

NPDN Giving Increasing Attention to Southern Corn Rust

Paul Vincelli, Extension Professor
University of Kentucky, Department of
Plant Pathology

NPDN diagnosticians, Extension specialists, and seed company representatives have recorded a number of cases of southern rust of corn in the past several years, with some destructive outbreaks occurring in several regions. In my own experience in Kentucky, southern corn rust was found much earlier and was much more prevalent in 2009 than in any years since I joined the faculty in 1990.

Southern rust, caused by *Puccinia polysora*, is much more threatening than common rust (*Puccinia sorghii*), because most corn hybrids grown in the continental U.S. are susceptible to this disease. There is concern about a possible increasing threat from this pathogen for the following reasons:

1. Corn acreage has been increasing in Mexico (Fig. 1) and southern Florida, where *P. polysora* overwinters.
2. Corn acreage has also been increasing in the Lower Mississippi Valley (Fig. 2), a “staging” region for *P. polysora* from which inoculum can build up and blow northward to threaten the Corn Belt.

NPDN members are responding to this potential threat in several ways. For one, NPDN members are actively communicating within and outside the NPDN about recognition and early detection of the disease—through list servers, scientific meetings, and other venues. NPDN members are educating

First Detectors and agricultural producers about this rust disease, its biology, and recognition. NPDN members are also in the development
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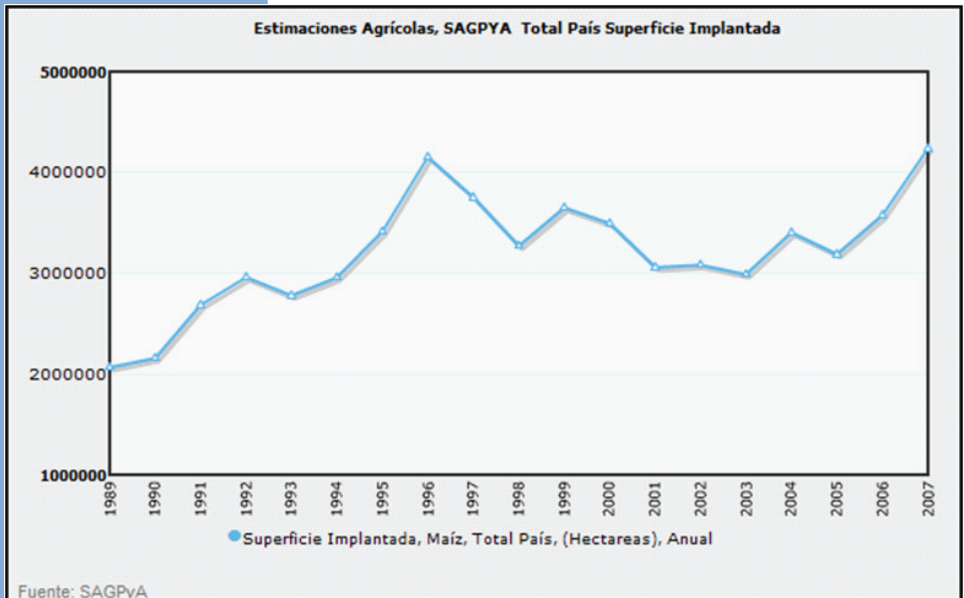
Southern corn rust on corn leaf.

Issue Highlights:

- Southern Corn Rust
- Diagnostic Tip - Submitting Greenhouse Samples
- Pest Alert: Zebra Chip Disease
- Woodborer and Bark Beetle Workshop
- e-Learning Module - Chilli Thrips
- Program Area Committee Highlights
- PDIS 2.0 Released
- New Fruit Moth in Hawaii
- Upcoming Events



National Institute of
Food and Agriculture



Fuente: SAGPyA

Figure 1. Hectareage planted to corn in Mexico, 1989-2007 (P. Vincelli, using data available from SAGPyA).

Continued from page 1...

of PCR-based molecular techniques for collaborating with USDA scientists rapid and sensitive detection and discrimination of corn rust species, which should be useful for both early diagnosis and monitoring continental movement of this rust fungus. Last but not least, with the help of USDA, the ipmPIPE (www.ipmPIPE.org/) is expanding its capacity so that interested corn producers, scientists, and First Detectors can monitor the extent and progress of southern corn rust in 2010.

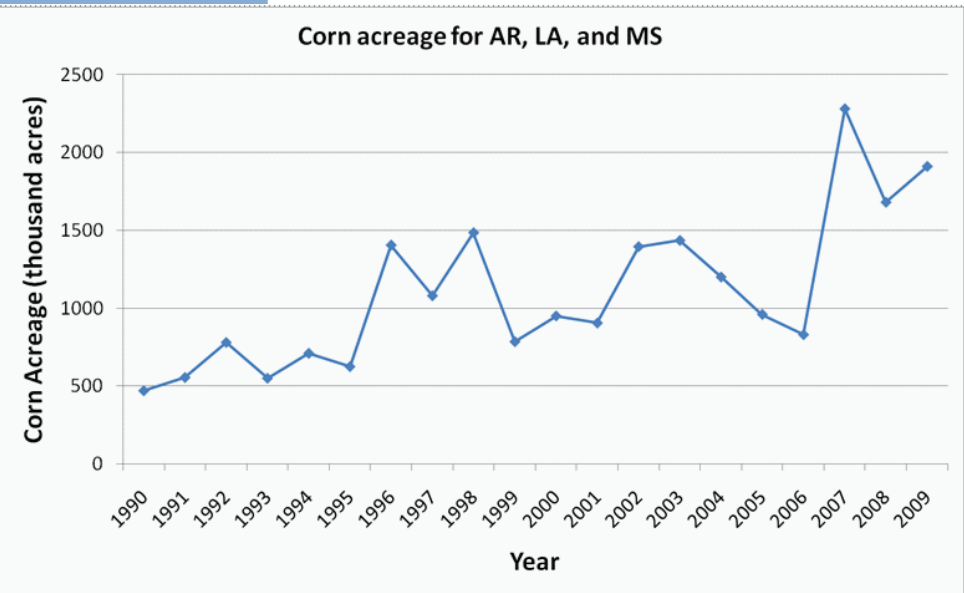



Figure 2. Acreage planted to corn in Arkansas, Louisiana, and Mississippi, 1990-2009 (P. Vincelli, using data available from USDA NASS).

One always hopes that potentially destructive diseases never cause significant damage, but it has been gratifying for me to see how well our network is “getting out in front” of this potential threat. Stay tuned...

Diagnostic Tip of the Month: Tips Diagnosticians Can Provide to Clientele for Submitting Greenhouse Samples

Gail Ruhl, Sr. Plant Disease Diagnostician
Purdue University, Plant & Pest Diagnostic Laboratory

Diagnostic Updates

Samples in plug trays, unrooted and rooted cuttings, and plants in pots require extra care when they are packaged for shipping to a diagnostic lab. The following suggestions for packaging samples will help your clientele preserve the integrity of the sample during shipment and increase the likelihood of a more accurate diagnosis.

Plugs - keep them in the tray

If possible, do not remove the plugs from the plug tray. Submitting either an entire tray or cutting off a section of the tray helps maintain the integrity of the plants. Secondary decay often occurs when soil is allowed to come in contact with the foliage, interfering with accurate diagnosis. When possible, submit at least 5-10 cells with plugs. This provides the diagnostician with ample material for microscopic observation, culturing, and virus testing if necessary.



Cuttings - separate foliage from media with a plastic bag



The primary concern is to keep the growing media separate from the foliage to prevent contamination and rotting. Put the cuttings into a plastic bag, and seal the bag with a twist tie at the soil line. Do not seal the foliage in a plastic bag. Next, wrap the sample in newspaper to prevent additional drying out of foliage before it is received.



Newspaper is one of the best packing materials for plant samples.

Potted Material - pack around the plant

Take into consideration that the mail carrier will not necessarily keep these packages right side up. Place plastic wrap, clear packing tape or paper over the pot surface, or put the pot in a bag and seal it with a twist tie around the base of the plant. Fill any extra space in the shipping box with newspaper, styrofoam peanuts, or another space filling packing material to prevent jostling of sample during shipment.



Shipping - avoid the weekend

Do not mail or ship samples on Friday, as we are not here to receive them over the weekend. Samples can be sent via US mail, UPS, FedEx, etc. We encourage you to send samples with priority or express delivery so we receive them in the best condition possible to provide you with the most accurate diagnosis. 🌿



Pest Alert: APSnet Features Zebra Chip Disease

Last month APSnet featured an informative article on Potato Zebra Chip Disease. Potato Zebra Chip Disease, or ZC, gets its name from the characteristic dark, striping which tends to follow the medullary rays of the tuber.

Foliar symptoms resemble those made by phytoplasmas, and it is relatively recent that



Characteristic streaking is more pronounced when infected potatoes are made into chips. Image courtesy of Joseph Munyaneza, USDA-ARS

research has linked ZC to a bacterium. This bacterium, now named “*Candidatus Liberibacter solanacearum*” because it targets several solanaceous species, is vectored by the potato-tomato psyllid.

This insect pathogen complex is already present here in the US and is considered a serious threat to the potato industry.

Visit the [APSnet website](#) to read this informative article. 🌱

Education and Training

Adult Woodborer and Bark Beetle Identification Workshop

Amanda Hodges, PhD

University of Florida, Entomology and Nematology Department

Surveys (CAPS) programs. Enrollment will be limited to 30 participants, with priority given to those individuals who fit the criteria. Other taxonomists with identification responsibilities are encouraged to apply.

This workshop will have a focus on eastern native United States species and pests not known to occur or not widely established.

The purpose of the workshop is to provide identification training to screen for and recognize potentially newly introduced adult pest woodborer and bark beetle species in trap survey samples in order to distinguish them from established species. The

pest species emphasized in this training are not known to occur in the US and those on the Cooperative Agriculture Pest (CAPS) list of survey target Scolytinae, Buprestidae, Cerambycidae, and Siricidae.

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THE NATIONAL PLANT DIAGNOSTIC NETWORK IN COOPERATION WITH

USDA, APHIS, PPQ'S NATIONAL IDENTIFICATION SERVICE
IS SPONSORING AN

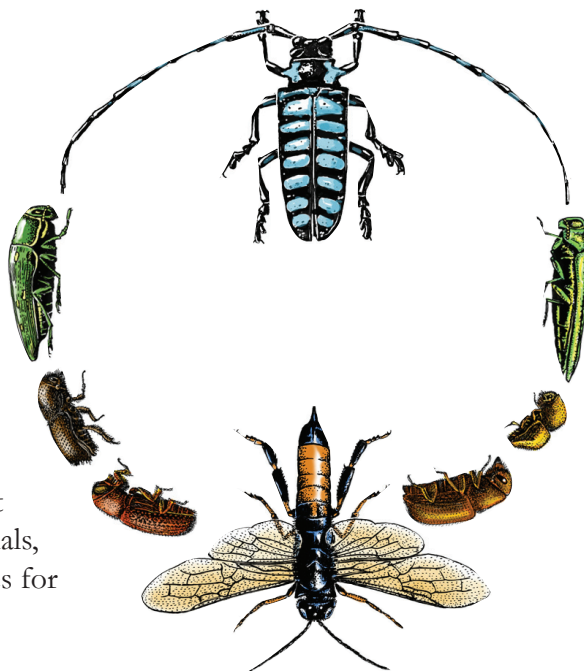
ADULT WOODBORER AND BARK BEETLE IDENTIFICATION WORKSHOP

AT THE
UNIVERSITY OF FLORIDA, GAINESVILLE, FL
MAY 4-6, 2010

This workshop is meant for insect taxonomists at universities, NPDN diagnosticians, state departments of agriculture, and APHIS-PPQ with identification responsibilities directly in support of Cooperative Agriculture Pest


Continued from page 4...

The training is given by nationally recognized experts for the groups covered, from Cornell University, the USDA-Forest Service, and USDA-APHIS-Plant Protection & Quarantine. The content includes laboratory and lecture sessions focused on the various families, examining specimens, and methods for the proper sorting and screening of trap samples. The registration cost includes all printed training materials, lunches, and covers travel expenses for some of the presenters.



Please access the website URL below to see the tentative schedule and presenter information. If you have taxonomic responsibilities related to forest pest surveys, think you qualify, and have funds plus tentative approval from your supervisor to attend, please fill out the form expressing interest in attending and answering the questions it contains. The deadline for the pre-registration expression of interest form is March 5, 2010. Don't delay, only a few spaces remain!

http://www.entnemdept.ufl.edu/Hodges/Woodborer_BarkBeetle.html

Those who are selected to participate will be notified of their acceptance and registration and hotel information will be provided at that time. For PPQ participants an MRP-13 form will be prepared to provide that level of authorization for your travel. If you have any questions please contact, Amanda Hodges at 352-273-3957, achodges@ufl.edu, Brian Kopper at 919-855-7318, Brian.j.kopper@aphis.usda.gov or Joel Floyd at 301-734-4396, joel.p.floyd@aphis.usda.gov 

LAST CALL for TRAININGS

ONLY SESSIONS OFFERED
THIS SPRING

Phytophthora ramorum 101
Offered the week of April 12, 2010

Plum Pox Virus
Offered the week of April 19, 2010

Contact Karen Snover-Cliff for details...

Chilli Thrips, *Scirtothrips dorsalis* e-Learning Module Released!

Amanda Hodges, PhD
University of Florida, Entomology and
Nematology Department



The National Plant Diagnostic Network is pleased to announce the release of the chilli thrips e-learning module. Chilli thrips, *Scirtothrips dorsalis*, has been an emerging pest issue in Florida and other southern U.S. states since 2005. This new invasive pest has an extremely wide host range, attacking more than 40 plant families. Chilli thrips has been particularly problematic on ornamental plants, but agronomic crops, such as peppers, blueberries, strawberries, cotton and peanuts are also at risk.

The chilli thrips e-learning module will provide learners with an introduction to the distribution, life history, and pest status potential for chilli thrips, in the U.S.

Upon completing this module you will:

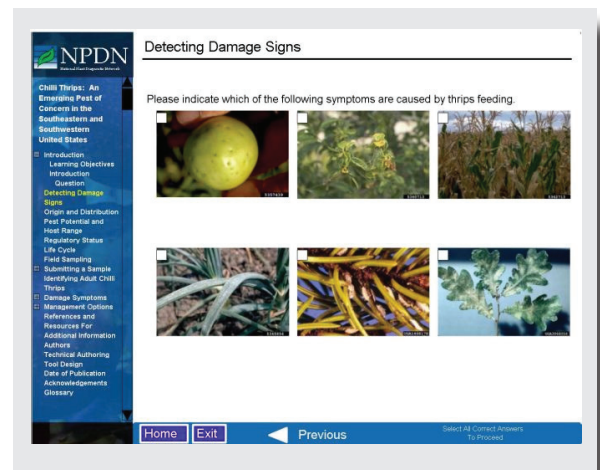
- Be familiar with the origin and current status of chilli thrips in the U.S.
- Be familiar with damage symptoms.
- Understand the life cycle of chilli thrips.
- Know general management options.
- Be familiar with local resources for obtaining management recommendations.
- Understand thrips sampling techniques.
- Know how to submit a thrips sample to an appropriate diagnostic laboratory.

In order to view the chilli thrips e-learning module, go to [the NPDN Training Site](#) and click on 'take the online modules'. If you do not have an account set up with

the National Plant Diagnostic Network, you will need to do so in order to view this module along with others on the site. The website contains simple instructions for creating your account.

The chilli thrips e-learning module includes a post-test. As of March 2010, a 'certificate of completion' for the chilli thrips module will be available for download once the module has been completed at the 70% level or higher.

Please direct questions regarding the NPDN e-learning program to Amanda Hodges at achodges@ufl.edu.



The chilli thrips training module was developed by Amanda Hodges, Lance Osborne, Howard Beck (University of Florida/IFAS), and Scott Ludwig (Texas AgriLife Extension Service).

Specialist and Diagnostic Reviewers: Stan Diffie (University of Georgia), Greg Hodges (Florida Department of Agriculture & Consumer Services, Division of Plant Industry), Sara May (Pennsylvania State University), Cindy McKenzie (USDA-ARS), Chris Sansone (Texas AgriLife Extension, Texas A&M University). 

OPERATIONS COMMITTEE

Operations Committee

Dick Hoenisch, University of California at Davis
Department of Plant Pathology

The Operations Committee held a conference call on February 25, 2010. The following agenda items were discussed:

1. Item from the Executive Committee: strategic planning process - April 1 deadline
2. Ops Com Meeting - UC Davis May 10-12, session with National Clean Plant Network (NCPN)
3. Items from Karen Snover-Clift:
 - a. Diagnostics Committee membership and exception to governance guidelines
 - b. Diagnostician's Cookbook
 - c. Incentives for program area committee chair and secretary positions
4. Lab accreditation progress and proposal from Pat Shiel
5. Continuing education credits for training and education program

DIAGNOSTICS COMMITTEE

Diagnostics Committee

Karen L. Snover-Clift, Committee Chair
Cornell University, Department of Plant Pathology and Plant-Microbe Biology

Since the last newsletter, the Diagnostics Committee held a conference call on February 11, 2010. During this meeting, a number of issues were addressed. Please refer to the Diagnostics page, at www.npdn.org (login and password required), for complete minutes of this meeting.

- Basic technique workshop and website design update
- Diagnostician's Cookbook, NPDN review
- SOP updates
- Gap capacity analysis
- Beltsville trainings
- Election of future chair and secretary

The next conference call will be held on Thursday, March 11, 2010.

EDUCATION COMMITTEE

Training and Education Committee

Amanda Hodges, Committee Chair
University of Florida, Entomology & Nematology Department

The Training and Education Subcommittee held a conference call on February 18, 2010. The following agenda items were discussed on the call:

- Ongoing discussion for the redesign of the NPDN Training and Education website
- Video promoting NPDN e-learning update
- December 2009 subcommittee report
- Booth and staffing for the NACAA meeting, July 11-15, 2010, Tulsa OK
- Continuing Education Units certification for the CCA
- NPDN Matrix is due and will be discussed in the next call

The next call is scheduled for: Monday, March 15, 2010
12 Noon EST

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Exercise Subcommittee

Sharon Dobesh, Committee Chair
Kansas State University, Department of Plant Pathology

The Exercise Committee conducted a conference call on Tuesday, February 16, 2010. The first topic discussed on the call was an update on APHIS exercises. The Oregon Exercise has already completed their table-top exercise. The NPDN and full-scale portions of this exercise will take place during the first two weeks in March. Upcoming NPDN exercises include WPDN – California (April); GPDN - South

Dakota, with the APHIS exercise (September). Oklahoma and Nebraska also have exercises scheduled. Next the committee discussed an updated version of the Exercise SOP. Once the Exercise SOP is revised it will be merged with the diagnostician communications SOP. The GPDN seminar series began on February 17 and contains several talks that would be of interest to the Exercise committee. All GPDN webinars can be viewed at www.gpdn.org.

The next conference call is scheduled for Tuesday, March 23, 2:00 PM EST.

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National Database Subcommittee

Karen L. Snover-Clift, Committee Chair
Cornell University, Department of Plant Pathology and Plant-Microbe Biology

Since the last newsletter, the National Database Committee held a conference call on February 10, 2010. The committee continues to work on reviewing the massive NPDN Pest and Host lists and revising guidelines for uploading documents that will clarify how sample diagnoses should be transmitted to the

National Repository at Purdue University. During this meeting a number of issues were addressed. Please refer to the National Database page on the website, www.npdn.org (login and password required), for complete minutes of this meeting.

- Discussion of change submissions
- Discussion of fungi pest codes beginning with scientific names P

The next meeting will be held on March 10, 2010.

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IT Subcommittee

Mike Hill, NPDN National Respository

The IT Subcommittee held a conference call on February 16, 2010. The committee discussed:

- Changes for the Phase 2 List prompted by PDISv2
- Working with each region to develop their regional specific portals
- Planning and scheduling the next NPDN IT/ Diagnosticians meeting - which is tentatively scheduled for October 2010.

If you would like to read the complete minutes from this meeting visit the IT webpage on the NPDN website at www.npdn.org (login and password required).

The next conference call is scheduled for Tuesday, March 9, 2010 at 11:00 AM EST.

PDISv2 Diagnostician Module Now Available

Sharmila Dabade, Computer Systems Analyst
Kansas State University, Department of Plant Pathology

The PDISv2 Diagnostician Module was released on February 15, 2010. Both versions, PDISv1 and PDISv2, will be online from February 15 through February 28, 2010, to allow diagnosticians time to get acquainted with the 2.0 version. As of March 1, 2010, only PDISv2 will be available. All PDIS users designated with the role of “submitters” will still need to use PDISv1 to submit their samples.

Earlier this month, the PDIS Team provided three different Adobe Connect training sessions on the PDISv2 Diagnostician Module. These trainings covered many functions that are different in the v2 module. Each of the training sessions were recorded and are available on [the PDIS website](#) (login and password required).

There are many useful Help documents available from the PDIS 2.0 homepage (login required) or by clicking [the Quick access to Help Document link](#). If you have any questions or concerns regarding PDIS, feel free to contact the PDIS Team at pdis@ksre.ksu.edu.

IT News

The image displays two screenshots from the PDIS system. The left screenshot shows the PDISv1 Help menu with a tree view of topics such as 'PDISv1 Help', 'Administration', 'Diagnosis', and 'References'. The right screenshot shows the PDISv2 Diagnostician Module interface, which includes a 'Diagnostics Dashboard for lab 'Plant Disease Diagnostic Clinic'', a 'Sample Queue Counts' bar chart, a 'Samples Submitted During Last 12 Months' bar chart, and a 'My Recently Opened Samples' table.

Sample Queue Counts (Archived : 3318)

Category	Count
New & Pending	3
Preliminary	0
Complete	112

Samples Submitted During Last 12 Months

Month	Count
FEB-10	4
JAN-10	3
DEC-09	8
NOV-09	17
OCT-09	53
SEP-09	71
AUG-09	76
JUL-09	14
JUN-09	95
MAY-09	48
APR-09	22
MAR-09	11
FEB-09	1

My Recently Opened Samples

Sample #	Submitter	Status
0800159	CurDiversity	Complete
0700490	ChloroMating	Complete
0600649	Substrate	Complete
0600126	CurMating	Complete
0800296	William C. Curran	Complete
0900460	CurMating	Complete
0900491	CurDiversity	Complete

Diagnostics Dashboard screen (right) in the new PDISv2 module.

Screenshot (left) from the PDIS Help menu showing the differences between v1 and v2 and step by step instructions.

New State Record for Hawaii Also New United States Record

Bernarr Kumashiro, Insect Taxonomist
Hawaii Department of Agriculture
(HDOA), Hawaii-Western Plant
Diagnostic Network (WPDN), Principal
Investigator

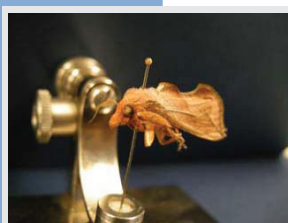


Photo by Janis Garcia
(HDOA)

A Fruit-Piercing Moth Lepidoptera: Noctuidae *Oraesia excavata* Butler

On December 28, 2009, William Haines, University of Hawaii, notified HDOA of a new fruit-piercing moth in Hawaii. The biology of this moth is not well

known and so far, no known caterpillars have been located. The moth is orange colored and is very distinctive-like a dead leaf. The worldwide distribution includes Japan, Korea, China, Thailand, and Taiwan. Photos of the adults and larvae, as well as other information on possible larval hosts can be found at the following websites:

This is a link to pictures of *Oraesia excavata* from Japan. The moth almost looks like a dead leaf. Scroll all the way down to see pictures of the caterpillar.

http://www.jpmoth.org/Noctuidae/Calpinae/Oraesia_excavata.html

Lepisanthes rubiginosa - Hoomaluhia Botanical Garden, Oahu & Kahanu Gardens, Maui

<http://www.hear.org/starr/plants/images/species/?q=lepisanthes+rubiginosa>

Stephania japonica – Waimea Arboretum, Oahu - BISH cultivated plants checklist.
<http://www2.bishopmuseum.org/>

[HBS/botany/cultivatedplants/?lngID=-454481180](http://www.hear.org/starr/plants/images/species/?q=cocculus+orbiculatus)

Cocculus orbiculatus (= *C. trilobus*, = *C. ferrandianus*), indigenous to Hawaii
<http://www.hear.org/starr/plants/images/species/?q=cocculus+orbiculatus>

The first known specimen was observed in a student's collection for an entomology class. It was collected at Kula, Maui, on November 24, 2009. Subsequently, the following 7 specimens were collected on Maui and Oahu:

- 1 specimen by Haines at Makawao, Maui at UV light on Dec. 17, 2009
- 1 specimen by Haines at Makawao, Maui at UV light on Dec. 19, 2009
- 2 specimens by Haines at Waahila Ridge, Koolau Mts., Oahu, at UV light on Jan. 9, 2010
- 1 specimen by C. Campora and S. Montgomery at Halona Valley, Lualualei, Oahu, in Dec. 2009
- 1 specimen by G. Uchida at Nuuanu, Oahu on eaves of roof, on Dec. 21, 2009
- 1 specimen by L. LeBlanc at Ewa, Oahu in citrus grove in unbaited fruit fly trap, on Jan. 25, 2010

On Dec. 28, Kumashiro sent digital photos of the moth to Michael Pogue, USDA Systematic Entomology Lab in Beltsville, MD for identification. Pogue tentatively determined it as *Oraesia excavata*, but requested a physical specimen of a male moth. Haines sent Pogue a specimen and he confirmed it as this species on Jan. 25, 2010.

A literature search indicated that *Cocculus orbiculatus* (= *C. trilobus*, = *C. ferrandianus*) (Family Menispermaceae) may be a preferred host for the caterpillar. This species is indigenous to Hawaii and is known as "huehue". It is found in

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open areas such as grasslands and in mesic to dry forests. Other possible hosts are *Lepisanthes rubiginosa* (Family Sapindaceae) and *Stephania japonica* (Family Menispermaceae). These are not common ornamentals, and are found in a few botanical gardens. Some of the botanical gardens operated by the City and County of Honolulu have been alerted of this potential pest. Fruits recorded in literature as hosts for the moths include prune, citrus, grape, peach, pear, apple, guava, papaya, mango, banana, and loquat. The sudden appearance of several moth specimens and the widespread distribution in a short period of time may indicate a potential seriousness of this pest. 🌿



GPDN Webinar Series

The 2010 GPDN Webinar Series features speakers from universities and government agencies across the country. Featured topics include invasive pests, disease updates, and emergency response and modeling of disease occurrences. All webinars will be recorded and can later be viewed at www.gpdn.org. Robb Alleman's talk from February 24th is now available! Just click on the recording link following the talk title on the GPDN homepage. 🌿

National Events

March 21, 2010

Invasive Pest Symposium at the 239th American Chemical Society National Meeting and Exposition
San Francisco, CA

May 18-20, 2010

NPDN Diagnostician Basic Technique Workshop
Penn State University
State College, PA

August 7-10, 2010

APS Annual Meeting
Nashville, TN

September 20-24, 2010

17th Ornamental Workshop on Disease and Insects
Hendersonville, NC

November 6-8, 2011

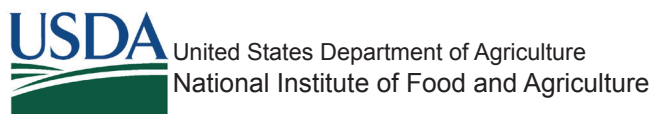
NPDN National Meeting
San Francisco, CA

Regional Events

April 6-7, 2010

NCPDN Regional Meeting
St. Paul, MN

Upcoming Events



Rachel McCarthy, Editor
NEPDN
Cornell University

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