff. (Gilchrist County; LIST 07102024-07078; Logan Cutts; 11 July 2024; Brevard County; LIST 07112024-07134; Chase Groninger; 15 July 2024; Putnam County; LIST 07292024-07663; Jennifer Hesse and Randi Shreve; 31 July 2024; and Clay



1a - *Lagerstroemia indica*, crapemyrtle, flower.
Photo by Patti Anderson, FDACS-DPI



1b - *Lagerstroemia indica*, crapemyrtle, tree with peeling bark.
Photo by Martin LaBar, Durham County North Carolina Master Gardeners



County; LIST 08142024-08202; Mark Laurint; 16 August 2024.) (Weakley and Southeastern Flora Team, 2024; Wunderlin and Hansen, 2011; Wunderlin et al., 2017; [Lagerstroemia indica](http://floranorthamerica.org) - FNA (floranorthamerica.org) [accessed 4 October 2024]; [Lagerstroemia indica](http://efloras.org) in Flora of China @ efloras.org [accessed 20 September 2024]; [USNA Crapemyrtle Poster.pdf \(usda.gov\)](https://www.usda.gov/USNA_Crapemyrtle_Poster.pdf) [accessed 19 September 2024].)

2 *Schoenoplectus pungens* (Vahl) Palla (threesquare bulrush; chairmaker's rush), from a genus of about 50 species, cosmopolitan in distribution, in the plant family Cyperaceae. This species is widespread and native to North America from Alaska and Newfoundland south to California and Florida, as well as Mexico, the West Indies, South America, Europe, Australia and New Zealand. It grows in fresh to brackish waters of coastal shores, marshes, lakes, fens, rocky riverbeds, wet meadows and moist fields where it is typically emergent in water. It is often ecologically dominant in wetlands and provides valuable food and habitat for waterfowl and other animals. Historically in North America, the culms of this species were used for making mats, baskets, chair seats, houses, boats and other objects. The plant flowers and fruits from spring through fall. Some botanists recognize three varieties of this species; they would identify Florida plants as var. *pungens*. Plants are perennial herbs with erect, smooth, sharply trigonous culms (stems) with several basal leaves. The inflorescence is composed of a few sessile spikelets in a cluster at one point, with the main involucral bract erect and appearing as a continuation of the culm, the inflorescence thus appearing lateral. Spikelets are composed of several spirally arranged scales, each subtending one bisexual flower. The scales are deciduous, brown to straw-colored, ovate, with an acute, notched apex bearing an awn. Each flower consists of a superior ovary with a two-branched style, three stamens and four to eight perianth bristles subequal to the achene in length. The fruit is a biconvex, brown, obovoid to obpyriform achene ca. 2.5-3.5 mm long. *Schoenoplectus pungens* was documented for the first time in Indian River County this quarter. (Indian River County; LIST 07262024-07625; Alexander Tasi; 26 July 2024.) (Smith, 2002; Weakley and Southeastern Flora Team, 2024; Wunderlin and Hansen, 2011).



2 - *Schoenoplectus pungens*, threesquare bulrush, inflorescence.
Photo by Shirley Denton, Atlas of Florida Plants

REFERENCES

- Smith, S.G. (2002).** *Schoenoplectus*. In: Flora of North America Editorial Committee, eds. 1993+. *Flora of North America North of Mexico* [Online]. 21+ vols. New York and Oxford. Vol. 23. <http://floranorthamerica.org/Schoenoplectus> [accessed 2 October 2024].
- Weakley, A.S. and Southeastern Flora Team (2024).** *Flora of the southeastern United States*. University of North Carolina Herbarium, North Carolina Botanical Garden, Chapel Hill, North Carolina.
- Wunderlin, R.P. and Hansen, B.F. (2011).** *Guide to the vascular plants of Florida* (3rd edition). University Press of Florida, Gainesville, Florida.
- Wunderlin, R.P., Hansen, B.F. and Franck, A.R. (2017).** *Flora of Florida, Volume IV: Dicotyledons, Combretaceae through Amaranthaceae*. University Press of Florida, Gainesville, Florida.



BOTANY IDENTIFICATION TABLE

The following table provides information about new county records submitted in the reported quarter. 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.

COLLECTOR NAME	COLLECTOR 2	LIST NUMBER	RECEIVED DATE	PLANT NAME	COUNTY
Alexander Tasi		7625	7/30/2024	<i>Schoenoplectus pungens</i>	Indian River
Caroline Pride		8383	8/23/2024	<i>Acalypha arvensis</i>	Indian River
Caroline Pride		8620	8/27/2024	<i>Acalypha arvensis</i>	Citrus
Caroline Pride	Michael Claus, Samuel Smith	7862	8/7/2024	<i>Agave sisalana</i>	Indian River
Caroline Pride		8624	8/27/2024	<i>Amaranthus viridis</i>	Citrus
Caroline Pride	Michael Claus, Samuel Smith	8057	8/13/2024	<i>Pteridium aquilinum</i> var. <i>caudatum</i>	Okeechobee
Chase Groninger		8262	8/16/2024	<i>Centella asiatica</i>	Brevard
Chase Groninger		8589	8/28/2024	<i>Cyperus blepharoleptos</i>	Brevard
Chase Groninger		8636	8/28/2024	<i>Cyperus rotundus</i>	Brevard
Chase Groninger		7134	7/15/2024	<i>Lagerstroemia indica</i>	Brevard
Cynthia Blattenberger		8157	8/14/2024	<i>Asparagus officinalis</i>	Pasco
Cynthia Blattenberger		9542	9/18/2024	<i>Hibiscus acetosella</i>	Pasco
Cynthia Blattenberger		9779	9/24/2024	<i>Ricinus communis</i>	Desoto
David Brown		7946	8/8/2024	<i>Senna obtusifolia</i>	Flagler
Emily Safran		8050	8/13/2024	<i>Broussonetia papyrifera</i>	Lee
Erika Lozano		8225	8/14/2024	<i>Stachytarpheta jamaicensis</i>	Orange
Gary Webb		7627	7/30/2024	<i>Lonicera japonica</i>	Pasco
Harry Morrison	Abby Bartlett	8424	8/22/2024	<i>Pueraria montana</i> var. <i>lobata</i>	Lake
Jennifer Hesse		8171	8/16/2024	<i>Boerhavia coccinea</i>	Flagler
Jennifer Hesse	Ray Jarrett	8170	8/16/2024	<i>Cupaniopsis anacardioides</i>	Flagler
Jennifer Hesse		8482	8/23/2024	<i>Cyrilla racemiflora</i>	Volusia
Jennifer Hesse	Randi Shreve	7665	7/31/2024	<i>Eragrostis secundiflora</i> ssp. <i>oxylepis</i>	Putnam
Jennifer Hesse	Ray Jarrett	8169	8/16/2024	<i>Eulophia graminea</i>	Flagler
Jennifer Hesse	Randi Shreve	7663	7/31/2024	<i>Lagerstroemia indica</i>	Putnam
Jennifer Hesse		6965	7/10/2024	<i>Megathyrsus maximus</i>	Flagler
Jennifer Hesse	Randi Shreve	7611	7/31/2024	<i>Paspalum notatum</i> var. <i>saurae</i>	Putnam
Jennifer Hesse		6969	7/10/2024	<i>Sida cordifolia</i>	Volusia
Jennifer Hesse		8996	9/9/2024	<i>Utricularia gibba</i>	Flagler
Jennifer McKeever		9010	9/6/2024	<i>Eugenia uniflora</i>	Osceola
Jennifer McKeever	Erika Lozano	8421	8/27/2024	<i>Melochia corchorifolia</i>	Orange
Jesse Krok		9159	9/13/2024	<i>Lygodium microphyllum</i>	Seminole
Jimmy Hernandez		8577	8/27/2024	<i>Podocarpus macrophyllus</i>	Marion
Kenneth Ellis		8445	8/23/2024	<i>Mimosa strigillosa</i>	St. Johns
Leann West		9333	9/17/2024	<i>Antigonon leptopus</i>	Martin
Leann West		8460	8/23/2024	<i>Gloriosa superba</i>	Martin
Lisa Tyler		7032	7/10/2024	<i>Catalpa bignonioides</i>	Duval
Lisa Tyler		8308	8/19/2024	<i>Dioscorea alata</i>	Nassau
Lisa Tyler		7773	8/2/2024	<i>Smilax smallii</i>	Duval
Lisa Tyler		9860	9/25/2024	<i>Sphagneticola trilobata</i>	Duval
Logan Cutts		9721	9/20/2024	<i>Broussonetia papyrifera</i>	Gilchrist
Logan Cutts		7088	7/11/2024	<i>Carya illinoensis</i>	Suwannee
Logan Cutts		7082	7/11/2024	<i>Carya tomentosa</i>	Gilchrist
Logan Cutts		9837	9/24/2024	<i>Celtis laevigata</i>	Union
Logan Cutts		9835	9/24/2024	<i>Chamaecrista fasciculata</i>	Union
Logan Cutts		9719	9/20/2024	<i>Clerodendrum bungei</i>	Gilchrist
Logan Cutts		9833	9/24/2024	<i>Crataegus michauxii</i>	Union
Logan Cutts		9449	9/17/2024	<i>Distimake dissectus</i>	Gilchrist
Logan Cutts		9718	9/20/2024	<i>Euphorbia heterophylla</i>	Gilchrist
Logan Cutts		7744	8/1/2024	<i>Helianthus debilis</i> ssp. <i>cucumerifolius</i>	Gilchrist
Logan Cutts		9462	9/17/2024	<i>Heterotheca subaxillaris</i>	Dixie
Logan Cutts		9717	9/20/2024	<i>Hibiscus aculeatus</i>	Levy
Logan Cutts		9843	9/24/2024	<i>Ipomoea hederacea</i>	Gilchrist

COLLECTOR NAME	COLLECTOR 2	LIST NUMBER	RECEIVED DATE	PLANT NAME	COUNTY
Logan Cutts		9446	9/17/2024	<i>Ipomoea macrorhiza</i>	Gilchrist
Logan Cutts		6877	7/3/2024	<i>Ipomopsis rubra</i>	Gilchrist
Logan Cutts		9441	9/17/2024	<i>Koeleruteria elegans subsp. formosana</i>	Gilchrist
Logan Cutts		7078	7/11/2024	<i>Lagerstroemia indica</i>	Gilchrist
Logan Cutts		7124	7/12/2024	<i>Lantana strigocamara</i>	Columbia
Logan Cutts		7742	7/31/2024	<i>Ludwigia octovalvis</i>	Gilchrist
Logan Cutts		9237	9/11/2024	<i>Ludwigia octovalvis</i>	Suwannee
Logan Cutts		9443	9/17/2024	<i>Melia azedarach</i>	Levy
Logan Cutts		9472	9/17/2024	<i>Monarda punctata</i>	Suwannee
Logan Cutts		7076	7/11/2024	<i>Portulaca oleracea</i>	Suwannee
Logan Cutts		9836	9/24/2024	<i>Pseudognaphalium obtusifolium</i>	Union
Logan Cutts		9841	9/24/2024	<i>Rudbeckia mollis</i>	Union
Logan Cutts		7750	7/31/2024	<i>Sabal palmetto</i>	Hamilton
Logan Cutts		7749	7/31/2024	<i>Sassafras albidum</i>	Levy
Logan Cutts		7077	7/11/2024	<i>Tridax procumbens</i>	Suwannee
Logan Cutts		9715	9/20/2024	<i>Tridax procumbens</i>	Levy
Logan Cutts		9240	9/11/2024	<i>Vernicia fordii</i>	Hamilton
Logan Cutts		9720	9/20/2024	<i>Xanthosoma sagittifolium</i>	Gilchrist
Mark Laurint		8202	8/16/2024	<i>Lagerstroemia indica</i>	Clay
Michael Claus	Caroline Pride, Samuel Smith	8053	8/13/2024	<i>Parthenocissus quinquefolia</i>	Okeechobee
Michael Claus	Caroline Pride, Samuel Smith	8061	8/13/2024	<i>Vitis rotundifolia</i>	Okeechobee
Ray Jarrett		7999	8/9/2024	<i>Thespesia populnea</i>	Volusia
Samuel Smith	Caroline Pride, Michael Claus	8058	8/13/2024	<i>Dioscorea bulbifera</i>	Okeechobee
Vaden Edmondson		7629	7/30/2024	<i>Zingiber zerumbet</i>	Pasco



ENTOMOLOGY

Compiled by Susan E. Halbert, Ph.D.

The Entomology section provides the division's plant protection specialists and other customers with accurate identifications of arthropods. This section also builds and maintains the arthropod reference and research collection (the Florida State Collection of Arthropods with over 12.5 million specimens), and investigates the biology, biological control and taxonomy of arthropods.

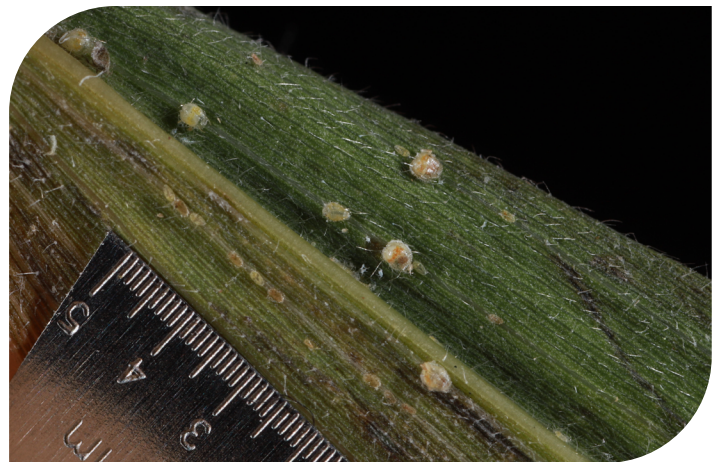
	JULY - SEPTEMBER	2024 - YEAR TO DATE
Samples Submitted	1,495	4,985
Lots Identified	2,269	8,102

1 *Appolonius* sp., a seed bug, a new Western Hemisphere record. This genus is known from eastern and southeastern Asia, Africa and Australia. A photo posted on Bug Guide and iNaturalist, apparently of the same species, was taken in 2021 from Boca Raton; however, this is the first verified specimen from Florida. The species has not yet been identified, but when the name is confirmed, we will be able to know more precisely where this new adventive species came from. As a seed feeder, it is unlikely to become a pest. Like several other adventive species in Florida, this one was detected by one of our suction traps. These traps continually sample the air for flying insects. This seed bug was found in a tall trap sampling 26 feet above ground level. (Polk County; E4797-02-09092024-09109; Joseph Hanus and James Bouie; 3 September 2024.) (Dr. Susan E. Halbert, Dr. Thomas J. Henry, USDA.)

2 *Bambusaspis minuta* (Takahashi), a pit scale, a new Western Hemisphere record. Specimens were collected from bamboo leaves (*Bambusa multiplex* (Lour.) Raeusch. ex Schult.f.) in a garden in Lake Wales, Florida. Described in 1930 from Taiwan, this species is currently recorded from China, India, Japan, Taiwan, Thailand and Vietnam. Like other members of its genus, this species specializes on bamboos, including *Bambusa* spp. and *Dendrocalamus* spp. The wax cover, or test, of this tiny species measures merely 0.5–0.75 mm in length. It joins four additional species of adventive *Bambusaspis* presently known in Florida. The external morphology of these species is all very similar, and specimens should be slide-mounted to confirm identification. (Polk County; E4665-09032024-08858; Chase Groninger; 1 September 2024.) (Dr. Erin C. Powell.)



1 - *Appolonius* sp., a dirt-colored seed bug, dorsal view.
Photo by Susan Halbert, FDACS-DPI



2 - *Bambusaspis minuta* (Takahashi), a pit scale, adult females and first-instar crawlers that have settled at their feeding sites. The scale bar represents millimeters.
Photo by Erin C. Powell, FDACS-DPI

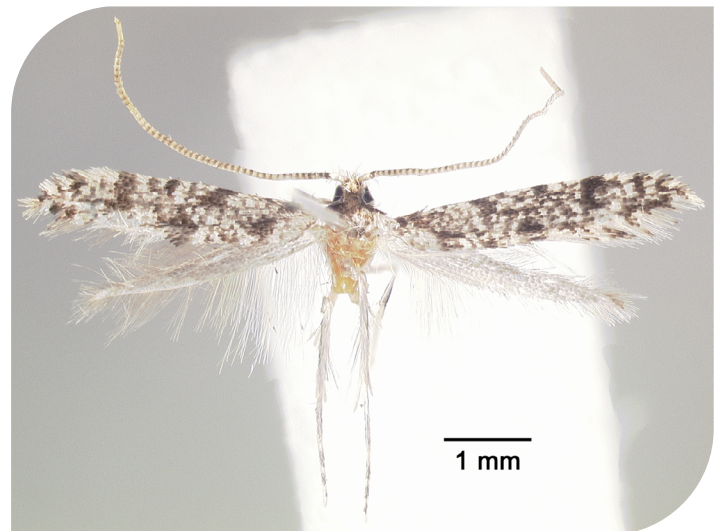


3 *Adraneothrips russatus* (Haga), a new Continental USA record. *Adraneothrips russatus* was originally described from Japan, but recently it has been reported from China, Taiwan, Australia and Fiji (Dang et al., 2013). This is not a plant pest, but a fungus feeding leaf-litter species. The specimens from Alachua County resemble those reported from Japan and Australia in that the sixth antennal segment has a narrow, light-colored band at the base, whereas specimens from China have the sixth antennal segment mostly yellow. The epimeral sutures are incomplete in the Florida material. All the individuals collected in Florida are female, and all have been collected during winter months. *Adraneothrips russatus* is easy to distinguish from the two other common bicolor species of Florida, *A. decorus* and *A. pallidus*, by having a bright yellow third antennal segment (banded on *A. decorus* and *A. pallidus*) and a well-marked polygonal pattern of striation dorsally on the head (head medially smooth in *A. decorus* and *A. pallidus*). A sample of this species was first submitted in 2022, but it was misidentified as *A. decorus*. A second sample was submitted in 2024 (E4237-01-08122024-08093), and this time it was correctly identified. Both collections were made at University of Florida Natural Areas Teaching Lab. The 2022 submission is here amended and assigned the first record of the species in Florida. (Alachua County; E0320-01-01252022-00628; Samantha Jeanneret and Felipe Soto-Adames; 25 January 2022.) (Dr. Felipe N. Soto-Adames.)

4 *Bathroxena heteropalpella* (Dietz), a new Florida State record. *Bathroxena heteropalpella* (Lepidoptera: Meessiidae) is a small moth native to eastern North America. The caterpillars live in portable cases and feed on lichens. One specimen was caught at light in Gainesville in 2023, and it was identified in 2024 by comparison with dissected specimens at the United States National Museum (Washington, D.C.). Two more specimens collected in May 2005, also in Gainesville, were found in unsorted material in the University of Florida McGuire Center. The moths are seldom collected because they are small, fly only in spring and are not strongly attracted to light. The use of alternative collection methods and effort curating specimens find that several members of the family Meessiidae, mostly in *Eudarcia* Clemens, exist in Florida (Hayden 2023). (Alachua County; E-4515-01-08262024-08586; James Hayden; 17 May 2023.) (Dr. James E. Hayden.)



3 - *Adraneothrips russatus* (Haga), slide mounted leaf-litter thrips. (See cover photo for dry image.)
Photo by Isabelle Atchia, FDACS-DPI



4 - *Bathroxena heteropalpella* (Dietz) collected in Gainesville, Florida.
Photo by Sidney V. Bennett, FDACS-DPI



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 reporting period as well as samples of special interest. An abbreviated table, with all the new records, but less detail about them, is presented in the body of this web page and another version with more complete data is downloadable as a [PDF](#) or an [Excel](#) spreadsheet.

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

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Arundinaria gigantea</i>	giant cane	<i>Melanaphis bambusae</i>	an aphid	Chase Groninger	First in county
<i>Asclepias tuberosa</i>	butterfly milkweed	<i>Ferrisia dasyliirii</i>	a mealybug	Caleb Poock	New Florida host record
Asteraceae	sunflower family	<i>Galgupha denudata</i>	an ebony bug	Vincent Barrios	First in county
<i>Bambusa multiplex</i>	hedge bamboo	<i>Bambusaspis minuta</i>	a bamboo pit scale	Chase Groninger	New Western Hemisphere record
<i>Beta vulgaris</i>	swiss chard	<i>Liriomyza langei</i>	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
<i>Bidens alba</i>	beggarticks	<i>Hyselonotus punctiventris</i>	spot-sided coreid	Chase Groninger	First in county
<i>Brassica oleracea</i>	broccoli	<i>Lygus hesperus</i>	a western lygus bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Brassica oleracea</i>	broccoli crowns	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Renee Shiska	Regulatory significance
<i>Brassica rapa</i>	bok choy	<i>Lygus elisus</i>	pale legume bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Brassica rapa</i>	bok choy	<i>Megalonotus sabulicola</i>	a seed bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Cajanus cajan</i>	pigeonpea, gandul	<i>Caloptilia prosticta</i>	a gracillariid moth	Pattanjaldal Bissoondial	First in county
<i>Cajanus cajan</i>	pigeonpea	<i>Caloptilia</i> sp.	a gracillariid moth	Pattanjaldal Bissoondial	Notable find
<i>Carludovica palmata</i>	Panama hat plant	<i>Fiorinia phantasma</i>	phantasma scale	Julie Chapman, Brandon Di Lella	New Florida host record; Regulatory significance
<i>Cephalanthus occidentalis</i>	common buttonbush	<i>Neotoumeyella cephalanthi</i>	buttonbush scale	Zackary Knox	First in county
<i>Chamaecrista fasciculata</i>	partridge pea	<i>Pseudococcus dolichomelos</i>	false trochanter mealybug	Vincent Barrios	New Florida host record; First in county
<i>Cichorium endivia</i>	endive	<i>Nothodelphax consimilis</i>	a delphacid planthopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Cissus verticillata</i>	possum-grape	<i>Aphis illinoisensis</i>	grapevine aphid	Chase Groninger	New Florida host record
<i>Colocasia esculenta</i>	dasheen, taro	<i>Tarophagus colocasiae</i>	a taro planthopper	Jesse Krok	First in county
<i>Commelina benghalensis</i>	tropical spiderwort	<i>Liriomyza commelinae</i>	a leafminer fly	Vincent Barrios	New Florida host record; First in county
<i>Coriandrum sativum</i>	organic cilantro	<i>Lygus hesperus</i>	a western lygus bug	Renee Shiska	Regulatory significance
<i>Coriandrum sativum</i>	cilantro	<i>Lygus hesperus</i>	a western lygus bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Coriandrum sativum</i>	cilantro	<i>Myzus ornatus</i>	violet aphid	Renee Shiska	Regulatory significance
<i>Coriandrum sativum</i>	cilantro	<i>Myzus ornatus</i>	violet aphid	Renee Shiska	Regulatory significance
<i>Coriandrum sativum</i>	cilantro	<i>Nothodelphax consimilis</i>	a delphacid planthopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Coriandrum sativum</i>	cilantro	<i>Rhinacloa forticornis</i>	western plant bug	Renee Shiska	Regulatory significance



PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Cynara cardunculus</i>	artichoke	<i>Lygus</i> sp.	a western lygus bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Cyperus plukenetii</i>	Plukenet's flatsedge	<i>Schizaphis rotundiventris</i>	a sedge aphid	Kayla Walker, Bethany O'Donnell, Caroline Pride, Karla Thompson, James Howard, Wentworth Lawrence, Zachary Knox, Donald Bracey, Arline Diaz Santos	New Florida host record; First in county
<i>Eriobotrya japonica</i>	loquat	<i>Cantura albonotata</i>	a leafhopper	Logan Cutts	First in county
<i>Eriobotrya japonica</i>	loquat	<i>Polyamia oblecta</i>	a leafhopper	Logan Cutts	First in county
<i>Eriobotrya japonica</i>	loquat	<i>Sanctanus fasciatus</i>	a leafhopper	Logan Cutts	First in county
<i>Eriobotrya japonica</i>	loquat	<i>Xestocephalus destertorum</i>	a leafhopper	Logan Cutts	First in county
<i>Eucalyptus</i> sp.	eucalyptus	<i>Cornu aspersum</i>	brown garden snail	Jakira Davis, Justin Anto	Regulatory significance
<i>Eucalyptus</i> sp.	eucalyptus	<i>Theba pisana</i>	white garden snail	Jakira Davis, Justin Anto	Regulatory significance
<i>Eugenia uniflora</i>	Surinam cherry	<i>Melormenis basalis</i>	West Indian flatid planthopper	Teresa Ortelli	First in county
<i>Euphorbia tithymaloides</i>	devil's backbone; Jacob's ladder	<i>Lopholeucaspis japonica</i>	Japanese maple scale	Chase Groninger	New Florida host record
<i>Fragaria x ananassa</i>	strawberry	<i>Lygus hesperus</i>	a western lygus bug	Arline Diaz Santos	Regulatory significance
<i>Fragaria x ananassa</i>	strawberry	<i>Lygus hesperus</i>	a western lygus bug	Logan Cutts	Regulatory significance
<i>Fragaria x ananassa</i>	strawberry	<i>Lygus</i> sp.	a western lygus bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Fragaria x ananassa</i>	Albion strawberry	<i>Scolothrips pallidus</i>	a thrips	Lyle Buss	First in county
<i>Helianthus debilis</i> ssp. <i>vestitus</i>	beach sunflower	<i>Isophrictis</i> sp. 1	beach sunflower seed borer	Cheryl Peterson, Chico Rivera	Notable find
<i>Lactuca sativa</i>	"naked" lettuce (hydroponic, sold with roots)	<i>Acyrtosiphon lactucae</i>	lettuce aphid	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Amblysellus grex</i>	a leafhopper	Renee Shiska, Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Amblysellus grex</i>	a leafhopper	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Ceratagallia californica</i>	a leafhopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Ceratagallia</i> sp.	a leafhopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Cixius cultus</i>	a cixiid planthopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Delia radicum</i>	cabbage root fly	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Delia radicum</i>	cabbage root fly	Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	red leaf lettuce	<i>Deltocephalus fuscineruosus</i>	a leafhopper	Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Deltocephalus fuscineruosus</i>	a leafhopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Deltocephalus fuscineruosus</i>	a leafhopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Deltocephalus fuscineruosus</i>	a leafhopper	Logan Cutts	Regulatory significance



PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Lactuca sativa</i>	lettuce	<i>Empoasca ulusa</i>	a leafhopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Eucarazzia elegans</i>	Mediterranean mint aphid	Renee Shiska, Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Hyadaphis foeniculi</i>	honeysuckle aphid	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Hyadaphis foeniculi</i>	honeysuckle aphid	Renee Shiska, Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Liriomyza langei</i>	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Liriomyza langei</i>	California pea leafminer	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Liriomyza langei</i>	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Liriomyza langei</i>	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Liriomyza langei</i>	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Green leaf lettuce	<i>Liriomyza langei</i>	California pea leafminer	Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	Romaine hearts	<i>Liriomyza langei</i>	California pea leafminer	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Liriomyza langei</i>	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Liriomyza langei</i>	California pea leafminer	Twylah Morelli	Regulatory significance
<i>Lactuca sativa</i>	Artisan lettuce mix	<i>Liriomyza langei</i>	California pea leafminer	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Lygus elisus</i>	pale legume bug	Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Lygus hesperus</i>	western lygus bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Lygus hesperus</i>	a western lygus bug	Renee Shiska, Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Lygus hesperus</i>	a western lygus bug	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Twylah Morelli	Regulatory significance
<i>Lactuca sativa</i>	Sweet Gem lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Renee Shiska	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Nasonovia ribisnigri</i>	currant-lettuce aphid	Renee Shiska, Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Nothodelphax consimilis</i>	a delphacid planthopper	Jakira Davis, Justin Anto	Regulatory significance
<i>Lactuca sativa</i>	Romaine lettuce	<i>Nothodelphax consimilis</i>	a delphacid planthopper	Renee Shiska, Logan Cutts	Regulatory significance
<i>Lactuca sativa</i>	lettuce	<i>Nothodelphax consimilis</i>	a delphacid planthopper	Jakira Davis, Justin Anto	Regulatory significance



PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Lactuca sativa</i>	Romaine lettuce	<i>Xanthochilus saturnius</i>	Mediterranean seed bug	Logan Cutts	Regulatory significance
<i>Litchi chinensis</i>	litchi	<i>Conopomorpha sinensis</i>	a gracillariid moth	Renee Shiska	Regulatory significance
<i>Megathyrus maximus</i>	guineagrass	<i>Mormidea pama</i>	a stink bug	Erika Lozano, Jennifer McKeever	New Florida host record
<i>Mentha</i> sp.	spearmint	<i>Ovatus crataegarius</i>	mint aphid	Chase Groninger	Regulatory significance
<i>Micranthemum</i> sp.	mudflower	<i>Rhopalosiphum rufiabdominale</i>	rice root aphid	Howard Wallace	New Florida host record
<i>Nepeta cataria</i>	catnip	<i>Eupteryx decemnotata</i>	Ligurian leafhopper	Caroline Pride	New Florida host record; Regulatory significance
<i>Nepeta cataria</i>	catnip	<i>Eupteryx decemnotata</i>	Ligurian leafhopper	Samuel Smith, Victoria Benjamin	Regulatory significance
<i>Olea europaea</i>	olive	<i>Bactrocera oleae</i>	olive fruit fly	Jakira Davis, Justin Anto	Regulatory significance
<i>Oreganum vulgare</i>	oregano	<i>Myzus ornatus</i>	violet aphid	Jeanie Frechette, Teresa Ortelli	Regulatory significance
<i>Oreganum vulgare</i>	oregano	<i>Ovatus crataegarius</i>	mint aphid	Jeanie Frechette, Teresa Ortelli	Regulatory significance
<i>Petroselinum crispum</i>	parsley	<i>Cavariella aegopodii</i>	carrot aphid	Logan Cutts	Regulatory significance
<i>Petroselinum crispum</i>	parsley	<i>Hyadaphis foeniculi</i>	honeysuckle aphid	Renee Shiska	Regulatory significance
<i>Phoenix dactylifera</i>	date palm	<i>Cornu aspersum</i>	brown garden snail	Abby Bartlett	Regulatory significance
<i>Phoenix</i> sp.	date palm	<i>Fiorinia phantasma</i>	Phantasma scale	Caleb Poock	First in county
<i>Physalis philadelphica</i>	tomatillo	<i>Bactericera cockerelli</i>	potato psyllid	Jakira Davis, Justin Anto	Regulatory significance
<i>Raphiolepis indica</i>	India hawthorn	<i>Aphis eugeniae</i>	an aphid	Emily Safran	First in county
<i>Rubus</i> sp.	blackberry	<i>Euschistus conspersus</i>	a brown stink bug	Jakira Davis, Justin Anto	Regulatory significance
<i>Rubus</i> sp.	raspberry	<i>Rhinacloa forticornis</i>	western plant bug	Renee Shiska	Regulatory significance
<i>Ruellia simplex</i>	Mexican petunia	<i>Nipaecoccus viridis</i>	lebbeck mealybug	Victoria Benjamin, Chase Groninger, Alexander Tasi	New Florida host record; Regulatory significance
<i>Senna occidentalis</i>	septicweed, coffee senna	<i>Cyrtus sordida</i>	a flatid planthopper	Erika Lozano, Jennifer McKeever	New Florida host record
<i>Senna pendula</i>	climbing cassia	<i>Vanduzee segmentata</i>	a treehopper	Paola Ramos Perez	New Florida host record
<i>Tillandsia</i>	bromeliad	<i>Aclerda</i> sp.	a flat grass scale	Mary Sellers	Regulatory significance
<i>Ulmus alata</i>	winged elm	<i>Tinocallis ulmifolii</i>	elm leaf aphid	Donald Bracey, Kayla Walker, James Howard, Bethany O'Donnell, Caroline Pride, Karla Thompson, Wentworth Lawrence, Zachary Knox, Arline Diaz Santos, Susan Halbert	First in county
<i>Vitis aestivalis</i>	summer grape	<i>Desmia subdivisalis</i>	a crambid moth	Felipe Soto-Adames	New Florida host record

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
<i>Xanthosoma sagittifolium</i>	malanga	<i>Aleuroglandulus subtilis</i>	a whitefly	Lily Deeter, Kayla Walker, James Howard, Donald Bracey, Bethany O'Donnell, Karla Thompson, Wentworth Lawrence, Zachary Knox, Arline Diaz Santos, Stephen Jenner, Caroline Pride	First in county
		<i>Acanalonia excavata</i>	an acanaloniid planthopper	Brooke Welch	First in county
		<i>Acrosternum</i> sp.	a stink bug	Robert Shim	Regulatory significance
		<i>Adraneothrips russatus</i>	a leaf litter thrips	Felipe Soto-Adames	New Continental USA record
		<i>Appolonius</i> sp.	a seed bug	Joseph Hanus, Justin Bouie	New Western Hemisphere record
		<i>Atrachelus cinereus</i>	an assassin bug	Mark Zenoble	First in county
		<i>Bathroxena heteropalpella</i>	a meessiid lichen moth	James Hayden	New Florida Record
		<i>Blissus minutus</i>	a chinch bug	Monica Triana	First in county
		<i>Calisius contubernalis</i>	a flat bug	Mary Yong Cong	First in county
		<i>Curalium cronini</i>	ruby bug	Scott Weihman	First in county
		<i>Cyropoptus reineckeii</i>	a fulgorid planthopper	Stephen Friedt	First in county
		<i>Leptothrips cassiae</i>	black hunter thrips	Mark Zenoble	First in county
		<i>Ligyrocoris litigiosus</i>	a seed bug	Carly Dodgen	First in county
		<i>Neohydatothrips burungae</i>	a thrips	Mark Zenoble	First in county
		<i>Nesidiocoris tenuis</i>	tomato bug	Julien Beuzelin	First in county
		<i>Nysius tenellus</i>	a seed bug	Joseph Hanus, Justin Bouie	First in county
		<i>Pintalia delicata</i>	a cixiid planthopper	Allison Finch	First in county
		<i>Platymenis biguttata</i>	two-spotted assassin bug	Mileydis Vargas	Regulatory significance
		<i>PNirontis languida</i>	an assassin bug	Monica Triana	First in county
		<i>Pyrrhocoris apterus</i>	firebug	Robert Shim	Regulatory significance
		<i>Syndelphax fulvidorsum</i>	a delphacid planthopper	Allison Finch	First in county
		<i>Utetheisa ornatix</i>	bella moth	Kenneth Ellis, Diane McColl	First in county



NEMATOLOGY

Compiled by Renato N. Inserra, Ph.D.; Clemen J. Oliveira, Ph.D.; Sergei A. Subbotin, Ph.D.; Paul Dahlin, Ph.D.; Silvia Vau, Ph.D.; Johan A. Desaegeer, Ph.D. and Janete 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

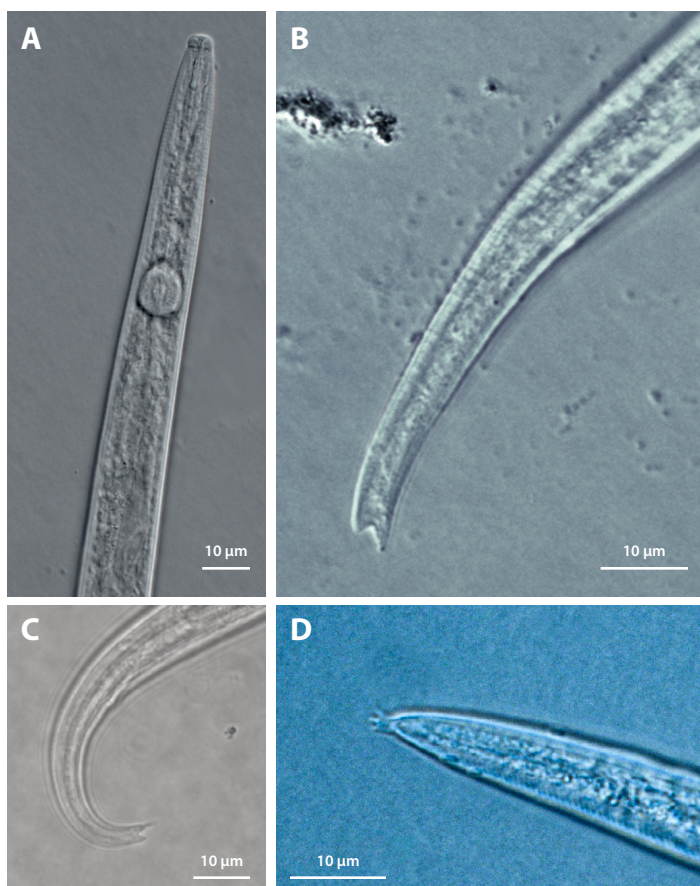
	JULY - SEPTEMBER	2024 - YEAR TO DATE
Morphological Identifications	3,430	9,784
Molecular Identifications *	453	681

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

Nematode of Special Interest

1 *Aphelenchoides bicaudatus* (Imamura, 1931) Filipjev & Schuurmans Stekoven 1941, a foliar nematode, was detected in the desiccated leaves of strawberry *Fragaria x ananassa* (Duchesne ex Weston) Duchesne ex Rozier (Hillsborough County; 10042018-4512814; Clemen Oliveira, former graduate student University of Florida, 4 October 2018). **This is a new State record and new Florida Host record.**

A cooperative project between FDACS-DPI nematologists and those at UF/IFAS Gulf Coast Research and Education Center, Wimauma, Florida, has been carried out since 2016 with the goal of characterizing the foliar nematodes associated with strawberry (*Fragaria x ananassa*) in central Florida. Several species of the foliar nematode genus *Aphelenchoides* were detected during surveys conducted in Florida strawberry fields (Oliveira et al., 2024). The plant parasitic nematode *Aphelenchoides besseyi sensu stricto* (see Subbotin et al., 2021) was detected only in 2016 and 2017 on photosynthetic (green, healthy) leaves and buds, but other *Aphelenchoides* sp. were found on declining or desiccated leaves. Morphological analyses indicated these populations of *Aphelenchoides* sp. contained specimens of *A. bicaudatus*, a species reported in the United States (Illinois and Maryland) (Siddiqui, 1976) but detected in Florida for the first time. *Aphelenchoides bicaudatus* differs from *A. besseyi* in the shape of the tail terminus: it is bifurcate in *A. bicaudatus* and stellate in *A. besseyi*. One population of *A. bicaudatus* was used for morphological and molecular analyses after being reared on the fungus *Monilinia fructicola*. Body and tail length differences were observed among Florida *A. bicaudatus* and other populations from the Far East and South Africa. Phylogenetic analyses of the rRNA gene sequences showed Florida *A. bicaudatus* grouped with those of species from South Korea, Taiwan



1 - *Aphelenchoides bicaudatus*. A. Anterior body. B, C. Posterior body. Note the bifurcate tail terminus (arrowed) in *A. bicaudatus* (B, C) compared to the stellate terminus (arrowed) of *A. besseyi sensu lato* (D). Photos from *Journal of Nematology* and assembled by Scott Burton, FDACS-DPI.



and the Netherlands and several other populations listed as *Aphelenchoides* sp. from Brazil, Costa Rica and Japan, which were considered as representatives of *A. bicaudatus* in these studies. Photosynthetic strawberry leaf samples were free from *A. bicaudatus*, indicating this species does not damage strawberry. *Aphelenchoides bicaudatus* was associated with desiccated leaves and/or propagative stolons, usually infected by fungi, confirming it is mycetophagous under field conditions in these studies. Results of soybean leaf inoculation on moist filter paper containing *A. bicaudatus* specimens showed this species could become phytophagous under artificial conditions. Nematodes penetrated the leaf epidermis and migrated into the mesophyll causing leaf tissue discoloration or necrosis, which remained localized within the infested area. Soybean leaf damage was almost negligible, and no nematode reproduction was observed in the inoculated soybean areas.

REFERENCES

Filipjev, I.N. and Schuurmans Stekhoven, J.H., Jr. (1941). *Manual of agricultural helminthology*. Brill Academic Publishers, Leiden, The Netherlands.

Imamura, S. (1931). Nematodes in the paddy field, with notes on their population before and after irrigation. *Journal of the College of Agriculture Imperial University of Tokyo*. 11: 193-240.

Oliveira, C.J., Subbotin, S.A., Desager, J.A., Dahlin, P., Vau, S. and Inserra, R.N. (2024). Morphological and molecular analysis of two mycophagous nematodes, *Aphelenchoides bicaudatus* and *A. rutgersi* (Nematoda: Aphelenchoididae) from Florida strawberry. *Journal of Nematology* 56. DOI: 10.2478/jofnem-2024-002.

Siddiqui, I.A. (1976). *Aphelenchoides bicaudatus*. In: *CIH Descriptions of plant-parasitic nematodes*. Set 6. No. 84. Commonwealth Institute of Helminthology, St. Albans, Hertfordshire, United Kingdom.

Subbotin, S.A., Oliveira, C.J., Alvarez-Ortega, S., Desaegeer, J., Crow, W., Overstreet, C., Leahy, R., Vau, S. and Inserra, R.N. (2021). The taxonomic status of *Aphelenchoides besseyi* Christie, 1942 (Nematoda: Aphelenchoididae) populations from the Southeastern USA, and description of *Aphelenchoides pseudobesseyi* sp. n. *Nematology* 23: 381-413.

SAMPLES FOR MOLECULAR ANALYSIS

	JULY - SEPTEMBER	2024 - YEAR TO DATE
Regulatory Purposes	245	283
Other Purposes	0	0
Identifications	208	398
Surveys	0	0
Total	453	681

SAMPLES FOR MORPHOLOGICAL ANALYSIS

Certifications and Regulatory Purposes

	JULY - SEPTEMBER	2024 - YEAR TO DATE
Multistate Certification involving California	1,252	3,310
Multistate Certification excluding California Certification	2,086	6,006
Citrus Certification (Citrus Nursery Certification, Site or Pit Approval)	28	126
Total	3,366	9,442

Other Purposes

	JULY - SEPTEMBER	2024 - YEAR TO DATE
Identification (other organisms)	0	2
Interdiction Station (AIS)	24	144
Plant Problems	14	64
Survey	24	132
Total	64	342





PLANT PATHOLOGY

Compiled by Jodi Hansen, M.S.; Hector Urbina, Ph.D.; Kishore Dey, Ph.D.; Patricia Soria, M.S.; Shelby Kernahan, B.S; Claudia Paez, Ph.D. and Vishal Negi, Ph.D.

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 *Agroathelia* (= *Sclerotium*) *rolfsii* (Sacc.) Redhead & Mullineux (Atheliaceae, Atheliales), **a new Host record**, was found on an aquatic plant, *Staurogyne repens*, at a nursery in Hillsborough County, Florida, where approximately 40% of the plants of this species were affected. The sample exhibited foliar wilt symptoms, and red sclerotia (survival structures of *Agroathelia rolfsii*) were observed on the roots. This fungus is a soilborne pathogen responsible for stem rot disease, southern blight, sclerotium root rot and southern stem rot in over 500 economically significant field and vegetable crops (Kator et al., 2015). It is regarded as one of the most destructive fungal pathogens and is commonly found in the southeastern United States (Xie et al., 2014; Mascarenhas et al., 2024). Control measures for *A. rolfsii* include soil solarization, removal of affected plants and soil and treatments with chemical or biological agents. The fungus thrives in warm, humid and acidic conditions, and can spread through contaminated tools and irrigation systems or infected soil and plant material (Kator et al., 2015). This is the first time *A. rolfsii* has been found infecting *Staurogyne repens* in Florida. (Hillsborough County; P2505-08292024-08726; Howard Wallace; 30 August 2024.)



1 - *Agroathelia rolfsii* culture on APDA (Acidified Potato Dextrose Agar).
Photo by Claudia Paez, FDACS-DPI

REFERENCES

- Kator, L., Hosea, Z.Y. and Oche, O.D. (2015).** *Sclerotium rolfsii*: Causative organism of southern blight, stem rot, white mold and sclerotia rot disease. *Annals of Biological Research* 6: 78-89.
- Mascarenhas, J. and Quesada-Ocampo, L.M. (2024).** Diagnostic guide for sclerotial blight and circular spot of sweetpotato. *Plant Health Progress*: PHP-12.
- Xie, C., Huang, C.H. and Vallad, G.E. (2014).** Mycelial compatibility and pathogenic diversity among *Sclerotium rolfsii* isolates in the southern United States. *Plant Disease* 98: 1685-1694.

QUARTERLY ACTIVITY REPORT

	JULY - SEPTEMBER	2024 - YEAR TO DATE
Citrus black spot	13	261
Citrus canker	241	546
Citrus greening / HLB	42	144
HLB certification for out-of-state shipping	1,557	5,517
Import inspections	4	15
Interdictions	59	143
Palm phytoplasma	5	27
Pathology, General	562	2,818
Soil	33	143
Totals	2,516	9,614



 PLANT PATHOLOGY IDENTIFICATION TABLE

The following table provides information about samples identified between July - September 2024. 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	COLLECTOR	DATE	NEW RECORD
<i>Gossypium hirsutum</i>	cotton	<i>Diaporthe ueckeri</i>	stem canker	Agriculture research center	P2518-01-08292024-08769	external researcher	8/28/24	state
<i>Quercus hemisphaerica</i>	Darlington's Oak, laurel oak	<i>Parvodontia relampaga</i>	relampagobligh	Natural area	P2247-01-07312024-07765	Jeffrey Eickwort	7/31/24	county
<i>Staurogyne repens</i>	Staurogyne	<i>Agroathelia rolfsii</i>	southern blight	Nursery	P2505-08292024-08726	Howard Wallace	8/28/24	host
<i>Vaccinium corymbosum</i>	highbush blueberry	<i>Ganoderma tuberculosum</i>	root rot	Nursery	P2662-091024-09158	Robert Denoux	9/10/24	host





FROM THE EDITOR

By Patti Anderson

Inquiring minds want to know...

Earlier this year, staff and visitors arriving at DPI Gainesville's Doyle Conner Building experienced a rare treat when for the first time they were greeted by a tree with hundreds (maybe thousands?) of fragrant, white flowers. The flowers were soon located by hundreds (who's counting?) of bees and other pollinators. For almost two weeks, the landscape was a hive of activity. The flowers were not only fragrant, but also quite interesting in their structure. The five petals are fringed (lacinate as our botanist friends might say) and have a bright orange nectar-producing ring attached at the base of the petals.

And now you might want to know the name of this amazing ornamental tree. We call it Japanese blueberry because it comes from subtropical Japan and other countries of southern Asia and because the olive-shaped fruits are bluish when ripe. The color is the only characteristic the tree has in common with our edible North American blueberries. Of course, we really want to know the scientific name to be sure we know the species of interest. Nurseries sell the plant as *Elaeocarpus decipiens*, but many botanists say specimens deposited in herbaria are *Elaeocarpus sylvestris*. Both species are called "Japanese blueberry," and confusion about the identity of the tree illustrates the problem with using common names. As mentioned earlier, this is the first time our tree has produced flowers and offered the opportunity to determine the species based on floral characters, usually the most reliable basis for identification. Here is a list of characters comparing the two species and the individual in our landscape:

	<i>E. decipiens</i>	<i>E. sylvestris</i>	DPI tree
flower stalk (raceme) length	5-10 cm	4-6 cm	7-8 cm
petal segments	10-16	10-12	13
stamens	20-32	15	22-26
leaf blade texture	leathery or thick papery	papery	thickish papery
leaf lateral veins	7-9 per side	4-5 per side	5-7 per side
petiole length	1-2 cm	1-1.5 cm	1-1.25 cm
fruit	2-3.5 cm long 1.5-2 cm wide blue, purple or black	1-1.2 cm long 0.7 cm wide blue	2.5-3 cm long 1.2-1.5 cm wide blue-black
pit (like a peach)	warty surface texture	3 sutures	warty surface



1a - *Elaeocarpus* sp., Japanese blueberry, flower with numerous stamens.
Photo by Patti Anderson, FDACS-DPI



1b - *Elaeocarpus* sp., Japanese blueberry, FDACS-DPI landscape, flowers after stamens have fallen away showing lacinate petals.
Photo by Jeff Lotz, FDACS-DPI



So, facing some ambiguity in the determination, we turn to our experts in the DNA world, the DPI Molecular Diagnostics Laboratory, and asked for their determination. Although we had sufficient material from the DPI tree, the gene bank held samples from single individuals of the two likely species. The result was 100% match on the three genes for *E. sylvestris* and 100% match on two genes and 99% match on the third for *E. decipiens*. Still, with only one individual as the basis for comparison, a skeptical person might ask if the species in the gene bank were identified correctly—or maybe there is really only one species.

The final factor to consider is this ornamental tree came from a plant nursery. We have no record of the original source of the plant, but we know several cultivars of both species are sold, and there are a few subspecies found in nature. For the moment, the species appears more like *E. decipiens*, in spite of the DNA results, but whatever the species, our tree is still a beauty. Interestingly, we do know the first introduction of *Elaeocarpus decipiens* was made by Morgan "Bill" Evans, a landscape designer for Disney theme parks as part of what he called the Shogon series of plants. Let me know what you think about the little botanical mystery. (See Elaeocarpus in Flora of China @ efloras.org for more information about this genus; Elaeocarpus decipiens at San Marcos Growers for cultivation information.)

Thanks to Matthew Moore, FDACS-DPI, for DNA analysis and Marc Frank, UF/FLAS, for herbarium research.



1c - *Elaeocarpus* sp., Japanese blueberry, FDACS-DPI landscape, green unripe fruit and blue-black ripe fruit.
Photo by Patti Anderson, FDACS-DPI



1d - *Elaeocarpus* sp., Japanese blueberry, FDACS-DPI landscape, fruit pit..
Photo by Patti Anderson, FDACS-DPI



1e - *Elaeocarpus* sp., Japanese blueberry, pressed specimen.
Photo by Patti Anderson, FDACS-DPI



TRI-LOGY

[FDACS.gov/TRI-LOGY](https://fdacs.gov/TRI-LOGY)

1-888-397-1517

Florida Department of Agriculture and Consumer Services
Division of Plant Industry
1911 SW 34th St.
Gainesville, FL 32608-1201