



DPI's Bureau of Entomology, Nematology and Plant Pathology (the botany section is included in this bureau) produces TRI-OLOGY six times a year, covering two 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.

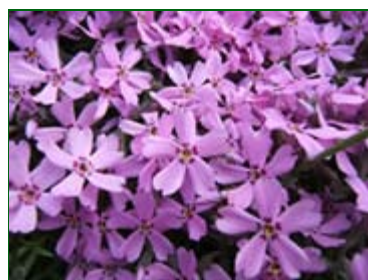
## Highlights

Following are a few of the notable entries from this volume of TRI-OLOGY. These entries are reports of interesting plants or unusual pests, some of which may be problematic. See Section Reports for complete information.

***Oxycarenus hyalinipennis* (the cotton seed bug), a new Continental USA record**, was found for the first time in bolls of cotton plants at a residence on Stock Island, near Key West. A thorough survey of known hosts in the Florida Keys yielded no additional finds, and the known infested plants were destroyed. Future surveys will determine whether the cotton seed bug is established in Florida. Please see [DPI Pest Alert](#)  for more information.

***Guignardia citricarpa* Kiely (citrus black spot), a North America record**, was detected on *Citrus sinensis* (sweet orange) in the Immokalee area. This marks the first report of this fungal pathogen in North America, and constitutes a major jump in the geographical range of the pathogen. Please see the [DPI Pest Alert](#) .

***Meloidogyne javanica* (Treub, 1885) Chitwood, 1949 (the Javanese root-knot nematode)** was found infecting the roots of *Daucus carota* (carrot). Root-knot nematodes are a limiting factor in carrot production in several areas of the world and have required extensive use of pesticides. Infections in carrots cause short, stubby, forked taproots and lead to severe losses in quality and marketability.



***Peronospora phlogina* (downy mildew), a new state record**, was found in a nursery on *Phlox subulata* (moss phlox). This pathogen has been previously reported from cooler climates in the Central and Western United States. It has never



***Oxycarenus hyalinipennis* (cotton seed bug)**  
 Photograph courtesy of Michael C. Thomas, [DPI](#)



***Daucus carota* (carrot) infected with *Meloidogyne javanica*.**  
 Note root galling and bifurcation induced by this nematode.  
 Photograph courtesy of Jeffrey W. Lotz and Janete A. Brito, [DPI](#)

## Section Reports

- Botany
- Entomology
- Nematology
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### Our Mission...getting it done

The mission of the Division of Plant Industry is to protect Florida's native and commercially grown plants and the State's apiary industry from harmful pests and diseases. To carry out that mission, our scientists, agricultural specialists and technicians collaborate with other government agencies and universities. Perhaps you'd be interested in some of the things we do to protect our state through one of our collaborative programs with the United States Department of Agriculture.

The Cooperative Agricultural Pest Survey Program (CAPS) is a combined effort by state and federal agricultural agencies to look for exotic pests of agricultural and natural plant resources. In Florida, this program has a team of pest survey specialists who conduct

***Phlox subulata* (moss phlox).** Photograph courtesy of Pawel Michalik, [Wikipedia](#) [accessed 1 June 2010]

been reported on the popular annual phlox (*P. drummondii*), often used as a cool season bedding plant and wildflower in Florida.

***Sobarocephala dreisbachi* (a clusiid fly), a new State record.** was found on *Eriobotrya japonica* (loquat) at a residence in Miami. This species is not a plant pest.

***Hylocurus binodatus* (a scolytid beetle), a new State record.** was found on a purple sticky board trap in Suwannee River State Park. The trap targets the emerald ash borer. This is a native United States species not previously recorded from Florida. It is not a pest.

***Hylocurus rudis* (a scolytid beetle), a new State record.** was found on purple sticky board trap in Suwannee River State Park. This is a native United States species not previously recorded from Florida. It is not a pest.

***Abutilon chittendenii* (canary tree)** is native to Guatemala and Honduras and is rare in cultivation. It is a showy and handsome tree growing about 3 m tall, with evergreen, broadly heart-shaped, entire-margined leaves that are 8-15 cm long and about as wide. The flowers are 5-8 cm across and resemble those of a hibiscus. The five petals are bright yellow, each with a reddish blotch at the base.



***Abutilon chittendenii* (canary tree).**

Photograph courtesy of [Top Tropicals](#) [accessed 25 May 2010]

#### **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 also thank Scott Weinberg for his skillful use of web authoring tools to produce this report.

surveys to detect plant diseases, insects, weeds, nematodes and other invertebrate organisms. In addition, the program includes laboratory technicians and public information personnel. Surveys are conducted at high risk areas such as ports, environs of nurseries and in specific agricultural growing areas to (1) help protect our plant resources from the introduction of pests or (2) document the absence of a pest species to help facilitate entry of Florida's agricultural commodities into the world market.

A few of these surveys include monitoring regionally established pests and pests of export significance such as emerald ash borer, *Agrilus planipennis*; pink hibiscus mealybug, *Maconellicoccus hirsutus*; and redbay ambrosia beetle, *Xyleborus glabratus*. These pests threaten our forests and natural areas as well as agricultural crops and landscape ornamentals. Florida's tourism and trade activities, extensive coastline and hospitable weather provide a wealth of opportunities for pests to enter and become established. Our collaborative efforts through CAPS multiply DPI's ability to provide protection through detection. You'll find information about pests found through CAPS survey work in most issues of Tri-ology.

We welcome your suggestions for improvement of TRI- OLOGY. Please feel free to contact me at [dixonw@doacs.state.fl.us](mailto:dixonw@doacs.state.fl.us) or Dr. Patti Anderson at [andersp1@doacs.state.fl.us](mailto:andersp1@doacs.state.fl.us)

with your comments.

Wayne N. Dixon, Ph.D., editor  
Assistant Director, DPI

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## Botany Section

Compiled by [Richard E. Weaver, Jr., Ph.D.](#), and [Patti J. Anderson, Ph.D.](#)

This section identifies plants for the Division of Plant Industry, as well as for other governmental agencies and private individuals. The Botany Section maintains a reference herbarium with over 10,000 plants and nearly 1,400 vials of seeds.

***Abutilon chittendenii* Standl. (canary tree)**, a genus of approximately 100 species widely distributed in tropical and subtropical regions, with a few weedy annuals in more northern areas. Malvaceae. This native of Guatemala and Honduras is rare in cultivation and is sometimes listed as *Bakeridesia integerrima* (Hook.) D.M. Bates. It is a showy and handsome tree growing about 3 m tall, with evergreen, broadly heart-shaped, entire-margined leaves that are 8-15 cm long and about as wide. They are pubescent with stellate hairs and are rough to the touch on the upper surface. The flowers are 5-8 cm across and resemble those of a hibiscus. The five petals are bright yellow, each with a reddish blotch at the base. The stamens are fused into a tube by their filaments, as is typical of the Mallow Family. The distinctive, rough-hairy fruits are made up of 14 or so segments which radiate like the spokes of a wheel. These fruits become papery as they mature and dehisce along their upper edge. This evergreen, ever-blooming plant is unfortunately rarely offered for sale here in Florida. It is an excellent tree for container culture or for a small garden, doing best with full sun and good drainage. In Florida, it should be root-hardy as far north as Ocala. (Pinellas County; B2010-164; Gabriela M. Bernard, 8 April 2010.) (Mabberley 1997; Standley and Steyermark 1949.)

***Physalis philadelphica* Lam. (Mexican groundcherry, tomatillo)**, a cosmopolitan genus of 80 species. Solanaceae. This species, native to Mexico, is an annual to 60 cm tall. The alternate, ovate leaves have entire to dentate margins, acute to slightly acuminate apices, and are about 4x10 cm in size. Flowers are borne singly with a five-lobed calyx that becomes papery and inflated as the fruit develops. The yellow, 8–15 mm wide corolla has dark maroon to purple splotches in the throat. Anthers are blue-green and twisted at maturity. The fruit is a globose, pale green to purplish berry 2.5-6 cm across. Although this species is in the same family as the garden tomato, *Lycopersicon esculentum*, and is sometimes called "green tomato," it is not a tomato. The plant can be weedy, but it is also planted as a food crop, popular in Mexican cuisine as the basis for *salsa verde*, usually in combination with green chili peppers. (St. Lucie County; B2010- 146; Dagne A. Vasquez; 30 March 2010.) (Huxley 1992; Morton 1987.)

***Polygala myrtifolia* L. (sweet-pea shrub, African milkwort)**, a cosmopolitan genus of nearly 100 species. Polygalaceae. This unusual shrub is adapted to a wide range of climatic conditions in its native South Africa, growing in both summer-rainfall and winter-rainfall areas. Not surprisingly, it is quite variable. It can be an evergreen shrub to 2 m tall, or a small tree to 4 m tall; the leaves can be thick and oval or thin and needle-like; and

### Sample Submissions

	Mar/ Apr	Year to Date
Samples submitted by other DPI sections	1,076	2,058
Samples submitted for botanical identification only	100	194
Total Samples Submitted	1,176	2,252
Specimens added to the herbarium	27	37



***Abutilon chittendenii* (canary tree).**  
Photograph courtesy of [TopTropicals](#)  
[accessed 25 May 2010]

the color of the flowers varies from mauve or purple to pink, scarlet or white. In cultivation, it grows best in Mediterranean-type climates, with rainfall in the winter, and it has escaped and become invasive in such climates in southern Europe and southwestern Australia. Plants of the genus *Polygala* are often known as milkworts, since ingesting them reputedly increases lactation in cows. These plants have unusual and showy flowers that resemble those of legumes, with two wing petals and a keel; *Polygala* flowers, however, lack a standard (or banner) petal, and the tip of the keel is ornamented with a distinctive, brush-like tuft of fleshy hairs. Despite the floral similarities, the Polygalaceae and the Leguminosae are not closely related. The sweet-pea shrub is an attractive plant, with its neat, evergreen foliage somewhat resembling that of the myrtle (*Myrtus communis*), but with alternate leaves. The flowers are about 2 cm across, usually pink or purplish in our plants, with a strong superficial resemblance to those of the sweet pea (*Lathyrus odoratus*). The plant is rare in cultivation in Florida, and there is no evidence that it has escaped and naturalized, but since it is invasive elsewhere, it should be carefully monitored. (Miami-Dade County; B2010-183; Olga Garcia, 20 April 2010.) (<http://www.plantzafrica.com> [accessed 12 May 2010].)

***Selaginella kraussiana* (Kunze) A. Braun. (Krauss' spikemoss)**, a genus of more than 700 species, mostly native to the tropics and subtropics, with a few species in the temperate zones. Selaginellaceae. Spikemosses are primitive land plants that have vascular tissue and reproduce by means of spores rather than seeds. They are most closely related to clubmosses (*Lycopodium*) and quillworts (*Isoetes*) and more distantly to ferns. They are entirely herbaceous, mostly small in stature, and generally minor components of the vegetation types in which they occur. The spore-bearing organs are borne in the axils of specialized leaves, and these are arranged in conelike structures termed strobili (singular strobilus) at the tips of the branches. Spikemosses superficially resemble true mosses, but the groups are not closely related. Mosses are much more ancient, they lack vascular tissue and their spores are borne in (simplistically speaking) capsule-like structures on long stalks from the tips of the shoots. *Selaginella kraussiana* is native to southern Africa, but it has naturalized in various areas around the world, including the British Isles and New Zealand. It is reported to be invasive in the latter country. In the United States, it has been reported from several areas in the Southeast (not Florida, yet), and from California. It is a creeping, mat-forming plant usually less than 10 cm tall. The tiny leaves are arranged in four rows on the prostrate stems, covering them like shingles, much like those of junipers and related conifers. It is cultivated as a house plant, or in a shady garden in milder climates. Several cultivars are popular, including 'Aurea' and



***Physalis philadelphica* (tomatillo) flower.**  
Photograph courtesy of [TopTropicals](http://TopTropicals.com)  
[accessed 25 May 2010]



***Physalis philadelphica* (tomatillo) fruit.**  
Photograph courtesy of [TopTropicals](http://TopTropicals.com)  
[accessed 25 May 2010]



***Polygala myrtifolia* L. (sweet-pea shrub, African milkwort)**  
Photograph courtesy of Kousvet, [Wikipedia](http://Wikipedia)  
[accessed 25 May 2010]

'Chartreuse' with yellowish foliage, and 'Brownii,' a compact form which grows into ball-like clumps. (Orange County; B2010-181; Lance A. Brown, 19 April 2010.) (Valdespino 1993.)

***Soliva sessilis* Ruiz & Pav. (field burrweed, lawn burrweed)**, a genus of eight species from South America. Compositae/Asteraceae. This weedy species is widely distributed in North America, in the Southeast from Virginia to Texas and in the Southwest from Arizona along the Pacific coast to British Columbia. In Florida, it is found mainly in the Panhandle and in a scattering of peninsular counties north of Lake Okeechobee. This lawn weed is a low-growing annual with fibrous roots; purplish, prostrate or ascending stems to 10 cm tall, often rooting at nodes; and pinnately dissected, alternate leaves. The inflorescence is a sessile head composed of small, inconspicuous greenish flowers with disc, but not ray, florets. The fruit is a spiny, 2-3 mm long achene which inspires the common name, burrweed. Each achene has lateral wings that become spine-like at the tips on either side of the persistent style which forms a larger central spine. This species grows in disturbed sites and on lawns and roadsides, often out competing lawn grass and perhaps being easier to identify with bare feet than by sight. The plants survive mowing and grazing, but might be controlled with herbicides. (Jefferson County; B2010-185; Michael A. Bentley; 15 April 2010.) (Wunderlin and Hansen 2003; <http://www.ipm.ucdavis.edu> [accessed 25 May 2010]; <http://plants.usda.gov> [accessed 25 May 2010].)

***Tillandsia recurvata* (L.)L. (ball moss)**, a genus of about 380 tropical American species. Bromeliaceae. This epiphytic species is found in Florida and Georgia and from Louisiana to Arizona as well as Mexico, the West Indies, Central America and South America. In Florida, it has been reported throughout the peninsula, but in only a scattering of counties in the Panhandle. The plant grows in dense clusters, not hanging down from its support like the related Spanish moss (*Tillandsia usneoides*). The stems are very short, without the pseudobulb or tank found in some bromeliads, and there are no true roots. The grayish, succulent leaves are alternate, 5-15 cm long, recurved and densely covered with silvery trichomes. The inflorescences are erect spikes holding one to several tubular flowers with pale blue to violet petals. The fruit is a three-parted capsule containing numerous wind-dispersed seeds. Although the common name of this species suggests otherwise, this plant is not a moss, but an unusual flowering plant with the ability to survive not only growing on other plants, but also festooning power lines and bare rocks in arid areas. The trichomes that cover its leaves are attached at a central point, with overlapping margins covering the entire leaf surface. These silvery scales absorb water and provide habitat for micro-organisms. The microflora found living upon this epiphytic bromeliad includes several species of nitrogen-fixing bacteria. The plant (or wire) on which the ball moss cluster rests provides only physical support, not water or nutrients. Still, a massive cluster of *T. recurvata* could cause harm to a supporting plant by blocking sunlight or breaking branches. This species has been investigated for medicinal properties, especially anti-tumor and anti-inflammatory activity. (Palm Beach County; B2010-186; Antonio I. Perez; 19 April 2010.) (Brighigna *et al.* 1992; Puente and Bashan 1994; <http://www.efloras.org> [accessed 25 May 2010]; <http://www.patents.com/Anti-tumor-anti-inflammatory-extracts-plant-biomass-uses-7713556.html> [accessed 25 May 2010].)



***Selaginella kraussiana* (Krauss' spikemoss)**

Photograph courtesy of Stickpen, [Wikipedia](#) [accessed 25 May 2010]



***Soliva sessilis* (field burrweed)**

Photograph courtesy of John Kunzer, [Atlas of Florida Vascular Plants](#) [accessed 25 May 2010]



***Tillandsia recurvata***

(ball moss) leaves Photograph courtesy of Patti J. Anderson, [DPI](#)



***Tillandsia recurvata* (ball moss) Close view of overlapping trichomes.**

Photograph courtesy of Patti J. Anderson, [DPI](#)

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## Entomology Section

Compiled by [Susan E. Halbert, Ph.D.](#)

This section provides the division's plant protection specialists and other customers with accurate identifications of arthropods. The entomology section also builds and maintains the arthropod reference and research collection (the Florida State Collection of Arthropods - with over 9 million specimens), and investigates the biology, biological control and taxonomy of arthropods.

***Oxycarenus hyalinipennis* (the cotton seed bug), a new Continental USA record**, was found for the first time in bolls of cotton plants at a residence on Stock Island, near Key West. The cotton seed bug is a serious cotton pest, originally from Africa, but it is established in Asia and more recently in the Caribbean, including Cuba. The bug has been intercepted many times by USDA port inspectors. A thorough survey of known hosts in the Florida Keys yielded no additional finds, and the known infested plants were destroyed. Future surveys will determine whether the cotton seed bug is established in Florida. Please see [DPI Pest Alert](#) for more information. (Monroe County; E2010-1498; William A. Thiel, USDA; 23 March 2010.) (Dr. Susan E. Halbert.)

***Sobarocephala dreisbachi* (a clusiid fly), a new State record**, was found on *Eriobotrya japonica* (loquat) at a residence in Miami. This species is not a plant pest. It is known previously from the eastern Canada and from MI, NC, TN, and TX in the USA. (Miami-Dade County; E-2010-1137; Sergio Delgado; 2 March 2010.) (Dr. Gary Steck.)

***Hylocurus binodatus* (a scolytid beetle), a new State record**, was found on purple sticky board trap in Suwannee River State Park. The trap targets the emerald ash borer. This is a native United States species not previously recorded from Florida. It is not a pest. (Hamilton County; E-2010-1873; Leroy A. Whilby, DPI/CAPS; 25 November 2009.) (Dr. Thomas H. Atkinson, Pest Management Research.)

***Hylocurus rudis* (a scolytid beetle), a new State record**, was found on purple sticky board trap in Suwannee River State Park. This is a native United States species not previously recorded from Florida. It is not a pest. (Hamilton County; E-2010-1874; Leroy A. Whilby, DPI/CAPS; 25 November 2009.) (Dr. Thomas H. Atkinson, Pest Management Research.)

***Cryptolestes cornutus* (a laemophloeid beetle), a new County record**, was found in a Lindgren funnel trap in Fernandina Beach, at the Port of Jacksonville. (Nassau County; E-2010-1189; Lara Milton, DHS; 30 December 2009.) (Dr. Michael Thomas.)

***Curtara insularis* (ringspot leafhopper), a new County record**, was found on *Citrus aurantium* (sour orange) along the roadside in Umatilla. (Lake County; E-2010-1213; Kevin S. Loadholtz; 9 February 2010.) (Dr. Susan E. Halbert.)

### Sample/Specimen Submissions

#### March

Samples Submitted	542
Specimens Identified	39,520

#### April

Samples Submitted	607
Specimens Identified	9,303

#### Year to Date

Samples Submitted	2,186
Specimens Identified	105,091



***Oxycarenus hyalinipennis*, the cotton seed bug.**

Photograph courtesy of Michael C. Thomas, 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 time period as well as samples of special interest. An abbreviated table, with all the new records, but less detail about them, is presented in the body of this 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 have no plant information included and are organized by arthropod name.

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***Cryptolestes cornutus* (a laemophloeid beetle)**

Photograph courtesy of Michael Thomas, [DPI](#)



***Curtara insularis* (ringspot leafhopper)**

Photograph courtesy of Jeffrey W. Lotz, [DPI](#)

Plant Species Name	Plant Common Name	Arthropod Species Name	Arthropod Common Name	County	New Records
<i>Bambusa</i> sp.		<i>Kuwanaspis bambusicola</i>		Collier	COUNTY
<i>Beta vulgaris</i>	Swiss chard; leaf beet; spinach beet	<i>Helix aspersa</i>	brown garden snail	Manatee	REGULATORY INCIDENT
<i>Brassica oleracea</i>	kale, decorative kale, flowering kale, flowering cabbage, collards, cole, borecole	<i>Helix aspersa</i>	brown garden snail	Suwannee	REGULATORY INCIDENT
<i>Bucida buceras</i>	black-olive; gregory wood	<i>Scirtothrips dorsalis</i>	chilli thrips	Broward	HOST
<i>Chrysobalanus icaco</i>	cocoplum, icaco	<i>Sobarocephala muesebecki</i>	a clusiid fly	Palm Beach	COUNTY
<i>Citrus aurantium</i>	sour orange	<i>Curtara insularis</i>	ringspot leafhopper	Lake	COUNTY
<i>Citrus reticulata</i>	tangerine, mandarin	<i>Leucophenga varia</i>		Hendry	COUNTY
<i>Citrus reticulata</i>	tangerine, mandarin	<i>Neogriphoneura sordida</i>	a lauxaniid fly	Hendry	COUNTY

<i>Citrus sinensis</i>	sweet orange, navel orange	<i>Drosophila suzukii</i>	spotted wing Drosophila	Orange	COUNTY
<i>Citrus sinensis</i>	sweet orange, navel orange	<i>Odinia meijere</i>	a fly	Hardee	COUNTY
<i>Citrus</i> sp.	citrus	<i>Drosophila suzukii</i>	spotted wing Drosophila	St. Lucie	COUNTY
<i>Citrus x tangelo</i>	tangelo, ugli	<i>Drosophila suzukii</i>	spotted wing Drosophila	Charlotte	COUNTY

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## Nematology Section

Compiled by [Janete A. Brito, Ph.D.](#), [Maria L. Mendes, Ph.D.](#), [Ramandeep Kaur, Ph.D.](#), and [Jason D. Stanley, M.S.](#)

This section analyzes soil and plant samples for nematodes, conducts pest detection surveys and provides diagnosis 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 principal part of the regulatory activity 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.

### Nematodes of Special Interest

Nematodes of special interest detected and/or identified in March – April 2010

***Meloidogyne javanica* (Treub, 1885) Chitwood, 1949 (the Javanese root-knot nematode)** was found infecting the roots of *Daucus carota* (carrot). Root-knot nematodes are a limiting factor in carrot production in several areas of the world and have required extensive use of pesticides. Symptoms of *Meloidogyne* spp. infection include poor plant growth, yellowing of leaves, and root galling and deformation of tuber crops. Infections in carrots cause short, stubby, forked taproots and lead to severe losses in quality and marketability. (Marion County; N10-00498; Drs. Donald W. Dickson and Maria de Lourdes Mendes, University of Florida; 14 April 2010.)

***Meloidogyne arenaria* (Neal, 1889) Chitwood, 1949 (the peanut root-knot nematode)** was found infecting the roots of *Carica papaya* (papaya). Roots were galled and necrotic as a consequence of the nematode infection. Two other species of root-knot nematodes, *M. incognita* and *M. javanica*, have been found associated with papaya in several countries. (Miami-Dade County; N10-00326; Ana L. Ochoa; 10 March 2010.)

***Meloidogyne arenaria* (Neal, 1889) Chitwood, 1949 (the peanut root-knot nematode)** was found infecting the roots of an ornamental plant, *Duranta erecta* (golden dew drop). This nematode species induced small root galls on the flowering shrub. Nematode egg masses were clearly visible outside the roots. Several ornamental plants have been found to be susceptible to this nematode species in Florida. (Palm Beach County; N10-00276; Frank A. Burgos; 1 March 2010).

***Meloidogyne incognita* (Kofoid and White, 1919) Chitwood, 1949 (southern root-knot nematode)** was found infecting the roots of an ornamental plant, *Alpinia zerumbet* (shell ginger). This nematode species has a wide host range and has been found to reproduce on agronomic and horticultural crops as well as weeds in Florida. (Palm Beach County; N10-00276; Frank A. Burgos; 01 March 2010.)

### Sample Submissions

	Mar/ Apr	Year to Date
Morphological Identifications	2,955	5,148
Molecular Identifications	170	283
Total Samples Submitted	3,125	5,431

### Certification and Regulatory Samples

Multistate Certification for National and International Export	2,295	3,761
California Certification	376	915
Pre-movement (Citrus Nursery Certification)	48	104
Site or Pit Approval (Citrus Nursery and Other Certifications)	24	41

### Other Samples

Identifications (invertebrate)	3	4
Plant Problems	14	30
Intrastate Survey, Random	195	293
Molecular Identifications*	170	283

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

***Meloidogyne mayaguensis* Rammah & Hirschmann, 1988 (the guava root-knot nematode), a new Host record**, was found infecting the root system of the vine, *Luffa acutangula* (ridged gourd, loofah or plant sponge). Immature fruits of this cucumber relative are eaten as a vegetable in some parts of the world, while the dried and bleached vascular systems of mature fruits can be used as a sponge. Fruits are cylindrical or club-shaped, usually 30-40 cm long and are easily seen hanging from trellises on which the plant grows. (Miami-Dade County; N10-00250; Ana L. Ochoa; 14 February 2010.)

***Meloidogyne mayaguensis* Rammah & Hirschmann, 1988 (the guava root-knot nematode), a new Host record**, was found infecting the root system of a weedy Florida native plant, *Cissus verticillata* (possum grape or seasonvine). Roots were heavily galled and necrotic as a consequence of the nematode infection. Several weed species in Florida are good hosts of root-knot nematodes, including *M. mayaguensis*. Weeds hosting root-knot nematodes are of particular importance because they allow for nematode survival even in the absence of a crop. Infected weeds provide a source of nematode infestation for the following season and create a major problem for nematode management in infested areas. (Miami-Dade County; N10-00182; Ana L. Ochoa; 10 February 2010.)

**Collectors submitting five or more samples that were processed for nematological analysis in March - April 2010**

Anderson, James L.	244
Bailey, Wayne W.	5
Bentley, Michael A.	75
Brown, Lance A.	9
Burgos, Frank A.	181
Echols, M. Janie	14
Edenfield, Carrie S.	79
LeBoutillier, Karen W.	176
Ochoa, Ana L.	196
Pate, Jo Ann	53
Qiao, Ping	137
Spriggs, Charles L.	250
Tannehill, Ellen J.	8
Toral, Angelina M.	10

**References**

- Brito, J. A., R. Kaur, R. Cetintas, J. D. Stanley, M. L. Mendes, E. J. McAvoy, T. O. Powers and D. W. Dickson. 2008.** Identification and isozyme characterization of *Meloidogyne* spp. infecting horticultural and agronomic crops and weed plants in Florida. *Nematology* 10: 757-766.
- Kaur, R., J. A. Brito and J. R. Rich. 2007.** Host suitability of selected weed species to five *Meloidogyne* species. *Nematropica* 37: 107-120.
- McSorley, R. 1981.** Plant-parasitic nematodes associated with tropical and subtropical fruits. Agricultural Experiment Station, Institute of Food and



***Daucus carota* (carrot) infected with *Meloidogyne javanica*.** Note root galling and bifurcation induced by this nematode. Photograph courtesy of Jeffrey W. Lotz and Janete A. Brito, [DPI](#).



***Alpinia zerumbet* (shell ginger) flowers.** Photograph courtesy of [University of British Columbia Botanical Garden](#) [accessed 25 May 2010]



***Luffa acutangula* (ridged gourd, loofah)** Photograph courtesy of [Top Tropicals](#) [accessed 25 May 2010]

Agricultural Science, University of Florida, Gainesville, Florida, Bulletin 823.

**Rich, J. R., J. A. Brito, R. Kaur and J.A. Ferrell. 2009.** Weed species as hosts of *Meloidogyne*: a review. *Nematropica* 39: 157-185.  
<http://www.ontaweb.org/>. [Accessed: March 10, 2010]




***Cissus verticillata* (possum grape or seasonvine)** heavily galled and necrotic due to the infection of *Meloidogyne mayaguensis*. Photograph courtesy of Mariana P. Beckman and Janete A. Brito, [DPI](#).

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## Plant Pathology Section

Compiled by [Robert M. Leahy](#)

This section provides plant disease diagnostic services and conducts a citrus germplasm introduction program. The agency-wide goal of protecting Florida agriculture very often begins with accurate diagnosis of plant problems. Disease management recommendations are offered where appropriate and available. Our plant pathologists are dedicated to keeping informed about plant diseases outside Florida in order to be prepared for potential introductions of new pathogens.

***Guignardia citricarpa* Kiely (citrus black spot), a North America record**, was detected on *Citrus sinensis* (sweet orange) during a Citrus Health Response Program - Multipest Survey (CHRP-MPS) in the Immokalee area. Conventional and advanced diagnostic laboratory techniques confirmed the identity of the pathogen. This marks the first report of this fungal pathogen in North America, and constitutes a major jump in the geographical range of the pathogen. Please see the [DPI Pest Alert](#) . (Collier County; P2010-34844; Maria D. Olvera and Bobbie L. Seay; 8 March 2010.)

***Peronospora phlogina* (downy mildew), a new State record**, was found in a nursery on *Phlox subulata* (moss phlox). This pathogen has been previously reported from cooler climates in the Central and Western United States. Cool, wet conditions are thought to encourage infection and promote development of the wind-borne spores. This downy mildew infects several genera in the Polemoniaceae including *Gilia*, but not *Ipomopsis rubra* (formerly *G. rubra*). It has never been reported on the popular annual phlox (*P. drummondii*), often used as a cool season bedding plant and wildflower in Florida, nor on any of the other ten or so species of *Phlox* found in Florida. (Alachua County; P2010-35479; M. Janie Echols and Cheryl A. Jones; 24 March 2010.) (Dr. Timothy S. Schubert.)

### Sample Submissions

	Mar/ Apr	Year to Date
Pathology	465	673
Bee	20	21
Soil	18	26
Citrus Canker	132	455
Citrus Greening	1,558	4,320
Citrus Black Spot	98	98
Miscellaneous	28	39
Total Samples Submitted	2,319	5,632



***Phlox subulata* (moss phlox)**

Photograph courtesy of Pawel Michalik, [Wikipedia](#) [accessed 1 June 2010]

### Plant Pathology Sample Report

Following is a table with entries for records of new hosts or new geographical areas for samples identified in the current volume's time period as well as samples of special interest. The tables are organized alphabetically by plant host.

Plant Species	Plant Common Name	Causal Agent	Disease Name	Location Type	County	Sample Number	Collector	Date	New Records
<i>Citrus sinensis</i>	sweet orange	<i>Guignardia citricarpa</i>	citrus black spot	grove	Collier	34844	Maria D. Olvera, Bobbie L. Seay	8-Mar-10	North America
<i>Citrus sinensis</i>	sweet orange	<i>Guignardia</i>	citrus	grove	Hendry	36124	Virginia G.	29-	County

		<i>citricarpa</i>	black spot				Villarreal, Bobbie L. Seay	Apr - 10	
<i>Dracaena</i> sp.	dracaena	<i>Kutilakesopsis macalpineae</i>	stem rot	nursery	Lake	34638	Mary C. Sellers	26-Feb-10	
<i>Phlox subulata</i>	moss phlox	<i>Peronospora phlogina</i>	downy mildew	nursery	Alachua	35479	M. Janie Echols, Cheryl A. Jones	24-Mar-10	State
<i>Phlox subulata</i>	moss phlox	<i>Peronospora phlogina</i>	downy mildew	nursery	Alachua	35556	Cheryl A. Jones	5-Apr-10	
<i>Persea americana</i>	avocado	<i>Raffaelea lauricola</i>	laurel wilt	campus	Miami-Dade	35491	Jorge E. Pena	2-Apr-10	
<i>Persea borbonia</i>	red bay	<i>Raffaelea lauricola</i>	laurel wilt	Goethe State Forest	Levy	35627	Stephen R. Jenner	7-Apr-10	County
<i>Rhaphiolepis indica</i>	dwarf Indian hawthorn	<i>Phytophthora cactorum</i>	leaf and twig blight	tree farm	Citrus	35823	Robert M. Leahy, David A. Davison	15-Apr-10	Host
<i>Solanum tuberosum</i>	potato	<i>Helminthosporium solani</i>	silver scurf	Ag Inspection Station 9B	Hamilton	34652	Stacey S. Simmons	1-Mar-10	
<i>Triticum aestivum</i>	wheat	<i>Drechslera tritici-repentis</i>	leaf spot	field	Columbia	35871	Leroy A. Whilby	13-Apr-10	Host

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