



BUGS & SHRUBS BUZZ

Bondar's Nesting Whitefly— The Sixth Invader for Ficus to Deal With

—Doug Caldwell

The newest pest was first collected in Collier County by keen-eyed Scott Krueger, our DPI (Florida Division of Plant Industry) plant inspector in mid-December, 2011. Stephen Brown, Lee Co. Extension, sent a sample in 3 days earlier than Scott to the DPI and it has been confirmed to be a continental record. This newest whitefly, *Paraleyrodes bondari*, is originally from Brazil or somewhere in South America. It also has been reported in other countries as attacking citrus, avocado, Surinam cherry and hibiscus. It differs from the 2009



This whitefly produces copious amounts of honeydew (liquid excretion) which is soon colonized by thick, almost velvet-like black sooty mold, polka-dotted with the whitefly "nests".



The circular pattern of the white wax strands which surround the Bondar's nesting whiteflies are the reason for the "nesting" name.

ficus whitefly in that the Bondar's nesting whitefly causes horrendous amounts of honeydew with the subsequent sooty mold, much like the modus operandi of the rugose spiraling whitefly. The black, sooty mold is so thick, it resembles black velvet.

This new Bondar's nesting whitefly is about the same size as the 2009 ficus-killing whitefly, 1mm from head to tail, whereas the rugose spi-

raling whitefly is HUGE almost 3 mm long. Also, the Bondar's nesting whitefly is referred to (by whitefly taxonomists) as a "nesting" whitefly. If you use your imagination, it appears there is a circle of white "feathers" surrounding the bugs. The white stuff is waxy residue and honeydew, which makes it easy to identify, especially when there are white "nest" circles on the black sooty mold. We don't think the Bondar's nesting whitefly is as damaging as the 2009 ficus whitefly, which is unique as it can kill ficus plants if left untreated.

When I collected specimens of the Bondar's nesting whitefly on ficus in Golden Gate City in early January,

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2012, there were eggs and adults. It appears this species may be active in the winter while the 2009 ficus-killing whitefly is not as active.

This could be a serious double-barreled whammy for ficus. Stay tuned in with us at: collier.ifas.ufl.edu

Five Ficus Pests—History

Ficus was once a bullet proof plant, the “King of Hedgery” with no significant pests. However, surprise, we have had wave after wave of attack in Collier County!

[1] In 2003, lobate lac scale (*Paratachardina pseudolobata*) arrived. It is the only other insect which will result in copious amounts of sooty mold on weeping ficus, (*Ficus benjamina*).

[2] In 2007, Cuban-laurel hedges were infested with the blister (banyan) leaf gall wasp (*Josephiella microcarpae*). This was the first time it was found in the state.

[3] In early 2008 or so, weeping ficus thrips (*Gynaikothrips uzeli*), became common on weeping ficus hedges.

[4] In January 2008 the eye-spot midge (*Horidiplosis ficifolii*) was found peppering *Ficus benjamina* and causing some leaf drop.

[5] Then the ficus-killing whitefly (*Singhiella simplex*) arrived in January 2009. This onslaught of new pests really must be some sort of historical record.

What to Do

Since these are all sucking insects, if one is using a root drench or trunk spray of the systemic neonic insecticides (refer to web links on page 3 for specific treatments), you should control all of these pests.

More on Rugose Spiraling Whitefly (RSW)

Here’s an update on the rugose spiraling whitefly (*Aleurodicus rugioperculatus*) alert which I first talked about in July 2011. I was shocked in mid April as I drove south on 3rd St. and the general area to see so many coconut palms dripping with honeydew and sooty mold; some were almost black. I also found this pest on royal and foxtail palms which have not been reported as hosts. Cabbage palms remain whitefly free at this point in time.

The RSW has a confirmed host list of 90 plants and growing— including: gumbo limbo, buccida (black olive), copperleaf, Norfolk Island pine, periwinkle, cocoplum, buttonwood, mango, live oak,

coconut, areca, Christmas and supposedly cabbage palms.

What to Do

Fortunately, this whitefly isn’t as damaging as the ficus whitefly. The major issue is the mess it makes. Especially when one keeps a boat under the coconut palms along the dock. Also, swimming pool filters have gotten clogged with the waxy mess and the pests. This is another first! The pool maintenance guys are having trouble keeping the pool algae under control. The drippy honeydew is rich in nitrogen or phosphorous creating extra service calls. I’ve heard of some people cutting their coconut palms down! Good grief, please have some perseverance! Some good bugs have been found attacking it, a parasitic wasp and lady beetles. So avoid spraying with long residual pesticides as the good attack bugs may end up as collateral damage. Besides root-soil injections of systemics, trunk injections are looking promising too, especially when plants are near water where spraying could cause drift issues.

DOOR



Look for the white waxy egg spirals of the rugose spiraling whitefly.

MORE INFORMATION ON Whitefly

Rugose Spiraling Whitefly
By Dr. Catharine Mannion
<http://tinyurl.com/7x6wbhr>

2009 Ficus Whitefly Management in the Landscape By Dr. Catharine Mannion
<http://tinyurl.com/85m6vvd>

Bugs & Shrubs Newsletter 2008
<http://tinyurl.com/72exgpo>

New Pest Alert Fall 2011
<http://tinyurl.com/3qnc2dz>

DPI Bondar's Whitefly
<http://tinyurl.com/7qwzout>

Palms Under Attack by Royal Palm Bugs

–Doug Caldwell

Royal palm bugs (*Xylastodoris luteolus*) are like chinch bugs on turf grass! With their sucking mouthparts they cause the newest fronds to have brown areas in April-May. Although they are not thought of as a serious threat, they certainly can cause considerable aesthetic damage by their feeding activity. I've had several calls from Marco Island to Gulf Shore Blvd. and seen the damage in Port Royal and



Royal palm bugs are almost as flat as a piece of paper and feed between the closed leaflets of newly emerging fronds.

other areas. Feeding by adults and nymphs occurs in the spear leaf and newly expanding fronds. As the fronds unfurl, the damaged leaflets are tan-gray, stunted and eventually become ragged. Damage is heaviest from mid-March to early July. Damage by the insects is minimal once the rainy season starts. Diagnosing can be tricky. Early damage on the newest fronds can be confused with manganese deficiency. Later in the season as the youngest attacked fronds droop as they become the older, lower fronds within the canopy, the damage resembles potassium deficiency. This insect isn't an "every year bug", it seems to have peaks every 15 to 20 years.

What To Do

Merit (imidacloprid) and related

products (neonicotinoid systemic insecticides) used as a root drench have proven effective. For immediate results crown drenches, usually applied with an extended low pressure pole nozzle or from a hydraulic lift to avoid drift, which would be unavoidable if they were sprayed from the ground, may be necessary. Soil applications should give results within 30 days. This gives landscape maintenance personnel more flexibility since they can wait (depending on the aesthetic threshold) until slight damage is observed and then treat selected palms instead of, as in the past, treating all palms as an insurance type approach. See this link:

<http://tinyurl.com/cz9oa5o>



As the fronds unfurl, the RPB damaged leaflets are tan-gray, stunted and eventually become ragged.

New Downy Mildew Disease was Devastating to Impatiens (*Plasmopara obducens*)

—Doug Caldwell

In early February (2012) impatiens beds were crashing and dying all over town, knocking out mature plantings 4-6 weeks early. The landscape management guys were unjustly blamed and many customers demanded free replacements. Nor was our major commercial grower, American Farms, at fault because they have a highly effective disease maintenance program in place. Basically we were surprised by a new disease in town. Nothing could have been done early as we didn't know we had this problem to deal with!

An email from Jim Pugh of American Farms, the major supplier of annuals in our area, stated, "We are fielding many calls regarding the destruction caused by this pathogen and rumor has it that the commercial growers are the culprits spreading the disease when, in fact, we have no known incidence of the disease at either farm." In fact, Jim alerted a group at a UF Extension class on annuals, held at the Naples Botanical Garden on November 14 last year, to the fact that there were reports of a downy mildew killing impatiens in Europe.



Doug Caldwell and Jim Pugh of American Farms at the Naples Botanical Gardens lecture on annuals.

What to look for

Symptoms include, slight marginal, cupping of leaves and eventual defoliation. With our recent humid cooler weather this pathogen took off like a lightning bolt and killed beds of impatiens across the area. The pathogen is not a true fungus, but rather a water mold, so normal fungicides aren't effective. Some fungicides may prevent infection, but after the plant is infected it is too late.



PHOTO CREDIT: Laura Sanagorski

Symptoms include, marginal cupping of leaves, the pathogen itself—the white mildew growth on the flip side—and eventually bare stems and death.

What to Do

Dr. Aaron Palmateer, plant pathologist at the University of Florida's TREC (Tropical Research & Education Center in Homestead) suggests a regimen of alternating chemistries:

- Week 1: Post plant Subdue Maxx (mefenoxam) plus Adorn (fluopiclode)
- Week 3: Insignea SC (pyraclostrobin) or Pageant (pyraclostrobin plus boscalid)
- Week 5: Aliette (fosetyl-Al), Alude (potassium phosphite) or Vital (potassium phosphite)

Heritage (azoxystrobin) didn't fare so well in his trials.

Sanitation is the key

Clean out dying plants and remove the infected beds and sanitize as reported in the second link. As Scott Lowery of Scott Lowery Landscaping stated, “This is a mark in history for flowers down here in 35 years. This needs to be on the front page of the Naples Daily News.”

It is not recommended to plant impatiens until this is all sorted out

Fortunately, this pathogen, *Plasmopara obducens*, doesn't bother other plant species. For information on what plants to use as replacements, download the *A-Z Annual, Flowers and Bedding Plants PDF* compiled by Stephen Brown. It contains a wealth of information and includes links to photographs of each flower.

Here is the link: <http://tinyurl.com/7gxm3ac>

Sydney Park Brown has a nice fact sheet—*Gardening with Annuals in Florida*: <http://tinyurl.com/87tedb4>



FOR MORE INFORMATION ON Downy Mildew on Impatiens

Magazine article from GROWERTALKS discusses how two of the industry's largest breeder/producers, have teamed up to pool their knowledge and expertise to help growers understand and fight this new foe—downy mildew of impatiens:

<http://tinyurl.com/6u352wo>

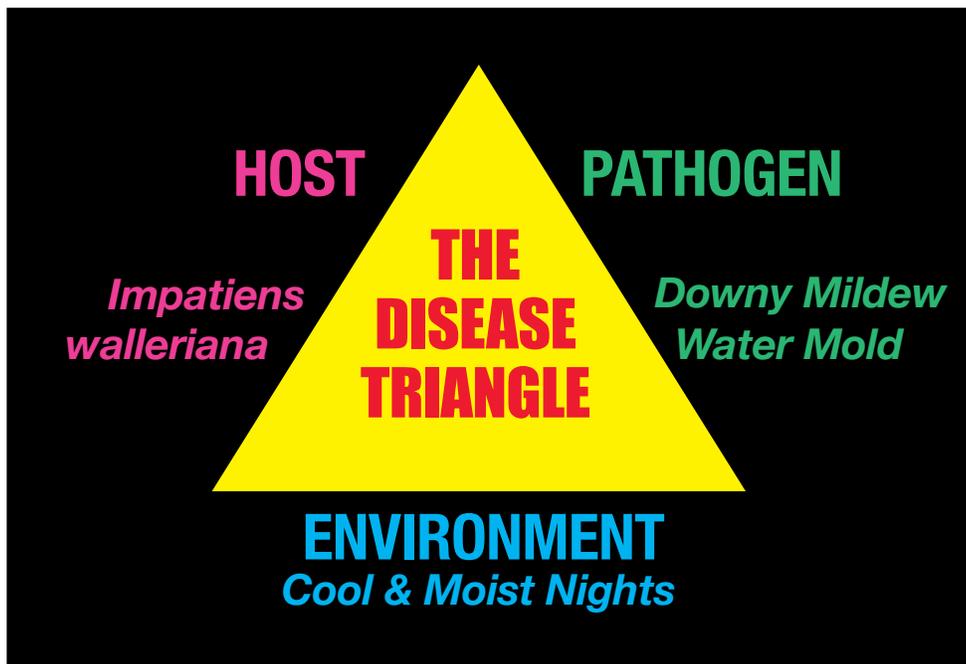
An excellent article written by Laura Sanagorski, Environmental Horticulture Extension Agent and Bill Schall, Commercial Horticulture Extension Agent from Palm Beach IFAS. (also contains great photographs):

<http://tinyurl.com/7sf34mn>

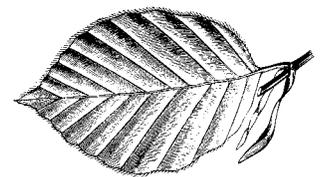
Also see our recent YouTube on this disease:

<http://tinyurl.com/8y44dsw>

The Disease Triangle



The impatiens “perfect storm” wipeout came about due to the 3 factors in the classic disease triangle aligning at the same time—An available susceptible host, the cool (around 40 degrees F), moist weather which triggers disease development, & a new virulent pathogen.



Downy Mildew Blight Defoliates Awabuki Viburnum

—Doug Caldwell

During our cool January and February nights and foggy mornings, downy mildew (*Plasmopara viburni*) disease established a foothold in many communities.

This is the second year in a row of severe defoliation. There are scattered, 50 foot stretches of defoliated Awabuki viburnum hedges with 80% defoliation in many communities. Check your hedges; we found some hedges looked fine from a 20 foot distance, but upon closer inspection, the leaf blight was evident. Strangely, the defoliation appears to be worse in sunny sections as opposed to shady sections.

Awabuki (commonly referred to as mirror-leaf viburnum) is a variety of sweet viburnum, *Viburnum odoratissimum* var. *Awabuki*. This South Korean native has been around since 1987 or so and can be recognized by the big, dark green shiny leaves as well as the green pepper fragrance of crushed leaves

What to Look For

During cool, humid winter nights the downy mildew pathogen moves in on weak plants and causes spotting and bronzy blotching (light green to reddish-brown to black), yellowing, distorted leaves and defoliation. A whitish growth eventually develops on the undersides of the leaves and produces spores which spread the disease. This is a minor disease usually, but it has caused extensive defoliation when the weather is cool and humid. Once the hotter days of late spring arrive, the disease tends to dissipate.

What to Do

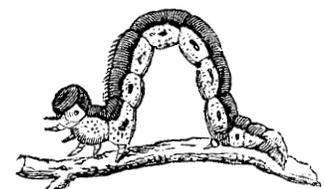
Two key points in control are removal of fallen infected leaves: get those out of your landscape and do not compost! Good luck! And secondly, check that the sprinkler system is not directly hitting the foliage. The water will disperse the spores and the disease will consume more of your hedge.



Symptoms of downy mildew blight (Plasmopara viburni) include irregular shaped spots and blotches, distorted leaves and defoliation.



Downy mildew disease caused this defoliation. Clean-up of fallen leaves will help reduce future disease severity.



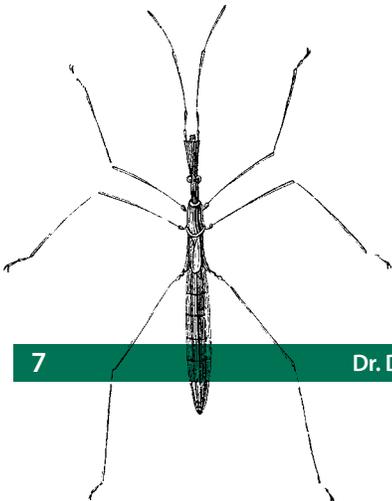


The bottom side of the infected leaves sprout this white mildew growth (sporangiohores) which produces the reproductive spores, typical of water molds.

If you feel you need to apply a fungicide, use products labeled for ornamentals. Dr. Aaron Palmateer (IFAS-UF Homestead Research & Education Center) recommends repeated applications of any one of the following:

- Aliette WDG** 3.5 lb/100 gallons of water
- Heritage** 3 oz./100 gallons of water
- Insignia** 6 oz./100 gallons of water

It may be too late to save some of these hedges from defoliation, but they will refoliate as soon as we get warmer nights (mid-April). In the future, it would be wise to make note of where these outbreaks are and when (if) we have these cool, foggy nights starting in January through early March, be ready to go with the fungicides. This is a hard situation to predict and a tough pathogen (water mold species) to manage.



FOR MORE INFORMATION ON Downy Mildew on Awabuki Viburnum

New Video on Awabuki Diseases

<http://youtu.be/KTviHGd2lms>

Fact Sheet on Viburnum Downy Mildew

<http://tinyurl.com/7wc9523>



Doug is joined by Debbie Gogan, Certified Operator, to film the newest video on Awabuki Diseases. She shares her successful methods of controlling Downy Mildew on literally miles of Awabuki hedges in the Vineyards. She is a real star!

Dr. Dougbug Videos

With the help of two Master Gardeners, we have now produced 16 videos on local horticultural issues. Pam Marker is a retired graphics designer and heads our massive production team (2), shooting, creating graphics and editing the film for final output. Helga Reynolds, in her previous life was an IT Manager but has become very knowledgeable about landscaping via 7 years of volunteering in the Master Gardener program. Both hail from Connecticut and together have a synergy and can-do attitude that got us from wobbly beginners to actually creating a decent video. Pass these links on to friends and associates. A picture really is worth thousands of words. See all videos at Dr. Dougbughimself's channel:



<http://www.youtube.com/user/dougbughimself?feature=mhee>

CLASSES

Your company needs to have people with the landscape fertilizer BMP (Best Management Practices) certification to do work in both the City of Naples and Collier County. First link is for Naples. 2nd Link is for Collier County

<http://tinyurl.com/796uppx>

<http://tinyurl.com/3s5r5fq>

Landscape Fertilizer BMP

Rookery Bay and the University of Florida offer fertilizer BMP classes in both **English** (June 14th and September 26th) and **Spanish** (May 24th and October 24th)

<http://tinyurl.com/7ozbtqj>

July 18 Proper Pruning by Doug Caldwell

8:00 - 10:30 At Rookery Bay

Guest Arborist Ian Orlikoff of Signature Tree Care

See information on registration and fees for this class at:

<http://www.rookerybay.org/professional-development/project-greenscape>

July 28 Tropical & Sub Tropical Fruit You Can Grow

9:00 - 12:00 At the Extension Office **[FREE!]**

Speakers include Chris Rollins, Director of Miami's Fruit & Spice Park.

David & Jenny Burd, The Friendly Burd Tree Service.

David Burd specializes in mangoes, call 239-263-0424, for special requests.

Hopkins Nursery will have plants for sale. If you want some special plants call Hopkins

Tropical Fruit Nursery phone 239-658-0370— see their website (scroll to far right) at:

<http://hopkinstropicalfruitnursery.com/>

August 17 Retention Pond Ecology

1:00 - 5:00 At Naples Botanical Garden **[FREE!]**

Dr. Mark Clark—University of Florida, Dr. Serge Thomas—FGCU and Island Walk's own Herb Schuchman. Tour of Rain Garden at the end of class.

Pesticide Training:

LCLM—Limited Commercial Landscape Maintenance (“Round up”)

“Round up” or LCLM classes (test preparation and required 6 hours). Please call DACS (Dept. Agriculture and Consumer Services) Bureau of Entomology and Pest Control to get your application packets (850-617-7997).

<http://tinyurl.com/7jbbjs7>

Call the Extension Office (353-4244) to reserve a seat and get a study guide.

Be early to make sure you have the correct documents. You will also need a passport size photo to put on your application.

The dates are:

August 24 (English) starts at 8:00 am **[FREE!]**

September 13 (Spanish) starts at 8:00 am **[FREE!]**

You Can Further Your Education by Watching these YouTube Videos

Awabuki Viburnum Diseases

<http://youtu.be/KTviHGd2lms>

Black Olive (Bucida) Caterpillar

<http://tinyurl.com/43a06fj>

Brown Patch Lawn Disease

<http://tinyurl.com/3cjvdy2>

Florida Wax Scale

<http://tinyurl.com/3e97yxf>

Impatiens Dying Downy Mildew

<http://youtu.be/Q-H3EIXRzhE>

Japanese Blueberry/ Lobate Lac Scale

<http://tinyurl.com/3avmj9j>

Palm Tree Pruning

<http://tinyurl.com/3cdslhl>

Snowbush Caterpillar

<http://tinyurl.com/4315sg4>

Sod Webworm

<http://tinyurl.com/3clgf2c>

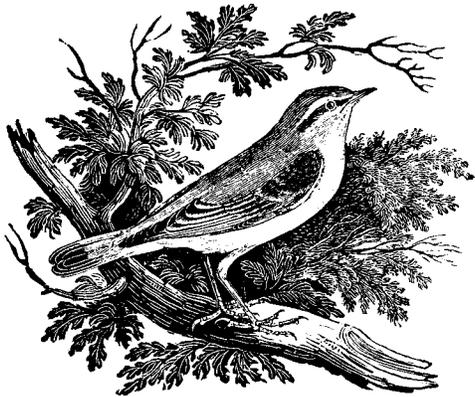
Tree Pruning For Health And Safety

<http://tinyurl.com/3npqncy>

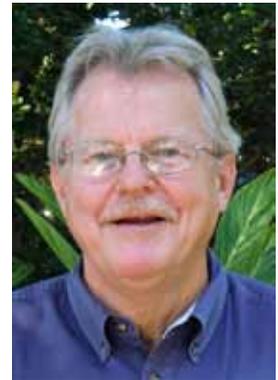
Tree Pruning For Hurricanes

<http://tinyurl.com/4yr9ycr>





*“Helping you
Beautify your
Landscape and
Protect the
Environment!”*



Information Links:

Dr. Gilman has tons of wonderful information and research updates. The Great Southern Tree Conference proceedings from 2006 to 2011 are also posted. <http://hort.ifas.ufl.edu/woody/great-southern-tree.shtml>

Want details on cultural habits and new plants, see: <http://floridafriendlyplants.com>

Diagnosing woody ornamental nutrient problems: <http://edis.ifas.ufl.edu/pdf/SS/SS53000.pdf>

For diagnosing palm problems, see: http://flrec.ifas.ufl.edu/palm_prod/palm_diseases.shtml

Need pesticide CEUs? Check this out: <http://pested.ifas.ufl.edu/onlinepesticideceus/>



THE FINE PRINT

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BUGS & SHRUBS BUZZ

*A Quarterly–Or So–Newsletter Containing
the Latest Dirt for Commercial Landscapers
& the Home Gardener*

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Designer
Pam Marker
Master Gardener

