

BOTANY SECTION Compiled by Richard E. Weaver, Jr., Ph.D.

For this period, 58 specimens were submitted to the Botany Section for identification, and 850 were received from other sections for identification/name verification for a total of 908. Also during this period, 56 specimens were added to the herbarium. Some of the samples sent in for identification are discussed below:

Aster dumosus L. (A complex genus of ca. 250 species, mostly North American with a few in Europe and the Himalayas; most of the North American species now often treated as belonging to the genus *Symphotrichum* Nees.) Compositae (Asteraceae). **Rice-button aster, roadside aster.** Native to much of the eastern United States, this is one of the commonest and most familiar asters of northern and central Florida. It occurs in sandhills and flatwoods, but also in open, weedy habitats such as roadsides and lawns, and often is still in bloom in December. It is a perennial, with ascending stems 40-80 cm tall, these with numerous spreading branchlets. The basal leaves are 3-6 cm long, narrowly oblanceolate, with a few indistinct teeth along the margins. The very numerous cauline leaves are mostly linear and less than 2 cm long. The leaves often take on reddish tints, especially in full sun and late in the season. The flower heads are usually less than 1.5 cm across, with white or pale pink ray florets and yellowish or reddish disc florets, borne singly on slender stalks with several linear bracts similar to the cauline leaves. Although the heads are small, they are borne in profusion, and a plant in full bloom is quite showy. (Madison County; B2005-638; Joanna Booth, 9 December 2005) (Fernald 1950; Mabberley 1997)

Casimiroa edulis Llave & Lex. (A genus of five species native to the Mexican and Central American highlands.) Rutaceae. **White sapote, Mexican apple.** The word "sapote" is supposedly derived from the Aztec "tzapotl," a term applied to all soft, sweet fruits. There are three sapotes in general cultivation, and they all belong to different families: the "true" sapote [*Pouteria sapota* (Jacq.) H.E. Moore & Stearn] in the Sapotaceae; the black sapote (*Diospyros digyna* Jacq.), a relative of persimmons in the Ebenaceae; and the white sapote discussed here. It is a tree 6-18 m tall, native to the highlands of central Mexico. The alternate, evergreen leaves are palmately compound, with five, or more rarely seven, narrowly elliptic leaflets 10-20 cm long. Inconspicuous yellowish, five-parted, perfect flowers are borne in terminal or axillary panicles. The fruits which follow are round or oval, to 12 cm long; with a thin greenish to golden skin; a creamy flesh with numerous yellow oil glands; and one to six large, hard seeds with a distinctive, fibrous-patterned outer coat. The flavor is sweet with a hint of bitterness. Several cultivars have been selected for increased yield, flesh flavor or other desirable characteristics. The trees are widely cultivated in the tropics and subtropics, but commercial production is limited at present to New Zealand and South Africa. The white sapote is hardy, and with some protection, can grow as far north as Gainesville, but seldom sets fruit there. (Polk County; B2005-627; Martha A. Simpson; 30 November 2005) (Morton 1987)

Coccinia grandis Voigt. (A genus of ca. 30 species distributed in tropical and southern Africa, with one extending to the Malesian region. Cucurbitaceae. **Ivy gourd.** This is a vigorous perennial dioecious vine, native to grasslands and open woods from tropical Africa through southern Asia to Indonesia. Growing from a thick tuberous root, the stems can reach as much as 20 meters long. The thin-textured, ivy-like leaves are shallowly three to five-lobed, cordate at the base, 6-12 cm long and about as wide. An unbranched tendril is present in a stipular position at the base of the

petiole. At the base of the leaf blade, near the apex of the petiole, are found 5 – 8 roundish, translucent glands. The showy, white, campanulate, five-lobed flowers, about 6 cm across, are borne singly or in pairs in the axils of the leaves. Pistillate plants produce ellipsoid gourd-like fruits which are green with white stripes when young; at maturity they are bright red and 3-7 cm long. The ivy gourd is cultivated for human consumption primarily in South and Southeast Asia. The shoot tips and young leaves are a popular vegetable, particularly in Thailand. Immature fruits are used in soups and curries, while the mature fruits are eaten raw. The vines are vigorous, capable of smothering trees with their rank growth. This is a serious weed on several Pacific islands, including Hawaii, and has been reported to be invasive in parts of South Florida. (Miami-Dade County; B2005-642; Susan A. Halbert, Timothy S. Schubert and Edward T. Putland; 13 December 2005) (Siemonsma and Piluek 1994)

Sesbania grandiflora (L.) Pers. (A genus of 50 or so species, widely distributed through the warm parts of the world.) Leguminosae (Fabaceae). **Vegetable hummingbird.** This is a plant which has been cultivated throughout the tropics for centuries, and wild populations are unknown; however, it is thought to be native to Southeast Asia. It is a fast-growing, slender, weak-wooded, sparsely branched tree to 10 m tall. The pinnately compound leaves are 20-30 cm in length with 12-20 pairs of oblong leaflets, 3-4 cm long on average. The showy, papilionaceous flowers are borne in pairs on short stalks from the axils of the leaves. The corolla is 5-10 cm long, and either red or white, with the latter color more common in Florida. Growth is rapid, and the foliage is harvested periodically to be used as forage for cattle and goats. The leaves, flower buds and young pods are eaten as vegetables, especially in Southeast Asia. The plant is not frost tolerant, but it could be grown as an annual in more temperate climates. (Miami-Dade County; B2005-635; Louis T. Lodyga; 8 December 2005) (<http://www.winrock.org/>)

Solanum mauritianum Scop. (A huge, nearly cosmopolitan genus with more than 1,700 species, the majority tropical and subtropical; curiously only three are native to Europe.) Solanaceae. **Earleaf nightshade.** This is a shrub or small tree to 10 m tall, native to southern Brazil, Paraguay, Uruguay and Argentina. Unlike many *Solanum* species, it does not have thorns or prickles on its leaves and branches, but most parts are densely covered with pale-colored stellate hairs. The alternate, elliptic leaves average 18 cm long by 7 cm wide, and give off an odor reminiscent of diesel fuel when crushed. The common name is due to the presence of one or two small, auriculate (earlike) leaves in the axils of the foliage leaves. The showy flowers, with star-shaped lilac-blue corollas (1.5-2.5 cm across), are borne in erect, long-stalked, branched corymbs. The berries which follow are globose, dull yellow, and 1.5 cm across. This plant has become a serious weed in Australia, New Zealand and South Africa, and a biocontrol program has been instituted in the last country. Oddly, it has been known in the United States from a small area of Pasco County, Florida since 1967, and does not seem to have spread. (Pasco County; B2005-645; Linda C. Webb; 13 December 2005) (<http://www.issg.org/>)

Xerophyllum tenax (Pursh) Nutt. (A genus of two species, one in the eastern United States and the other in the mountains of the northwestern United States and extreme southwestern Canada.) Liliaceae (Melanthiaceae). **Beargrass.** This robust, evergreen perennial is a familiar sight in sunny or lightly shaded, drier habitats in the subalpine or lower alpine zones of the Cascade Mountains from British Columbia to California, and then in the Bitterroots and surrounding ranges from Alberta to Wyoming. It grows from a bulbous rhizome which was roasted and eaten by the local

Native American tribes. The leaves are grasslike, tough and wiry with sharp, finely toothed edges, to 60 cm long; they are mostly basal and borne in large, dense clumps. The flowering stalk grows to almost 2 m tall. The long-pedicellate flowers, with six creamy-white tepals, are grouped into dense racemes. Native Americans used the leaves to make remarkable, watertight baskets, as well as various articles of clothing. Recently, the leaves have become popular as fillers in floral arrangements. This is an exceptionally beautiful plant, well worthy of widespread cultivation; however, it has proved difficult to grow, especially in the eastern United States. (Duval County; B2005-652; Flewellyn W. Podris; 20 December 2005) (<http://montana.plant-life.org/>)

REFERENCES

- Fernald, M.L. 1950. Gray's manual of botany, 8th edition. American Book Company, New York, New York. 1632 p.
- Mabberley, D.J. 1997. The plant book, 2nd edition. Cambridge University Press. Cambridge, England. 858 p.
- Morton, J.F. 1987. Fruits of warm climates. Julia F. Morton, Miami, Florida. Distributed by Creative Resources Systems, Winterville, North Carolina. 505 p.
- Siemonsma, J.S. and K. Piluek (editors). 1994. Plant resources of South-East Asia, Number 8: vegetables. Prosea Foundation, Bogor, Indonesia. 412 p.

Entomology Section Compiled by Susan E. Halbert, Ph.D.

For the month of November there were 615 samples, consisting of 20,906+ specimens. In December, there were 360 samples, consisting of 11,831+ specimens. Some of the samples are listed below:

ORNAMENTALS, WOODY PLANTS, AND PALMS:

Adonidia merrillii (Christmas palm) -- *Palmicultor browni* Williams, **a mealybug**: A slight infestation on two of 300 plants was found at a nursery in Naples (Collier County; E2005-7004; Scott D. Kreuger; 27 December 2005). NEW DPI COUNTY RECORD.

Phoenix roebelenii (pygmy date palm) -- *Mycetaspis personatus* (Comstock), **masked scale**: A slight infestation was found on all of 15 plants at a nursery in Miami (Miami-Dade County; E2005-6717; Haydee L. Escobar and Ciro Milian Padron; 2 December 2005). NEW DPI HOST RECORD.

ORNAMENTALS, FOLIAGE PLANTS:

Bambusa sp. (bamboo) -- *Palmicultor lumpurensis* (Takahashi), **a bamboo mealybug**: An infestation was found at a residence in Palm Bay (Brevard County; E2005-6659; homeowner; 17 November 2005). NEW DPI COUNTY RECORD.

Eugenia uniflora (Surinam-cherry, cayenne-cherry) -- *Zaprionus indianus* Gupta, **a drosophilid fruit fly**: Specimens were reared from fruit collected on the ground in Vero Beach (Indian River County; E2005-6969; Kenneth L. Hibbard and Michelle Maille; 12 December 2005). NEW DPI HOST RECORD.

Murraya paniculata (orange-jasmine, orange-jessamine, Chinese box) -- *Aleuroclava jasmini* (Takahashi), **a whitefly**: A slight infestation was found on about ten plants at a discount store in Arcadia (De Soto County; E2005-6926; Susan E. Halbert; 20 December 2005). NEW DPI COUNTY RECORD.

ORNAMENTALS, FLOWERING PLANTS:

Brunfelsia sp. (brunfelsia) -- *Planococcus ficus* (Signoret), **a mealybug**: A slight infestation was found at a residence in Miami (Miami-Dade County; E2005-6669; Haydee L. Escobar; 29 November 2005). NEW DPI HOST RECORD.

Crossandra infundibuliformis (firecracker-flower) -- *Myzus persicae* (Sulzer), **green peach aphid**: A slight infestation was found on about 10% of 25 plants at a discount store in Gainesville (Alachua County; E2005-6342; Christine A. Zamora; 9 November 2005). NEW DPI HOST RECORD for this common aphid species.

Phyllanthus tenellus (Mascarene Island leafflower) -- *Pseudococcus sorghiellus* (Forbes), **trochanter mealybug**: A slight infestation was found on ten plants at a residence in Miami (Miami-Dade County; E2005-6959; Edward T. Putland and Olga Garcia; 23 December 2005). NEW DPI HOST RECORD.

FOREST AND SHADE TREES:

Pinus sylvestris (Scots pine, Scotch pine, Scotch fir) -- *Chionaspis heterophyllae* Cooley, **pine scurfy scale**: A moderate infestation was found on a Christmas tree from North Carolina for sale at a discount store in Gainesville (Alachua County; E2005-6678; Christine A. Zamora; 1 December 2005).

FOOD AND CROP PLANTS:

- Artocarpus heterophyllus* (jackfruit) -- *Anascirtothrips arorai* Bhatti, **a thrips**: An infestation was found on about 20 plants (0.5 acres) at the USDA Research Center at Chapman Field in Miami (Miami-Dade County; E2005-6816; Jorge E. Peña; 12 December 2005). NEW DPI HOST RECORD. This is an introduced species first found in Homestead in 1997 on *Ficus* (Dr. G.B. Edwards).
- Averrhoa carambola* (carambola, starfruit, blimbing) -- *Myllocerus undatus* Marshall, **a weevil**: A slight infestation was found on a plant at a residence in Bonita Springs (Lee County; E2005-6353; Cecilia E. Beamish, USDA/APHIS/PPQ; 8 November 2005). NEW DPI HOST RECORD.
- Capsicum* sp. (pepper) -- *Myllocerus undatus* Marshall, **a weevil**: A severe infestation was found at a residence in Miami (Miami-Dade County; E2005-6443; Ciro Milian Padron; 8 November 2005). NEW DPI HOST RECORD.
- Ficus carica* (common fig) -- *Myllocerus undatus* Marshall, **a weevil**: A moderate infestation was found at a residence in Miami (Miami-Dade County; E2005-6466; Olga Garcia; 10 November 2005). NEW DPI HOST RECORD.

CITRUS:

- X *Citrofortunella microcarpa* (calamondin) -- *Zaprionus indianus* Gupta, **a drosophilid fruit fly**: Several specimens were reared from six ripe fruit collected on the ground in Jupiter Island (Martin County; E2005-6783; Kenneth L. Hibbard; 23 November 2005). NEW DPI HOST RECORD.
- Citrus x paradisi* (grapefruit) -- *Myllocerus undatus* Marshall, **a weevil**: A moderate infestation on one plant was found at a residence in Clewiston (Hendry County; E2005-6781; Matthew W. Brodie and Jo Ann Pate; 9 December 2005). NEW DPI COUNTY RECORD.

WEEDS AND GRASSES:

- Miscanthus sinensis* 'Zebrinus' (zebra grass) -- *Miscanthicoccus miscanthi* (Takahashi), **a mealybug**: A slight infestation was found at a nursery in Milton (Santa Rosa County; E2005-6457; William L. 'Robbie' Robinson; 10 November 2005). NEW DPI COUNTY RECORD.
- Schinus terebinthifolius* (Brazilian pepper tree, Florida holly, Christmas berry) -- *Myllocerus undatus* Marshall, **a weevil**: A slight infestation was found at a residence in Hialeah (Miami-Dade County; E2005-6676; Eduardo I. Mendoza; 29 November 2005). NEW DPI HOST RECORD.
- Vernonia cinerea* (little ironweed) -- *Pseudococcus sorghiellus* (Forbes), **trochanter mealybug**: A moderate infestation on roots was found at a residence in Miami (Miami-Dade County; E2005-6635; Edward T. Putland and Olga Garcia; 27 November 2005). NEW DPI COUNTY RECORD.
- Youngia japonica* (oriental false hawksbeard) -- *Pseudococcus viburni* (Signoret), **obscure mealybug**: A slight infestation was found at a residence in Miami (Miami-Dade County; E2005-6637; Edward T. Putland and Olga Garcia; 27 November 2005). NEW DPI HOST RECORD.
- Pseudococcus sorghiellus* (Forbes), **trochanter mealybug**: A moderate infestation on more than 100 plants was found at a residence in Miami (Miami-Dade County; E2005-6958; Edward T. Putland and Olga Garcia; 23 December 2005). NEW DPI COUNTY RECORD; NEW DPI HOST RECORD.

NATIVE AND NATURALIZED PLANTS:

- Citharexylum spinosum* (Florida fiddlewood) -- *Metaleurodicus cardini* (Back), **cardin's whitefly**: A moderate infestation on four plants was found at a nursery in Sebring (Highlands County; E2005-6251; Yen M. Dao and Greg S. Hodges; 3 November 2005). NEW DPI COUNTY RECORD.

Psychotria nervosa (wild-coffee, Seminole balsamo) -- *Dysmicoccus radinovskiy* Miller & Miller, a **root mealybug**: A moderate infestation was found on a plant in Davie (Broward County; E2005-5626; Bryan Steinberg, University of Florida; 3 October 2005). NEW DPI COUNTY RECORD.

FEDERAL AND STATE PLANT PROTECTION AND QUARANTINE PROGRAMS:

Citrus reticulata (tangerine, mandarin, clementine) -- *Ceratitis capitata* (Wiedemann),

Mediterranean fruit fly: Larvae were found in clementines from Spain at a grocery store in Gainesville (Alachua County; E2005-6812; Christine A. Zamora and Cheryl A. Jones; 12 December 2005), at grocery stores in Miami (Miami-Dade County; E2005-6841; Haydee L. Escobar; 13 December 2005, E2005-6842; Maria C. Acosta; 13 December 2005), at a food distribution center in Lakeland (Polk County; E2005-6861; Terri L. Gater; 14 December 2005), at a grocery store in Homestead (Miami-Dade County; E2005-6870; Maria C. Acosta; 14 December 2005), at a grocery store in Lakeland (Polk County; E2005-6899; Terri L. Gater and Linda C. Webb; 19 December 2005), at a residence in Naples (Collier County; E2005-6912; Scott D. Kreuger; 20 December 2005) and at a grocery store in Naples (Collier County; E2005-6913; Scott D. Kreuger; 20 December 2005). All larvae were dead, presumably the result of quarantine treatment prior to arrival in the USA (Dr. Gary J. Steck).

ARTHROPOD AND SNAIL DETECTION:

Helix nr. *lucorum* Linnaeus, a **snail**: A single immature specimen was sent for identification by a resident in Melbourne (Brevard County; E2005-6820; homeowner; 9 December 2005). This relative of the brown garden snail is not known to be established in the United States. Further investigations have not produced additional specimens (Dr. Paul E. Skelley).

Rhagoletis juniperina Marcovitch, a **fruit fly**: A specimen was found in a multi-lure trap in a tangerine tree at a residence in Sebring (Highlands County; E2005-6397; Cecilia Carrero, USDA/APHIS/PPQ; 8 November 2005). NEW DPI COUNTY RECORD.

Schizaphis minuta (van der Goot), an **aphid**: A specimen was found in a Jackson trap in a kumquat tree in Bonita Springs (Lee County; E2005-6982; Celia E. Beamish, USDA/APHIS/PPQ; 23 December 2005). NEW DPI COUNTY RECORD.

Telonaca alta (Funkhouser), a **treehopper**: A specimen was found in a Jackson trap in Orlando (Orange County; E2005-2503; Terrance P. McDermott, USDA/APHIS/PPQ; 12 May 2005). NEW DPI COUNTY RECORD.

Tomoplagia obliqua (Say), **picture-winged fly**: A specimen was collected in a Jackson trap in a Cattley guava plant at a residence in Fort Myers (Lee County; E2005-6546; David L. Renz, USDA/APHIS/PPQ; 18 November 2005). Another specimen was collected in a Jackson trap at a residence in Orlando (Orange County; E2005-6657; William T. Lancaster, USDA/APHIS/PPQ; 28 November 2005). Both finds are NEW DPI COUNTY RECORDS.

NEMATODOLOGY SECTION
Compiled by Janete A. Brito, Ph.D., and Renato N. Inserra, Ph.D.

A total of 2,253 samples (1,915 for morphological and 337 for molecular identifications) were processed in November and December 2005. Details are shown below:

<p>Certification and Regulatory Samples:</p> <p>Multi-state Certification for National and International Export 1,254 California Certification..... 424 Pre-movement (Citrus Nursery Certification)..... 118 Site or Pit Approval (Citrus Nursery and Other Certifications)..... 22</p>	<p>Other Samples:</p> <p>Plant Problems 26 Intrastate Survey, Random 68 Identification (Invertebrate) 3</p> <p>Molecular Identifications*..... 338</p> <p><small>*The majority of these analyses involved root-knot nematode species.</small></p>
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Nematodes of Special Interest

Nematodes of special interest detected and/or identified in November- December 2005:

- Lycopersicon esculentum* (tomato) - *Meloidogyne floridensis* (Handoo *et al.*, 2004), the **peach root-knot nematode** was extracted from roots of this plant (Collier County; N04-00503; Wayne Fowler; January 27, 2004). Species identification of the nematode was performed using morphological, isozymes and DNA analyses. NEW COUNTY RECORD.
- Cucumis sativus* (cucumber) - *Meloidogyne floridensis* (Handoo *et al.*, 2004), the **peach root-knot nematode** was extracted from roots of this plant (Hendry County; N04-00627; Matthew W. Brodie; April 23, 2004). The identification of the nematode was performed using morphological, isozymes and DNA analyses. NEW COUNTY RECORD.
- Solanum melongena* (eggplant) - *Meloidogyne floridensis* (Handoo *et al.*, 2004), the **peach root-knot nematode** was extracted from roots of this plant (Hillsborough County; N04-00678; John Hamill; April 28, 2004). Nematodes were identified using morphological, isozymes and DNA analyses. NEW COUNTY RECORD.

COLLECTORS SUBMITTING FIVE OR MORE SAMPLES THAT WERE PROCESSED FOR NEMATOLOGICAL ANALYSIS DURING NOVEMBER AND DECEMBER 2005:

Anderson, James L..... 123	Pate, Jo Ann..... 25
Bailey, W. Wayne 7	Qiao, Ping..... 178
Echols, M. Janie 5	Salisbury, Thomas L..... 145
LeBoutillier, Karen W..... 69	Spriggs, Charlie L..... 150
Ochoa, Ana L..... 123	Stone, Carrie S..... 99
	Zamora, Christine A 8

PLANT PATHOLOGY

Compiled by Robert M. Leahy

For this period, the Plant Pathology Section received and processed 1,505 specimens. These included 432 pathology, 21 bee, 462 citrus greening, five soil and four miscellaneous samples. Full pathogenicity tests for citrus canker were performed on 78 samples. Visual examinations were conducted for 84 samples from Southeast Florida, 139 from Central Gulf Coast Florida, 66 from Southwest Gulf Coast Florida, 101 from Central Florida and 113 from North Florida.

ORNAMENTALS, WOODY PLANTS AND PALMS:

Eucalyptus cinerea (silver dollar eucalyptus) -- *Stemphylium floridanum*, **leaf spot**: Collected at a nursery in Fernandina Beach (Nassau County; 4 November 2005; Flewellyn W. Podris; P2005-03868). NEW HOST RECORD.

Podocarpus macrophyllus (podocarpus) -- *Corynespora elaeidicola*, **leaf spot**: Collected at a nursery in St. Cloud (Osceola County; 12 December 2005; Terri L. Gater; P2005-04197).

Zamia furfuracea (cardboard palm) -- Tobacco ringspot nepovirus, **virus**: Collected at a home and garden store in Gainesville (Alachua County; 8 November 2005; Christine A. Zamora; P2005-03876). NEW HOST RECORD.

ORNAMENTALS, FLOWERING PLANTS:

Datura meteloides (datura) -- *Alternaria crassa*, **leaf spot**: Collected at a nursery in Jacksonville (Duval County; 28 November 2005; Flewellyn W. Podris; P2005-04032). NEW HOST RECORD.

Rhododendron sp. (azalea) -- *Phytophthora* sp., **leaf blight**: Collected at a nursery in Plant City (Hillsborough County; 17 November 2005; Richard A. White, P2005-03957).

Rhododendron sp. (azalea) -- *Phytophthora* sp., **leaf blight**: Collected at a nursery in Plant City, Hillsborough County (17 November 2005, Richard A. White, P2005-03940).

NATIVE AND NATURALIZED PLANTS:

Zanthoxylum clava-herculis (Hercules-club) -- *Cercospora zanthoxyli*, **leaf spot**: Collected at the University of Florida Natural Area Teaching Laboratory in Gainesville (Alachua County; 21 December 2005; Timothy S. Schubert; P2005-04186).