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TRI-OLOGY

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

Division Director, Trevor R. Smith, Ph.D.

BOTANY

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

ENTOMOLOGY

Identifying arthropods, taxonomic research and curating collections

NEMATOLOGY

Providing certification programs and diagnoses of plant problems

PLANT PATHOLOGY

Offering plant disease diagnoses and information

Florida Department of Agriculture and Consumer Services • Division of Plant Industry

***Spodoptera litura* (Fabricius) collected in Miami-Dade County (scale in mm).**
Photo by James Hayden, FDACS-DPI

ABOUT TRI-OLOGY

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

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

HOW TO CITE TRI-OLOGY

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

Thank you,

Gregory Hodges, Ph.D.
Editor
Assistant Director, Division of Plant Industry

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

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***Thunbergia fragrans*, the white lady or sweet clock vine.**
Photo by Forest & Kim Starr Images

HIGHLIGHTS

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1 - ***Anredera vesicaria*****, Texas madeiravine; sacasile, fruit.**
Photo from CABI (Centre for Agriculture and Bioscience International)

2 ***Dendropsyche venezuelae*** **Davis, a bagworm moth**, a new **Continental USA** record, was found in a trap in Miami-Dade County. This species was described from specimens collected in northern South America and has also been recorded in Jamaica and the Bahamas.

2 - ***Dendropsyche venezuelae*** **Davis.**
Photo by James Hayden, FDACS-DPI

3 ***Meloidogyne incognita*** **(Kofoid and White, 1919) Chitwood, 1949** was found infecting the roots of noni, *Morinda citrifolia*. A root sample collected at a nursery in Miami-Dade County, Florida, was clearly galled, a typical symptom induced by root-knot nematodes. Nematode species identification was performed using DNA-based methods.

3 - ***Morinda citrifolia*****, noni, fruit and leaves.**
Photo from Shutterstock

4 Odonotoglossum ringspot virus (ORSV, Genus: Tobamovirus) and Cymbidium mosaic virus (CymMV, Genus: Potexvirus), with ORSV being a new **Florida Host record**, have been found simultaneously in *Spathoglottis plicata* (Family: Orchidaceae) on a residential site in Broward County, Florida.

4 - Odontoglossum ringspot virus and Cymbidium mosaic virus on ***Spathoglottis plicata.*** **Overall decline and necrotic edges on newer leaves.**
Photo by Patricia Soria, 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

	OCTOBER - DECEMBER	2024 - YEAR TO DATE
Samples Submitted by Other DPI Sections	976	**5,717**
Samples Submitted for Botanical Identification Only	222	**1,218**
Total Samples Submitted	1,198	**6,935**
Specimens Added to the Herbarium	262	**812**

1a - *Anredera vesicaria*, Texas madeiravine, flowers and leaves.
Photo by Shirley Denton

Some of the samples submitted recently are described below.

1b - *Anredera vesicaria*, Texas madeiravine, flowers.
Photo by Shirley Denton

1 *Anredera vesicaria* (Lam.) C. F. Gaertn. (Texas madeiravine; sacasile), from a genus of 12 species distributed across the tropical and subtropical Americas, in the plant family Basellaceae. This species is native to South Texas, Mexico, Central America, South America and the Old World tropics. It was introduced to Florida as an ornamental and has now been documented in 13 counties across the central and southern peninsula where it grows in disturbed areas, and along fencerows, roadsides and thickets. The first recorded occurrence of *A. vesicaria* in the state was documented with a 1964 herbarium specimen from Collier County. Plants are perennial herbaceous vines with twining, glabrous stems up to 8 meters (ca. 26 ft) long, producing tubers at or below the soil surface or in the lower leaf axils. The leaves are alternate, petiolate and ovate to elliptic with entire margins and glabrous surfaces. The inflorescence is composed of racemes or branched panicles of racemes, each consisting of numerous tiny, fragrant, cream-white colored flowers. The flowers are bisexual or functionally unisexual, each with two elliptic, keeled sepals becoming winged in fruit, five elliptic, spreading petals, five stamens and a superior ovary with three styles. The fruit is an utricle (a small, thin-walled, one-seeded, inflated fruit) enclosed by the persistent winged calyx. This species has two morphologically distinct forms, considered as functionally staminate (called male) and functionally pistillate (called female). When the species was first described and named, the two forms were thought to be two different species: *Boussingaultia leptostachys* and *Anredera vesicaria.* Functionally pistillate plants (traditional *A. vesicaria*) apparently do not produce pollen, yet produce fruit. Functionally staminate

plants (traditional *Boussingaultia leptostachys*) produce pollen, but rarely produce fruit. Now, the two names are known to refer to one species, with *Boussingaultia leptostachys* considered to be a synonym for the currently accepted name of the species. Both forms produce tubers at the base of the stem and below ground, and this is the apparent means of reproduction of the staminate plants. It is often cultivated for its showy inflorescences and fragrant flowers which bloom in late summer to fall. The tubers or rhizomes are eaten as a starch, and the plant is used as medicine across its range to treat wounds, infections, fractures and as an anti-inflammatory. *Anredera vesicaria* was documented for the first time in Brevard County this quarter. (Brevard County; LIST 11062024-10988; Chase Groninger; 31 October 2024.) (Vincent, 2003; Weakley and Southeastern Flora Team, 2025; Wunderlin and Hansen, 2011).

2 ***Elaeagnus pungens Thunb.*** **(silverthorn; thorny olive)** from a genus of 40-45 species native mainly to temperate regions, in the plant family Elaeagnaceae, the oleaster family. This species is native to China, South Korea and Japan but has become naturalized in several states after being introduced as an ornamental in the 1830s. It was sometimes planted as a hedge in landscapes and along highways to provide a dense screen in a short time. Unfortunately, this plant has often escaped from cultivation into nearby natural areas. Silverthorn is listed as a Category II invasive species by Florida Invasive Species Council, meaning it has been found growing aggressively in natural areas but is not yet known to alter native plant communities. *Elaeagnus pungens* has been documented in 22 Florida counties scattered from Escambia to Palm Beach. Two other species in this genus, *E. angustifolia* and *E. umbellata,* have also become pest plants in Florida or other states. Because *E. pungens* is a nitrogen-fixing species (growing in association with the nodule-forming actinomycete fungi, *Frankia* spp.), it might have an advantage over other non-nitrogen-fixing plants in disturbed areas with poor soils. Silverthorn is a fast-growing shrub, 2-5 m tall, with multiple stems armed with sharp thorns, and often seen sprawling into branches of neighboring plants. The alternate, simple, leathery, evergreen leaves with wavy margins are covered by scales on both blade surfaces: dense, shiny, ashy-white or brown on the undersides and shiny or dull, dark silvery green on the upper surface. The thick petioles are woody. Inflorescences are clusters of two to four tiny, fragrant flowers with four white- or cream-colored sepals, about 6 mm long, and four stamens. There is one stigma and no petals. The red or reddish-brown fruits are oblong, 8–12 mm long, and sparsely covered by scattered brown scales. This sample was a new record for St. Johns County where it was found growing in a natural area of the Guano Tolomato Matanzas National Estuarine Research Reserve. (St. Johns County; LIST 10022024-10113; Mark Laurint, Ray Jarrett, Lisa Tyler, Kelly Douglas, Diane McColl, David Brown, Kenneth Ellis, Cheryl Jones, DeAnn Hansen, Jennifer Hesse and Randi Shreve; 2 October 2024.) (Clawson, et al., 1997; Mabberley, 2017; Shultz and Varga, 2022; Weakley and Southeastern Flora Team, 2024; Wunderlin and Hansen, 2011; 2016; https://www.cabidigitallibrary.org/doi/full/10.1079/cabicompendium.20725 [accessed 26 December 2024].)

2a - ***Elaeagnus pungens*****, silverthorn, fruit and leaf underside.**
Photo by Allen Boatman, Atlas of Florida Plants

2b - ***Elaeagnus pungens*****, silverthorn, flowers and upper surface of leaves.**
Photo by Keith Bradley, Atlas of Florida Plants

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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
Bobbe Rose		11579	12/3/2024	*Dianella ensifolia*	Pinellas
Bobbe Rose		11570	12/3/2024	*Oeceoclades maculata*	Pinellas
Caroline Pride		11239	11/20/2024	*Sorghum bicolor ssp. bicolor*	Indian River
Chase Groninger		10988	11/7/2024	*Anredera vesicaria*	Brevard
Christine Podos		11915	12/11/2024	*Broussonetia papyrifera*	Collier
Christine Podos		11692	12/5/2024	*Salvia misella*	Collier
Gary Webb	Daniel Merced, Vaden Edmondson, Cynthia Blattenberger, Christina Huetcher, Alec Nash	12133	12/16/2024	*Capsella bursa-pastoris*	Pasco
Gary Webb	Daniel Merced, Vaden Edmondson, Cynthia Blattenberger, Christina Huetcher, Alec Nash	12132	12/16/2024	*Thunbergia fragrans*	Pasco
Janie Echols		10931	11/6/2024	*Imperata cylindrica*	Columbia
Jeffrey Eickwort	Brent Dixon, Dion Baskara	10991	11/6/2024	*Sideroxylon reclinatum ssp. reclinatum*	Suwannee
Jennifer Hesse		11022	11/8/2024	*Fimbristylis cymosa*	Flagler
Jennifer Hesse	Ray Jarrett	11616	12/5/2024	*Thunbergia grandiflora*	Volusia
Jennifer Mckeever	Erika Lozano	10637	10/30/2024	*Commelina gambiae*	Orange
Jennifer Mckeever		11231	11/19/2024	*Tradescantia zebrina*	Orange
Lane Smith		10171	10/8/2024	*Dalbergia sissoo*	Palm Beach
Logan Cutts		10295	10/15/2024	*Antigonon leptopus*	Gilchrist
Logan Cutts		10676	10/29/2024	*Baccharis halimifolia*	Dixie
Logan Cutts		10682	10/29/2024	*Betula nigra*	Madison
Logan Cutts		10601	10/25/2024	*Calyptocarpus vialis*	Columbia
Logan Cutts		10208	10/7/2024	*Castanea pumila*	Union
Logan Cutts		10375	10/17/2024	*Cephalanthus occidentalis*	Gilchrist
Logan Cutts		10294	10/15/2024	*Conoclinium coelestinum*	Baker
Logan Cutts		10515	10/22/2024	*Crotalaria spectabilis*	Baker
Logan Cutts		10513	10/22/2024	*Dicerandra linearifolia var. robustior*	Gilchrist
Logan Cutts		10229	10/8/2024	*Eriobotrya japonica*	Levy
Logan Cutts		12258	12/19/2024	*Erythrina herbacea*	Dixie
Logan Cutts		10427	10/18/2024	*Geobalanus oblongifolius*	Columbia

COLLECTOR NAME	COLLECTOR 2	LIST NUMBER	RECEIVED DATE	PLANT NAME	COUNTY
Logan Cutts		10429	10/18/2024	*Hedychium coronarium*	Hamilton
Logan Cutts		10372	10/17/2024	*Heliotropium amplexicaule*	Citrus
Logan Cutts		10298	10/15/2024	*Ilex vomitoria*	Gilchrist
Logan Cutts		10377	10/17/2024	*Ligustrum japonicum*	Gilchrist
Logan Cutts		10504	10/22/2024	*Magnolia grandiflora*	Dixie
Logan Cutts		10227	10/8/2024	*Monarda punctata*	Union
Logan Cutts		10683	10/29/2024	*Morella cerifera*	Santa Rosa
Logan Cutts		10684	10/29/2024	*Nyssa biflora*	Gadsden
Logan Cutts		10231	10/8/2024	*Passiflora incarnata*	Union
Logan Cutts		10680	10/29/2024	*Persea borbonia*	Washington
Logan Cutts		10373	10/17/2024	*Phyllostachys aurea*	Gilchrist
Logan Cutts		10241	10/8/2024	*Physostegia virginiana*	Gilchrist
Logan Cutts		10232	10/8/2024	*Platanus occidentalis*	Levy
Logan Cutts		11399	11/21/2024	*Portulaca oleracea*	Nassau
Logan Cutts		10679	10/29/2024	*Prunus serotina*	Okaloosa
Logan Cutts		11368	11/21/2024	*Pyrus calleryana*	Gilchrist
Logan Cutts		10595	10/25/2024	*Quercus laevis*	Columbia
Logan Cutts		10746	10/30/2024	*Rubus pensilvanicus*	Washington
Logan Cutts		12259	12/19/2024	*Salix nigra*	Gilchrist
Logan Cutts		10211	10/7/2024	*Salvia coccinea*	Gilchrist
Logan Cutts		10237	10/8/2024	*Solanum viarum*	Taylor
Logan Cutts		10296	10/15/2024	*Solidago leavenworthii*	Columbia
Logan Cutts		11379	11/21/2024	*Spermacoce verticillata*	Nassau
Logan Cutts		10512	10/22/2024	*Symphyotrichum bahamense*	Gilchrist
Logan Cutts		10300	10/15/2024	*Symphyotrichum praealtum*	Gilchrist
Logan Cutts		11376	11/21/2024	*Tridax procumbens*	Nassau
Logan Cutts		11441	11/22/2024	*Trifolium repens*	Gilchrist
Logan Cutts		10678	10/29/2024	*Vaccinium myrsinites*	Escambia
Mark Laurint		9971	10/3/2024	*Arundo donax*	St. Johns
Mark Laurint		10190	10/8/2024	*Arundo donax*	Clay
Mark Laurint		10113	10/3/2024	*Elaeagnus pungens*	St. Johns
Samuel Smith	Michael Claus, Caroline Pride	10435	10/23/2024	*Pseudognaphalium obtusifolium*	Indian River

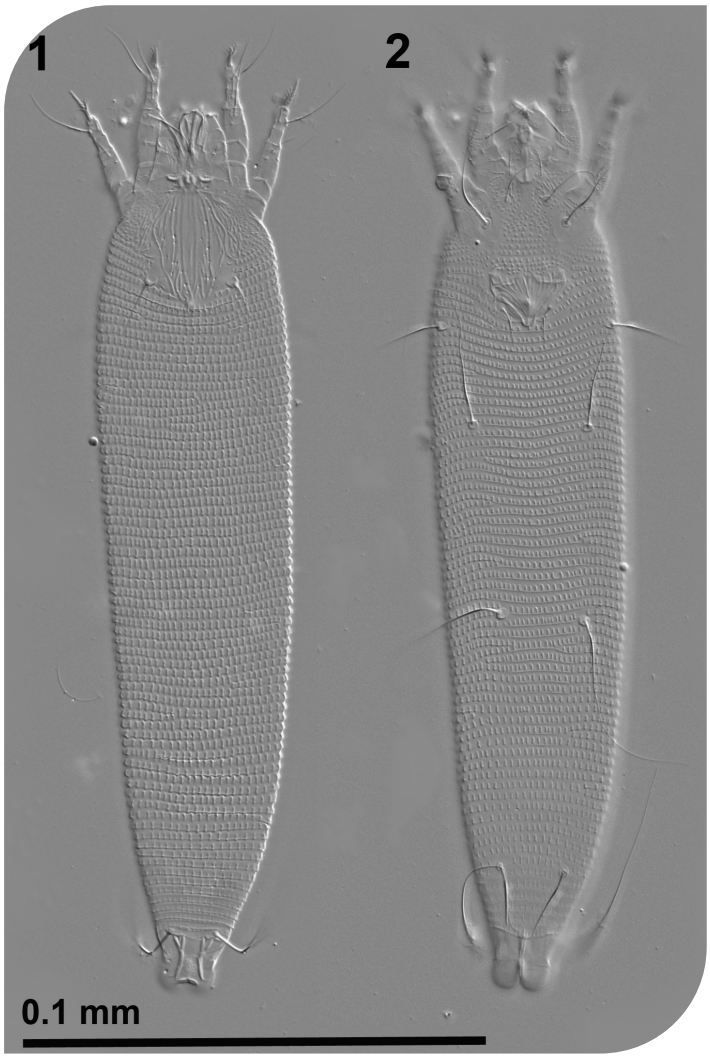
ENTOMOLOGY

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.

	OCTOBER - DECEMBER	2024 - YEAR TO DATE
Samples Submitted	1,207	**6,192**
Lots Identified	2,090	**10,192**

1 ***Aceria pongamiae* Keifer, pongamia mite, a new Western Hemisphere record.** Until this new record, pongamia mite has been recorded only from Australia and South and Southeast Asia, including Pakistan (the first known location of the mite) and India. The host tree, *Millettia pinnata,* previously known as *Pongamia pinnata,* is native to Australia, the western Pacific Islands and Southeast Asia. Pongamia mite may have gone undetected in some places where the host is known to occur, including within the native range of the host. This mite causes galls on the leaves of the host tree. The host tree is an invasive species in the United States, but it also is used as a crop to produce biodiesel among other potential uses. (Palm Beach County; E5540-01-10252024-10614; member of public; 17 October 2024). (Dr. Samuel Bolton.)



1 - ***Aceria pongamiae* Keifer, pongamia mite, 1) body dorsum; 2) body venter.**
Photo by Samuel Bolton, FDACS-DPI

2 ***Amrasca biguttula*** **(Ishida), two-spot cotton leafhopper, a new Continental USA record.** The two-spot cotton leafhopper, known as the okra leafhopper in the Caribbean Islands, is a significant pest of cotton, okra and eggplant, along with some other crops and ornamentals. It was found in Puerto Rico in 2023 and has spread to several Caribbean islands since then. In November 2024, this leafhopper was found in a badly damaged Miami-Dade County okra field. By the end of 2024, it had been found in 11 more Florida counties, including a Jackson County commercial cotton crop. Please see the FDACS-DPI Pest Alert for more information: https://ccmedia.fdacs.gov/content/download/117692/file/two-spot-cotton-leaf-hopper-pest-alert.pdf. Identifications of diagnostic male specimens were confirmed by molecular data. (Miami-Dade County; E5820-01-11152024-11222; Mary Yong Cong, CAPS and Amy Roda, USDA-APHIS-PPQ; 14 November 2024.) (Dr. Susan E. Halbert and Matthew R. Moore.)

2a - ***Amrasca biguttula*** **(Ishida), two-spot cotton leafhopper.**
Photo by Daphne Zapsas, USDA-APHIS-PPQ, Biological Science Laboratory

2b - ***Amrasca biguttula*** **(Ishida), two-spot cotton leafhopper on Florida okra.**
Photo by Sajan KC, FDACS-DPI

3 ***Dendropsyche venezuelae*** **Davis, a bagworm moth, a new Continental USA record.** Two moths were removed from a CAPS glue trap and submitted for identification. The specimens key out to *Dendropsyche* Jones in Davis (1964), and the dissected genitalia and COI barcode match *D. venezuelae* Davis. After the first detection, searching the unidentified Psychidae holdings in the FSCA and McGuire Center yielded specimens from four other counties in South Florida, most collected since 2014 but one from 1996. Described from northern South America, this species also has been recorded in Jamaica and the Bahamas. The protective cases of the larvae, although not yet observed in Florida, are described as consisting of plant matter, narrowly elliptical, and 9-15 mm in length (Davis 1975). Little is known about the feeding habits of *Dendropsyche* species. They apparently feed on various vegetation, but they are not pests. (Orange County; E-5277-01-10012024-10060; Scott Weihman; 17 September 2024.) (Dr. James E. Hayden and Matthew R. Moore.)

3 - ***Dendropsyche venezuelae*** **Davis collected in Miami-Dade County.**
Photo by James E. Hayden, FDACS-DPI

4 ***Trichromothrips trifasciatus*** **(Priesner), a new Continental USA record.** The presence of *Trichromothrips trifasciatus* in Florida would be puzzling had it not been found in association with exotic ornamentals. Not many specimens of *T. trifasciatus* are known. This is an East Asian species originally described from Sumatra (Indonesia), and for a long time it was known from the single female holotype. In 2019, Li et al. (2019) recorded a second individual of *T. trifasciatus*, this time from China, also a single female. The five specimens collected in Indian River County are the largest group of this species ever reported. *Trichromothrips trifasciatus* seems to be polyphagous. In Indonesia, it was collected on *Costus* L., in China on sweet potato (*Ipomoea batatas* L.) and in Florida on *Philodendrum* Schott. This is a colorful species, with distinctly patterned wings, unique among members of the genus. The patterned wings in *T. trifasciatus* resemble patterns in species in the genus *Scolothrips*, a genus with several species commonly found in Florida, but the two genera differ in all important morphological details, including the number of prothoracic macrosetae (six pairs of long macroseta in *Scolorthrips*, only two pairs on *Trichromothrips*). Despite being phytophagous, *T. trifasciatus* is not known to be a plant pest. (Indian River County; E5901-01-11152024-11235; Caroline Pride; 15 November 2024.) (Dr. Felipe Soto-Adames.)

4 - ***Trichromothrips trifasciatus*** **(Priesner), habitus adult female.**
Photo by Isabelle Atchia, FDACS-DPI

5 ***Heterothrips limbatus*** **Hood, a new Florida State record.** *Heterothrips limbatus* is native to North America and is not known to be a plant pest. The species was described originally from New York State (Hood 1925), but it also is known from Massachusetts (Bailey and Cott 1954). This species is unique among members of the genus *Heterothrips* because the posterior margin of abdominal terga 2-5 carry an uninterrupted chain of microtrichia. Along its range in the northeast, *H. limbatus* adults are active from May to June and can be found in flowers of *Prunus*, *Vaccinium* and *Cornus*. The specimens from Broward County were collected by sweeping mixed vegetation along a weedy roadside. (Broward County; E5439-40-10172024-10420; Mark Zenoble; 2 October 2024.) (Dr. Felipe Soto-Adames.)

5 - ***Heterothrips limbatus*** **Hood, habitus adult female.**
Photo by Isabelle Atchia, FDACS-DPI

6 ***Prorastriopes coalingaensis*** **Snider, a new Florida State record.** *Prorastriopes coalingaensis* is native to North America and is not known to be a plant pest. The species was described originally from California, but it also is known from Illinois (Soto-Adames, 1995). Very little is known about the habits of this species. In California, it was collected on *Plantago*, whereas in Illinois it was found on alfalfa (*Medicago sativa* L.). In Florida, *P. coalingaensis* was collected by sweeping grasses along a weedy roadside. According to the Checklist of Collembola (Bellinger et al, 1996-2024), the species displays sexual dimorphism in color pattern, with males having a brown thorax and paired anterior white spots and black abdomen, whereas females have a light-yellow trunk with lateral longitudinal strips and dorsal V-shaped marking on the posterior end of the abdomen. The specimens collected in Broward County display the sexual dimorphism in color pattern reported for populations in other parts of North America. (Broward County; E5439-41-10172024-10420; Mark Zenoble; 2 October 2024.) (Dr. Felipe Soto-Adames.)

6 - ***Prorastriopes coalingaensis*** **Snider, dorsal view of female color pattern.**
Photo by Isabelle Atchia, FDACS-DPI

7 ***Spodoptera litura*** **(Fabricius), rice cutworm moth, a regulatory incident.** One moth was collected in a CAPS trap baited with pheromone specific to this species. Although the wings were worn when collected, the male genitalia and COI barcode match *S. litura*. This is a major polyphagous pest in its native range in East Asia. Single specimens are intercepted infrequently in Florida, most recently in 2014. CAPS has started an ongoing delimitation survey following standard protocols. No more specimens have been collected as of the time of writing. (Miami-Dade County; E6231-01-12132024-12137; Matthew Quenaudon, USDA-APHIS-PPQ; 27 November 2024.) (Dr. James E. Hayden and Matthew R. Moore.)

7 - ***Spodoptera litura*** **(Fabricius), rice cutworm moth, collected in Miami-Dade County (scale in mm).**
Photo by James E. Hayden, FDACS-DPI

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ENTOMOLOGY SPECIMEN REPORT

Following are tables with entries for records of new hosts or new geographical areas for samples identified in the current volume's 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
Abelmoschus esculentus	okra	*Amrasca biguttula*	two spot cotton leafhopper	Amy Roda, Mary Yong Cong	New Continental USA record
Abelmoschus esculentus	okra	*Amrasca biguttula*	two spot cotton leafhopper	Douglas Restom-Gaskill	First in County
Abelmoschus esculentus	okra	*Amrasca biguttula*	two spot cotton leafhopper	Douglas Restom-Gaskill	First in County
Abies fraseri	Fraser's fir	*Aspidiotus cryptomeriae*	cryptomeria scale	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Aspidiotus cryptomeriae*	cryptomeria scale	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Aspidiotus cryptomeriae*	cryptomeria scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Bactericera stylifera*	a psyllid	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Bactericera stylifera*	a psyllid	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Cuerna* sp.	a sharpshooter	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Vincent Barrios	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Mark Zenoble	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Mark Zenoble	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Mark Zenoble	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Caroline Pride	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Logan Cutts, Justin Anto, Jakira Davis, Dyrana Russell, Renee Shiska, Twylah Morelli	Regulatory significance

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Renee Shiska	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Caroline Pride	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Twylah Morelli	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Chase Groninger	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Vincent Barrios	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Vincent Barrios	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Chase Grininger	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Paola Ramos Perez	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Jeanie Frechette	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Jeanie Frechette	Regulatory significance
Abies fraseri	Fraser's fir	*Fiorinia externa*	elongate hemlock scale	Jacob Bryan	Regulatory significance
Abies fraseri	Fraser's fir	*Hemiberlesia ithacae*	hemlock scale	Twylah Morelli	Regulatory significance
Alcea rosea	hollyhock	*Amrasca biguttula*	two spot cotton leafhopper	Douglas Restom-Gaskill	New Florida host record
Alocasia sp.	alocasia	*Phenacoccus multicerarii*	a mealybug	Caroline Pride, Alexander Tasi, Michael Claus, Samuel Smith	New Florida host record
Bambusa sp.	bamboo	*Bambusaspis minuta*	bamboo pit scale	Chase Groninger, Victoria Benjamin, Alexander Tasi, Caroline Pride	First in County
Bambusa sp.	bamboo	*Froggatiella gigantochloae*	an armored scale	Chase Groninger, Victoria Benjamin, Alexander Tasi, Caroline Pride	First in County
Bambusa sp.	bamboo	*Froggattiella gigantochloae*	an armored scale	Chase Groninger	First in County
Bambusa sp.	bamboo	*Odonaspis greeni*	Green's scale	Chase Groninger	First in County
Bambusa sp.	bamboo	*Poliaspoides formosana*	an armored scale	Chase Groninger	First in County
Bidens alba	beggarticks	*Aleurotrachelus trachoides*	a whitefly	Narciso Rodriguez medina, Maria Dulzaides	New Florida host record
Bothriochloa bladhii	Australian beardgrass	*Sipha flava*	yellow sugarcane aphid	Isabelle Atchia, Carly Dodgen	New Florida host record
Bothriochloa bladhii	Australian beardgrass	*Sitobion avenae*	English grain aphid	Isabelle Atchia, Carly Dodgen	New Florida host record
Brassica rapa	broccoli rabe	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Capsicum annuum	poblano pepper	*Bactericera cockerelli*	potato psyllid	Jeanie Frechette	Regulatory significance
Capsicum annuum	poblano pepper	*Bactericera cockerelli*	potato psyllid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Capsicum annuum	bell pepper	*Bactericera cockerelli*	potato psyllid	Renee Shiska, Logan Cutts, Dyrana Russell, Callie Walker, Ethan Andrews, Cheryl Jones, Twylah Morelli	Regulatory significance
Capsicum annuum	chilaca pepper	*Bactericera cockerelli*	potato psyllid	Jakira Davis, Justin Anto	Regulatory significance
Chloroleucon tortum	Brazilian rain tree	*Heteropsylla huasachae*	a psyllid	Alberto Rentas Muller	New Florida host record
Chromolaena odorata	Jack-in-the-bush, Christmasbush	*Aphis eugeniae*	an aphid	Leann West	New Florida host record
Citrus limon	lemon tree	*Chondrocera laticornis*	a leaf footed bug	Younes Belmourd	First in County
Citrus sp.	citrus	*Thrips parvispinus*	short spine thrips	Lyle Buss	First in County
Coriandrum sativum	cilantro	*Calophya schini*	a jumping plant louse	Renee Shiska	Regulatory significance
Cynara cardunculus	artichoke	*Brachycaudus cardui*	thistle aphid	Jakira Davis, Justin Anto	Regulatory significance
Cynara cardunculus	artichoke	*Platyptilia carduidactyla*	artichoke plume moth	Jakira Davis	Regulatory significance

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
Cynara cardunculus	artichoke	*Platyptilia carduidactyla*	artichoke plume moth	Colton Striker	Regulatory significance
Desmodium tortuosum	beggarweed	*Japanagromyza desmodivora*	an agromyzid fly	Craig Welch, Douglas Restom-Gaskill	First in County
Dracaena sanderiana	lucky bamboo	*Lepidosaphes chinensis*	a mussel scale	Paola Ramos Perez	Regulatory significance
Eriobotrya japonica	loquat	*Aphrophora saratogensis*	a spittlebug	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Balclutha incisa*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Cantura albonotata*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Graminella villica*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Planicephalus flavicosta*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Polyamia obtecta*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Sanctanus fasciatus*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Sufetula diminutalis*	palm rootworm moth	Randi Shreve	First in County
Eriobotrya japonica	loquat	*Syndelphax fulvidorsum*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Xestocephalus desertorum*	a leafhopper	Logan Cutts	First in County
Eriobotrya japonica	loquat	*Xyphon flaviceps*	a leafhopper	Logan Cutts	First in County
Fragaria x *ananassa*	strawberry	*Chaetosiphon fragaefolii*	strawberry aphid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Fragaria x *ananassa*	strawberry	*Chaetosiphon fragaefolii*	strawberry aphid	Jakira Davis, Justin Anto	Regulatory significance
Fragaria x *ananassa*	strawberry	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Fragaria x *ananassa*	strawberry	*Lygus elisus*	pale legume bug	Jakira Davies, Justin Anto	Regulatory significance
Fragaria x *ananassa*	strawberry	*Lygus hesperus*	Western lygus bug	Jakira Davies, Justin Anto	Regulatory significance
Fragaria x *ananassa*	strawberry	*Lygus* sp.	Western lygus bug	Jakira Davis, Justin Anto	Regulatory significance
Fragaria x *ananassa*	strawberry	*Rhinacloa forticornis*	Western plant bug	Jakira Davis, Justin Anto	Regulatory significance
Gardenia jasminoides	gardenia	*Karnyothrips melaleucus*	a thrips	Abby Bartlett	First in County
Gossypium sp.	commercial cotton	*Amrasca biguttula*	two spot cotton leafhopper	Douglas Restom-Gaskill	First in County
Gossypium sp.	commercial cotton	*Amrasca biguttula*	two spot cotton leafhopper	Robert Leahy, Carly Dodgen	New Florida host record, First in County
Hibiscus rosa-sinensis	hibiscus	*Amrasca biguttula*	two spot cotton leafhopper	Aaron Palmateer	New Florida host record
Lactuca sativa	lettuce	*Acyrthosiphon lactucae*	lettuce aphid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Lactuca sativa	lettuce	*Acyrthosiphon lactucae*	lettuce aphid	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	romaine lettuce	*Aphalara* sp.	a psyllid	Logan Cutts	Regulatory significance
Lactuca sativa	lettuce	*Aphis asclepiadis*	an aphid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Lactuca sativa	lettuce	*Bactericera cockerelli*	potato psyllid	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Bactericera cockerelli*	potato psyllid	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Delia radicum*	cabbage root fly	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Lactuca sativa	lettuce	*Deltocephalus fuscinervosus*	a leafhopper	Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Deltocephalus fuscinervosus*	a leafhopper	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	romaine lettuce	*Deltocephalus fuscinervosus*	a leafhopper	Renee Shiska, Logan Cutts, Dyrana Russell, Callie Walker, Ethan Andrews, Cheryl Jones, Twylah Morelli	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	butter leaf lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Lactuca sativa	lettuce	*Liriomyza langei*	California pea leafminer	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Lactuca sativa	romaine lettuce	*Liriomyza langei*	California pea leafminer	Renee Shiska, Logan Cutts, Dyrana Russell, Callie Walker, Ethan Andrews, Cheryl Jones, Twylah Morelli	Regulatory significance
Lactuca sativa	red leaf lettuce	*Liriomyza langei*	California pea leafminer	Renee Shiska	Regulatory significance
Lactuca sativa	romaine lettuce	*Lygus elisus*	pale legume bug	Logan Cutts	Regulatory significance
Lactuca sativa	organic mixed lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Chase Groninger	Regulatory significance
Lactuca sativa	lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Lactuca sativa	romaine lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Renee Shiska, Logan Cutts, Dyrana Russell, Callie Walker, Ethan Andrews, Cheryl Jones, Twylah Morelli	Regulatory significance
Lactuca sativa	frisee lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Nasonovia ribisnigri*	currant-lettuce aphid	Jakira Davis, Justin Anto	Regulatory significance
Lactuca sativa	lettuce	*Rhopalomyzus poae*	a Western aphid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Mentha sp.	mint	*Ovatus crataegarius*	mint aphid	Caroline Pride, Alexander Tasi, Michael Claus, Samuel Smith	Regulatory significance
Mentha sp.	mint	*Ovatus* sp.	mint aphid	Gary Webb, Christina Huetcher, Alec Nash, Vaden Edmondson	Regulatory significance
Millettia pinnata	pongamia	*Aceria pongamiae*	pongamia mite	Frank Burgos	First in County
Millettia pinnata	pongamia	*Aceria pongamiae*	pongamia mite	Christopher Checo	New Western Hemisphere record
Musa sp.	banana	*Fiorinia phantasma*	phantasma scale	Sallie Simmons	New Florida host record
Olea europaea	olive	*Bactrocera oleae*	olive fruit fly	Yamiley Guia Riquenes	Regulatory significance

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
Pentas lanceolata	pentas	*Aleurotrachelus trachoides*	a whitefly	Erika Lozano, Anthony Puppelo	New Florida host record
Persea americana	avocado	*Acutaspis albopicta*	albopicta scale	Vincent Barrios	Regulatory significance
Persea americana	avocado	*Davidsonaspis aguacatae*	an armored scale	Renee Shiska, Logan Cutts, Dyrana Russell, Callie Walker, Ethan Andrews, Cheryl Jones, Twylah Morelli	Regulatory significance
Petroselinum crispum	parsley	*Cavariella aegopodii*	carrot aphid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Philodendron sp.	philodendron	*Trichomothrips trifasciatus*	a thrips	Caroline Pride	New Western Hemisphere Record
Phyllanthus tenellus	Mascarene island leafflower	*Cacocharis cymotoma*	a leafroller moth	Caroline Pride, Michael Claus, Samuel Smith, Alexander Tasi	New Florida host record
Physalis philadelphica	tomatillo	*Bactericera cockerelli*	potato psyllid	Richard Blaney	Regulatory significance
Physalis philadelphica	tomatillo	*Bactericera cockerelli*	potato psyllid	Caroline Pride	Regulatory significance
Physalis philadelphica	tomatillo	*Bactericera cockerelli*	potato psyllid	Caroline Pride	Regulatory significance
Physalis philadelphica	tomatillo	*Bactericera cockerelli*	potato psyllid	Justin Anto, Jakira Davis, Renee Shiska, Logan Cutts, Dyrana Russell	Regulatory significance
Pinus strobus	eastern white pine	*Chionaspis pinifoliae*	pine needle scale	Lisa Tyler	Regulatory significance
Rubus sp.		*Amphorophora sp.*	an aphid	Jakira Davis, Justin Anto	Regulatory significance
Rubus sp.	raspberry	*Rhinacloa forticornis*	western plant bug	Jakira Davis, Justin Anto	Regulatory significance
Rubus sp.	raspberry	*Rhinacloa forticornis*	western plant bug	Alberto Rentas Muller	Regulatory significance
Salix nigra	black willow	*Chaitophorus minutus*	an aphid	Jeffrey Eickwort	First in County
Sida ulmifolia	common wireweed	*Amrasca biguttula*	two spot cotton leafhopper	Amy Roda, Mary Yong Cong	New Florida host record
Smilax tamnoides	hogbrier	*Neoprociphilus aceris*	wooly maple aphid	Alec Nash, Daniel Merced, Gary Webb, Christina Heutcher, Cynthia Blattenberger	First in County
Solanum chenopodioides	black nightshade	*Amrasca biguttula*	two spot cotton leafhopper	Amy Roda, Mary Yong Cong	New Florida host record
Solanum melongena	eggplant	*Amrasca biguttula*	two spot cotton leafhopper	Felipe Soto-Adames, Mary Yong Cong, Sajan KC, Amy Roda, Susan Halbert, Daphne Zapsas	New Florida host record
Solanum melongena	eggplant	*Amrasca biguttula*	two spot cotton leafhopper	Douglas Restom-Gaskill	First in County
Solanum melongena	eggplant	*Amrasca biguttula*	two spot cotton leafhopper	Douglas Restom-Gaskill	First in County
Spinacia oleracea	spinach	*Hypogeococcus pungens*	a mealybug	Leann West	New Florida host record
Talinum fruticosum	Philippine-spinach, Ceylon-spinach	*Pulvinaria urbicola*	urbicola soft scale	Mark Zenoble	New Florida host record
Vitis sp.	grapes	*Cadra figulilella*	raisin moth	Jakira Davis, Justin Anto	Regulatory significance
Vitis sp.	grapes	*Erasmoneura variabilis*	variegated western grape leafhopper	Jakira Davis, Justin Anto	Regulatory significance
Vitis sp.	grapes	*Texananus spatulatus*	a leafhopper	Logan Cutts	Regulatory significance
x *Bacurio delphinatifolius*	string of dolphins	*Aphis gossypii*	cotton/melon aphid	Helen Beiriger, William Piwowarek	New Florida host record
		Amrasca biguttula	two spot cotton leafhopper	Julia Laur	First in County
		Amrasca biguttula	two spot cotton leafhopper	Julia Laur	First in County
		Amrasca biguttula	two spot cotton leafhopper	Julia Laur	First in County
		Amrasca biguttula	two spot cotton leafhopper	Douglas Restom-Gaskill	First in County
		Amrasca biguttula	two spot cotton leafhopper	Douglas Restom-Gaskill	First in County

PLANT SPECIES	PLANT COMMON NAME	ARTHROPOD GENUS AND SPECIES	ARTHROPOD COMMON NAME	COLLECTOR	RECORD
		Amrasca biguttula	two spot cotton leafhopper	Scott Weihman	First in County
	mixed vegetation	*Arorathrips sensitivus*	a thrips	Mark Zenoble	First in County
		Atractomus miniatus	a mirid	Monica Triana	First in County
		Ceratocapsus bifercus	a mirid	James Bouie, Joseph Hanus	First in County
		Clastoptera querci	oak spittlebug	Alesha Fuller	First in County
		Dallasiellus lugubris	a burrower bug	Monica Triana	First in County
		Dendropsyche venezuelae	a bagworm moth	Scott Weihman	New Continental USA record
		Dendropsyche venezuelae	a bagworm moth	Mary Yong Cong	First in County
		Eoreuma loftini	Mexican rice borer	Julien Beuzelin	First in County
		Eoreuma loftini	Mexican rice borer	Julien Beuzelin	First in County
		Eoreuma loftini	Mexican rice borer	Julien Beuzelin	First in County
		Eudarcia sp. 8	a lichen-feeding moth	Isabelle Atchia, Carly Dodgen	First in County
	mixed vegetation	*Heterothrips limbatus*	a thrips	Mark Zenoble	New Florida state record
		Lesmone formularis	an erebid moth	Krystal Ashman	First in County
		Mitrapsylla cubana	a psyllid	Julia Laur	First in County
		Paratelenomus saccharalis	parasitoid wasp	Alyssa Lucas	First in County
		Pleuroprucha asthenaria	a wave moth	James Pernsteiner	First in County
		Prepops rubrovittatus	a plant bug	Monica Triana	First in County
	mixed vegetation	*Prorastriopes coalingaensis*	a thrips	Mark Zenoble	New Florida state record
		Sericophanes heidemanni	a mirid	Monica Triana	First in County
		Sericophanes heidemanni	a mirid	James Bouie, Joseph Hanus	First in County
		Sophonia orientalis	two-spotted leafhopper	Brooke Welch	First in County
		Spodoptera litura	rice cutworm	Matthew Quenaudon	Regulatory incident
		Thiotricha sp.	a gelechioid moth	Isabelle Atchia, Carly Dodgen	First in County
		Thyanta maculata	a stink bug	Jakira Davis, Justin Anto	Regulatory significance
		Ymeldia sp. 1	a gelechioid moth	Mary Yong Cong	First in County
		Ymeldia sp. 1	a gelechioid moth	Isabelle Atchia, Carly Dodgen	First in County
		Zyginama rossi	an oak leafhopper	Krystal Ashman	First in County

NEMATOLOGY

Compiled by Janete Brito, Ph.D.; Matthew Moore, M.S.; Lynn Combee, B.S;
Cheryl Roberts, B.S. and Ruimin Xue, M.S.

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

QUARTERLY ACTIVITY REPORT

	OCTOBER - DECEMBER	2024 - YEAR TO DATE
Morphological Identifications	3,940	**13,724**
Molecular Identifications *	244	**925**

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

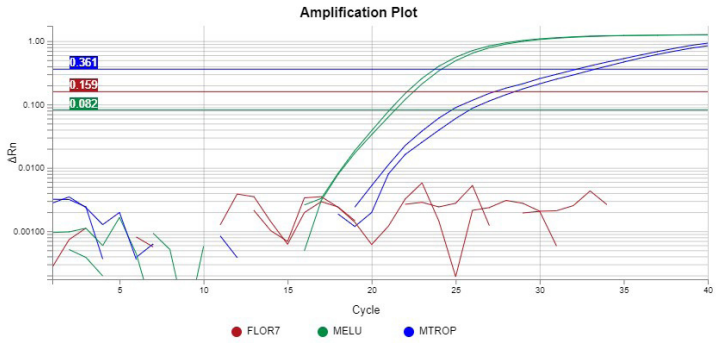
Nematode of Special Interest

1 *Meloidogyne incognita* (Kofoid and White, 1919) Chitwood, 1949 was found infecting the roots of noni, *Morinda citrifolia* (Miami-Dade County; 12122024-12073; Sandra Domenech; 12 December 2024).

A root sample collected from noni plants at a nursery in Miami-Dade County, Florida, was submitted to the Nematode Diagnostic Laboratory at the Division of Plant Industry (FDACS-DPI). Infected roots were clearly galled, a typical symptom induced by root-knot nematodes. Nematode species identification was performed using DNA-based methods (*NADH5, COX, COX2* and qPCR) (Janssen et al., 2016; Yimer et al., 2022). Results obtained with these analyses identified the nematode as *Meloidogyne incognita*. To our knowledge, it is the first report of this nematode species infecting noni in Florida. Because infected plant material used for planting is one of the major pathways to spread plant-parasitic nematodes, we recommend using clean soil, clean pots and healthy seedlings as well as good sanitation practices to produce plants for both national and international exports.

1a - *Morinda citrifolia*, noni, plant with leaves and fruits.
Photo from Shutterstock

1b - *Morinda citrifolia*, noni, cut and whole fruits.
Photo from Shutterstock



Triplex qPCR amplification profile of two female *Meloidogyne* specimens extracted from the roots of *Morinda citrifolia*. Both specimens were positive for mitochondrial (curved green line) and ribosomal (curved blue line) qPCR targets. This qPCR result indicated they belong to a species of *Meloidogyne* in the tropical group (*Meloidogyne arenaria*, *M. incognita*, *M. javanica*, etc.), excluding *M. floridensis* or *M. hispanica*. DNA sequencing confirmed the nematode specimens to be *Meloidogyne incognita*.

1c - *Morinda citrifolia*, noni, root infected with *Meloidogyne incognita*.
Notice the presence of root galls, a typical below ground symptom induced by this nematode species.
Photo by Jeffrey Lotz and Janete Brito, FDACS-DPI

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SAMPLES FOR MOLECULAR ANALYSIS

	OCTOBER - DECEMBER	2024 - YEAR TO DATE
Regulatory Purposes	210	**493**
Other Purposes	0	**0**
Identifications	34	**432**
Surveys	0	**0**
Total	244	**925**

SAMPLES FOR MORPHOLOGICAL ANALYSIS

Certifications and Regulatory Purposes

	OCTOBER - DECEMBER	2024 - YEAR TO DATE
Multistate Certification involving California	1,456	4,766
Multistate Certification excluding California Certification	2,468	8,474
Citrus Certification (Citrus Nursery Certification, Site or Pit Approval)	16	142
Total	**3,940**	**13,382**

Other Purposes

	OCTOBER - DECEMBER	2024 - YEAR TO DATE
Identification (other organisms)	0	2
Interdiction Station (AIS)	46	190
Plant Problems	24	88
Survey	58	190
Total	**128**	**470**

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 **Odonotoglossum ringspot virus** (ORSV, Genus: Tobamovirus) and **Cymbidium mosaic virus** (CymMV, Genus: Potexvirus)**, with ORSV being a new Florida Host record,** have been found simultaneously in *Spathoglottis plicata* (Family: Orchidaceae) at a residential site in Broward County, Florida. CymMV and ORSV are among the most common viruses found in orchids, impacting horticultural industries worldwide. CymMV has been reported in French Polynesia (Pearson and Grisoni, 2002) and Hawaii where viral symptoms typically present as mottled younger leaves and elongated pale areas developing into necrotic dark spots or streaks (Hu et al., 1993). These viruses spread through sap and close contact between plants, resulting in visual damage and reducing the aesthetic value of the orchids (Hu et al., 1993). As *S. plicata* has become more popular as a Florida landscape plant for its hardiness and attractive flowers, it is important to monitor potential threats to production of this valuable plant for the horticulture industry. Mitigating potential issues resulting from infected *S. plicata* in the Florida landscape, such as threatening native distributions of *Orchidaceae* (including the endangered *Dendrophylax lindenii*), is also essential. (Broward County; 12052024-11790; Keith Zugar; 5 December 2024.)

1 - Odontoglossum ringspot virus and Cymbidium mosaic virus on *Spathoglottis plicata*. Necrotic spotting and streaks along the leaf. Photo by Patricia Soria, FDACS-DPI

2 ***Phytopythium (=Pythium) chamaehyphon*** (Sideris) Abad, de Cock, Bala, Robideau, Lodhi & Lévesque (Pythiales, Pythiaceae), (**root rot**) a **new Florida Host Record**, was found in *Prunus persica* (L.) Batsch (Rosids, Rosaceae) rootstock at a nursery in Alachua County, Florida, where 100% of the plants were affected. These plants showed dieback with rotten roots. Furthermore, the rootstock was planted too deeply, restricting air exchange within the root system and contributing to excessive moisture accumulation around the trunk, increasing the risk of damage by this pathogen. The genus *Phytopythium* is a significant waterborne plant pathogen but is also well-established as a soil-borne pathogen and saprophyte, capable of causing root and crown rot, as well as damping-off in susceptible plants (Nam and Choi, 2019; Savian et al., 2021). *Phytopythium chamaehyphon* is a broad-distributed pathogen reported on *Actinidia deliciosa, Carica papaya, Glycine max, Theobroma cacao* and *Phaseolus vulgaris* in Argentina, Colombia, Rwanda and the United States (Farr and Rossman, 2018). *Pythium* sp. and *Phytophthora* sp. have previously been reported in *Prunus persica* in Florida. (Alachua County; P3155-11012024-10892; external collector; 1 November 2024.)

QUARTERLY ACTIVITY REPORT

	OCTOBER - DECEMBER	2024 - YEAR TO DATE
Citrus black spot	83	**344**
Citrus canker	213	**759**
Citrus greening / HLB	15	**159**
HLB certification for out-of-state shipping	2,862	**8,379**
Import inspections	12	**27**
Interdictions	75	**218**
Palm phytoplasma	5	**32**
Pathology, General	859	**3,677**
Soil	36	**179**
Totals	4,160	**13,774**

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PLANT PATHOLOGY IDENTIFICATION TABLE

The following table provides information about samples identified between October-December 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 #	COUNTY	COLLECTOR	DATE	NEW RECORDS
Gordonia lasianthus	loblolly-bay	*Parvodonia relampaga*	relampago blight	natural area	P3625-12202024-12327	Osceola	Brent Dixon	12/17/24	host, county
Prunus persica	peach	*Phytopythium chamaehyphon*	root rot	nursery	P3155-11012024-10892	Alachua	external collector	11/1/24	host
Quercus laurifolia	laurel oak	*Parvodonia relampaga*	relampago blight	natural area	P3626-12202024-12328	Osceola	Brent Dixon	12/17/24	host
Spathoglottis plicata	ground orchid, Philippine ground orchid	*Odontoglossum ringspot virus*	none	residence	P3469-12052024-11790	Broward	Keith Zugar	12/5/24	host
Spathoglottis plicata	ground orchid, Philippine ground orchid	*Cymbidium mosiac virus*	none	residence	P3469-12052024-11790	Broward	Keith Zugar	12/5/24	not record but occurs at same time as ORSV which is a host record
Zea Mays	corn	*Phyllachora maydis*	maize tar spot	pumpkin patch	P3065-10252024-10619	Pinellas	Cheryl Jones	10/24/24	county

FROM THE EDITOR

By Patti Anderson

Inquiring minds want to know…

Logan Cutts, Agricultural Interdiction Inspector in the Bureau of Plant & Apiary Inspection, is a member of DPI's interdiction station inspection team and the third generation of his family to work for the Division. Interdiction inspectors work at stations in and around Interstates I-10 E/W, I-75 N/S, and I-95 N/S intercepting and preventing the movement of exotic pests into the state. Although their focus is at the four main stations in Yulee, White Springs, Pensacola and Live Oak, the inspectors also travel to 19 other stations for survey and inspection activities. Carriers of all agricultural products, including plants and produce, are subject to detailed inspections. Visual surveys and insect trapping activities are also conducted in the immediate environs of these stations.

In addition to carrying out his full-time duties inspecting tractor trailers, refrigerated trucks and flatbed trucks, Mr. Cutts went the extra mile by submitting 113 botany specimens found to be New County Records in 2024. These plants were collected mainly in his free time on weekends and holidays and during lulls in traffic near the interdiction stations. He collected plants in 18 different counties with the largest numbers from Gilchrist (44 specimens), Dixie (17), Suwannee (9), Levy (8) and Union (8). To complete this accomplishment, Logan submitted nearly 100 additional samples that were not found to be new in their counties. He explained his knowledge of plants and their locations is based on his interest in bees and good pollen sources for them.

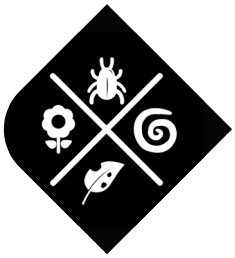
We expect Logan will likely enjoy his weekends engaged in other activities, such as tending his bees, after collecting this amazing number of plants, and we thank him for this contribution to our knowledge of Florida's flora.

Here are a few examples of new county records Logan submitted this year.

1a - *Tracescantia ohiensis*, bluejacket; Ohio spiderwort.
Photo by Matthew Merritt, Atlas of Florida Plants

1b - *Crataegus michauxii*, Michaux's hawthorn.
Photo by Shirley Denton, Atlas of Florida Plants

1c - *Conoclinium coelestinum*, blue mistflower.
Photo by Patti Anderson, FDACS-DPI



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