NPDN National Plant Diagnostic Network

Volume 5 Issue 10, October 2010

NPDN News

USDA-NIFA Honors the NPDN

Rick Bostock, University of California at Davis, Department of Plant Pathology and NPDN Executive Director

The NPDN has received one of four 2010 USDA-National Institute of Food and Agriculture (NIFA) Partnership Awards, which recognize exemplary work and outstanding contribution in support of the USDA mission and positive impact on agriculture. There are four categories of Partnership Awards: mission integration, multistate efforts, innovative program models and effective and efficient use of resources. The NPDN received the award for innovative program models for its development of "…preparedness programs and interagency partnerships that have enhanced the security of crop agriculture in the United States." Dr. Roger Beachy, NIFA Director, presented the award to NPDN Executive Director Rick Bostock (WPDN), who was joined by George Hudler (NEPDN), Jeff Jones (SPDN), Jim Stack (GPDN), Eileen Luke (CERIS), and Marty Draper (NIFA) at a ceremony held at historic Fort McNair in Washington, DC on October 6. Unable to attend but acknowledged during the ceremony were other members of the executive team – Ray Hammerschmidt (NCPDN), Kitty Cardwell (NIFA), and William Hoffman (NIFA). Although thirty five individuals are specifically acknowledged for their exceptional efforts in the team award, the intent and spirit of the award is to recognize the hundreds of people across the nation for their contribution to the success of the NPDN. Congratulations to all of us for this great honor!

Rick Bostock accepting the award on behalf of the NPDN from NIFA Director Roger Beachy.

From left, Jim Stack, Jeff Jones, Eileen Luke, Roger Beachy, Rick Bostock, George Hudler, and Marty Draper.

Issue Highlights:

USDA National Institute of Food and Agriculture

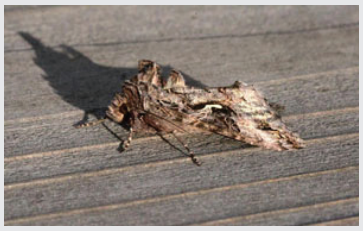
National News *cont...*

APHIS Retracts Silver Y Moth Identification

In the September *NPDN News* it was reported that an adult male *Autographa gamma*, silver Y moth, was found in a baited trap in Lancaster County, PA.

On October 1, 2010, it was announced that the moth identified as *Autographa gamma* on July 30, 2010, was re-examined by USDA's Agricultural Research Service, Systematic Entomology Laboratory (SEL) and determined to be the native moth *Autographa califonica.* Known to be present in the western United States, *Autographa californica* was out of its normal range when found in PA.

Above, adult *Autographa gamma*, silver Y moth. Photo courtesy of Paolo Mazzei, Bugwood.org.



Above, adult *Autographa californica*. Photo courtesy of Whitney Cranshaw, Colorado State University, Bugwood.org.

Autographa gamma is still not known to occur in the United States, and APHIS is therefore retracting the SPRO letter issued on September 13, 2010 announcing the detection. Read the full SPRO letter here.

ID Source, a Gateway to Identification Resources on the Internet

Julia Scher, USDA-APHIS-PPQ-CPHST

Within the vast collection that is the World Wide Web are many sites containing tools that can help with identification of plant pest organisms and diseases. Finding them is another matter. ID Source was conceived as a gateway into this identification-themed subset of the web, quickly and efficiently directing users to those websites containing identification aids such as keys, fact sheets, screening aids, and image galleries specifically for identifying pests, weeds, and diseases of concern for plant protection and biosecurity.

ID Source aims to save its users from having to search the entire Internet for help by offering a pre-selected, vetted collection of sites that can specifically serve identification, verification, diagnostic, and screening needs (we call such web sites "ID Aids"). Through ID Source, users can perform customized searches leading to more fruitful and helpful results than standard Internet search engines can provide.

ID Source is currently in development by the Center for Plant Health Science and Technology (CPHST, within USDA-APHIS-PPQ); a beta version will be launched in just a few months! For ID Source to be successful as a valued interactive information source, it must be dynamic and relevant to users. The true power of ID Source will only be realized if its collection of ID Aids is kept current by being honed and expanded many-fold through user participation.

User participation is the key to success; ID Source would be the place to go not only to find useful ID Aids, but to contribute ID Aid suggestions, contribute an ID Aid you've created, rate and review ID Aids, and provide feedback about how well ID Source is working for you and how we should improve it. The more participation from users, the more valuable ID Source will become for all.

We are currently focusing on collecting ID Aid suggestions. A particularly fruitful avenue we have pursued successfully is to gather experts' identification-related browser favorites (aka bookmarks). By doing this, results from hours of searching done by multiple experts is concentrated in one place, boosting ID Source's ID Aid

gathering power by orders of magnitude, thereby benefitting all its users.

We appeal to you, the NPDN community at the forefront of biosecurity, to help ID Source grow by contributing your identification-related browser favorites or bookmarks. If you'd like to contribute, please follow these simple instructions at this link [Contribution instructions].

Another way to participate is by being a beta tester – please email me at Julia.l.scher@aphis.usda.gov if you are interested in testing ID Source's beta version in early 2011. Questions and comments are also welcome.

Photo courtesy of Rick Bostock.

NPDN IT/Diagnosticians'/ Operations Committees Meet in Chandler, AZ

Rick Bostock, University of California at Davis, Department of Plant Pathology, and NPDN Executive Director

The NPDN IT/Diagnosticians' joint workgroup and the NPDN Operations Committee met recently in Chandler, AZ. The IT/Diagnosticians' workgroup convened their annual fall meeting on October 12-13, where they focused on core IT needs in support of NPDN labs, with discussion on current efforts related to the regional web portals, data sharing, lab management systems, and enhancements to the national data repository. The Operations Committee joined the IT/Diagnosticians' on the afternoon of the 13th, with additional discussion of data sharing and security issues, epidemiology and data analysis, and ETKnet, a program developed by the University of Florida and UC Davis with support from the NSF to guide and facilitate sample handling and communications during outbreaks. In addition, the group celebrated with cake and refreshments the NPDN's recent USDA-NIFA Partnership Award. On the final day of the meeting (October 14), the Operations Committee met separately to discuss the current status and priorities of our programs in diagnostics, education and outreach, and other areas, and engaged in a stimulating exercise to help clarify reporting paths in different and rather unusual outbreak scenarios. Thanks to Eileen Luke, Mike Hill and Cindy Music of CERIS/Purdue for their leadership in coordinating the meeting and local arrangements.

Dawn Dailey O'Brien Introduction

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


Dawn Dailey O'Brien, QA/QC Manager. Photo courtesy of Rachel McCarthy, Cornell University.

The NEPDN regional staff members are proud to introduce our newest staff member, Dawn Dailey O'Brien. Dawn will be filling a newly created, temporary position of NEPDN Quality Control/ Quality Assurance (QA/QC) Manager. Dawn has worked with the NPDN before. Some of you may remember her

from her work during the 1st NPDN National Meeting in Orlando where she helped us at the registration desk. Dawn has also provided some help to us in the Northeast region and specifically here at Cornell University by learning how to process DNA extractions and PCR samples in the laboratory and by learning how to use PDIS and helping us process payments. Dawn graduated from the State University of New York (SUNY) College of Environmental Science and Forestry (ESF) with a degree in Environmental Studies. She has served as the editor and primary scout for an IPM publication known as *Branching Out* for 15 years. In this new position, Dawn will be assisting the Laboratory Accreditation Working Group and members of the Operations Committee in finalizing the creation of the NPDN Quality Manual and associated documents. These items are needed to move forward in the NPDN Laboratory Accreditation development. Dawn will also help us prepare and run pilot accreditation programs at the regional centers. Some of you may come in contact with Dawn as this process is developed so please join us in welcoming her as our newest NEPDN regional staff member!

Diagnostic Updates

NPDN-USDA APHIS 2010 Fall Training Sessions- *Ralstonia solanacearum* R3B2 and Bioinformatics

Karen L. Snover-Clift, Cornell University and Laurene Levy, USDA-APHIS-PPQ-CHPST-NPGBL

The NPDN Diagnostics Program Area Committee and members of USDA-APHIS-PPQ-CHPST-National Plant Germplasm and Biotechnology Laboratory (NPGBL) are offering training sessions on *Ralstonia solanacearum* R3 B2 and Bioinformatics this fall. The *R. solanacearum* R3 B2 session is offered November 8-10, 2010. The 3 -day session will cover Immunostrip, isolation, real-time PCR and Biovar testing. The Bioinformatics sessions are offered December 6-8, 2010 and December 8-10, 2010. The 2 ½ day session will cover analysis of obtained sequences from both plus and minus strands, editing sequences, blasting sequences, understanding blast results based on size and gene target, when to directly sequence PCR products or clones, which genes are used for sequence analysis for fungi, bacteria, and viruses, what sequence analysis programs are available commercially or as freeware, and hands-on use of sequence analysis programs using sequences from case studies for different pathogen types. Participants of this meeting are expected to cover their travel, lodging and meal expenses. There is no registration charge for the meeting or for meeting materials; these expenses are covered by our colleagues at USDA-APHIS-PPQ-CPHST-NGBTL. If you are interested in participating in any of these workshops please contact Karen Snover-Clift at kls13@cornell.edu.

Nucleic Acid-Based Pathogen Detection Workshop

Paul Vincelli, University of Kentucky, Department of Plant Pathology

A hands-on workshop for applied plant pathologists on nucleic acid-based pathogen detection will be held at the University of Kentucky in Lexington. The workshop will begin on Tuesday, January 25, 2011, with introductory

lectures and lab activities suited for those with little PCR experience. All participants—beginners and experienced alike—will attend from Wednesday morning, January 26, 2011, through mid-day Friday, January 28, 2011. During this time participants will design, execute, and interpret three real-time PCR experiments (SYBR® Green and Taqman® assays, including an assay for pathogen quantitation). Presentations and discussions will include theory of real-time PCR, experimental controls, PCR inhibition, use of PCR kits, verifying amplicon identity, licensing, pathogen quantitation, arrays, minimizing contamination, troubleshooting, sequencing (direct vs. cloning), selecting fluorophores, and primer design. In-depth activities and discussions will be included on interpreting BLAST searches and the use of curated biotechnology databases. Registration will be $250 and $300 for Wednesday-Friday and Tuesday-Friday, respectively. For more information, contact Paul Vincelli at pvincell@uky.edu.

Soilborne Plant Pathogens and California Nematology Workshop

Timothy Paulitz, USDA-ARS

Come and meet with colleagues from the western U.S. working on various aspects of soilborne fungal pathogens, nematodes and diseases - from the molecular to the applied. This meeting is very informal and loosely structured, allowing lots of time for discussions and interactions. We will have a field trip on Monday, March 21 to look at agriculture and diseases in the Davis/Sacramento area. Sessions will be on Tuesday, March 23 and Wednesday, March 24. The California Nematology Workshop will be conducted on Monday, March 21.

The early registration deadline is March 1, 2011. Registration and hotel information are on our web site: http://soilfungus.ars.usda.gov**.** Registration includes a social, continental breakfast, and lunch on Tues. You can now pay by credit card at http://soilfungus2011.eventbrite.com. The payment will go through Google Checkout, a secure site, but you need to set up a free Google Account to do this. Whatever payment method, please send the registration form to Dr. Timothy Murray, Dept. of Plant Pathology, Rm. 345 Johnson Hall, Washington State University, Pullman, WA 99164-6430 USA, or FAX to 509 335-7674, or send scan to paulitz@wsu.edu.

We are also offering two student scholarships for $400 plus free registration. The details are on the web site.

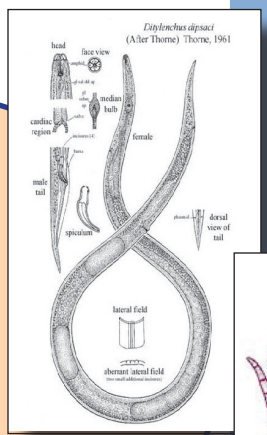
Local arrangements: Tom Gordon trgordon@ucdavis.edu or Becky Westerdahl bbwesterdahl@ucdavis.edu

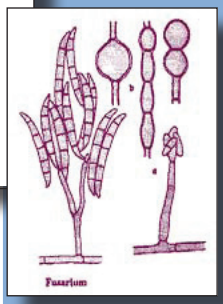
Program Chair: Timothy Paulitz, USDA-ARS, Pullman, WA. paulitz@wsu.edu.

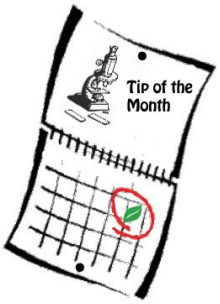
Meeting of the 57th Annual Conference on Soilborne Plant Pathogens (*formerly Soil Fungus Conference*) and the 43rd Annual California Nematology Workshop

March 21-23, 2011

University of California at Davis



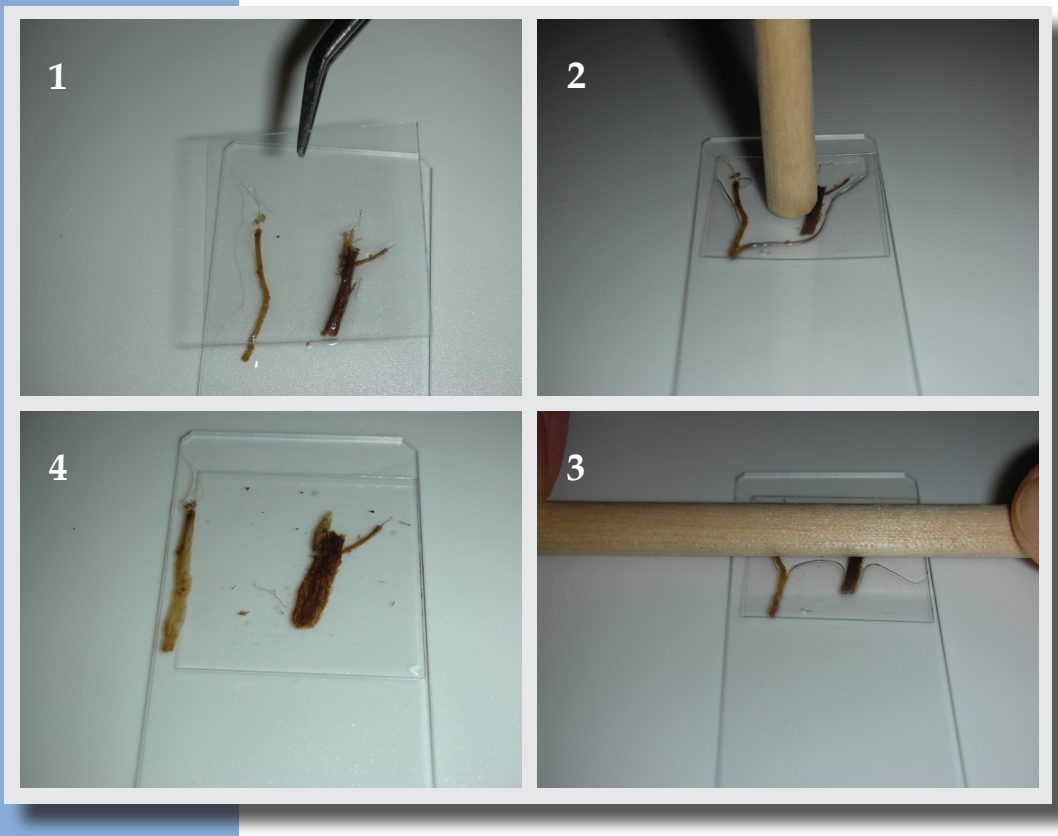




Use of Plastic Coverslips for 'Squash' Mounts

Tom Creswell and Gail Ruhl, Purdue University, Plant and Pest Diagnostic Lab

Are you tired of shards of glass when pressing a little too heavily on your coverslip? Plastic coverslips and the use of the wooden handle of a dissecting needle allow for less hazardous consequences when 'squashing' root tissue or fungal structures prior to viewing with your compound microscope. Place the tissue on the slide with a drop of water, add the plastic coverslip and press down firmly with the flat end of the wooden handle or use the handle as a rolling pin, to flatten the bulky specimen. A cork will also work well as a 'pusher' to avoid fingerprints. To improve clarity after the squash mount is made, try replacing the plastic coverslip with a glass coverslip prior to observation with your microscope.



IT News

Security Tip: Cyber Security Awareness Month

Michael Hill, Purdue University, CERIS

Since 2004, October has been recognized as National Cyber Security Awareness (NCSA) month. This is a national campaign to promote awareness on cyber security related topics. The message for this year is STOP | THINK | CONNECT. According to Michael Kaiser, Executive Director of NCSA, "STOP | THINK | CONNECT is about taking a moment to stop and think about the places we visit online, the information that we share, and the communities in which we participate before and while we are connected to the Internet."

In the true spirit of Cyber Security Awareness Month, I encourage everyone to visit the National Cyber Security Alliance website at http://staysafeonline.org to learn additional information on how to stay safe online.

Visit the NPDN homepage at www.npdn.org for more information on specific Program Area Committees.
Login and password required
Announcements ~ Membership information ~ Committee reports and meeting minutes ~ Documents and SOPs

OPERATIONS COMMITTEE

Operations Committee

Rick Bostock, Committee Chair, University of California at Davis, Department of Plant Pathology

The Operations Committe held a conference call on October 28, 2010 and discussed the following:

- Proposed new products from the IT committee
  - First occurrence report - by lab or by state, define access roles
  - Host/pest index
  - Synonym solution
- Improvement of contract approval process
- Discussion of another scenario(s) that we did not have time to address in Chandler: citrus greening, disease and vector

Please refer to the website, www.npdn.org/operations, for complete minutes of this meeting.

DIAGNOSTICS COMMITTEE

Diagnostics Committee

Anne Vitoreli, Committee Chair, University of Florida, Department of Plant Pathology

The Diagnostics Committee held a conference call on October 7, 2010 and the following agenda items were discussed:

- Sample Confidentiality Concern
- Bacterial Workshop Discussion -2011 NPDN National meeting
- 7th IT-Diagnosticians Meeting, Phoenix, AZ
- Lab Accreditation Update
- Sample 'sign-in' forms for PDIS module
- SOP Updates

Please refer to the website, **www.npdn.org/diagnostics**, for complete minutes of this meeting. The next conference call will be held on Thursday, November 11, 2010.

EXERCISE COMMITTEE

Exercise Committee

Sharon Dobesh, Program Area Manager/Committee Chair, Kansas State University, Department of Plant Pathology

The Exercise Committee conducted a conference call on October 5, 2010 and the following agenda items were discussed:

- Full Scale Exercise report from South Dakota Full Scale
- SOP
- Position Updates (Rob Alleman and Wendy Beltz)
- Other

The next conference call is scheduled for Tuesday, November 16, 2010.

INFORMATION TECHNOLOGY

IT Subcommittee

Mike Hill, Committee Chair, Purdue University, CERIS

The IT Subcommittee conducted a conference call on October 26, 2010 and the following agenda items were discussed:

- Feedback from the IT/Diagnosticians meeting
- Key Items of Interest to Diagnosticians
- Key PDIS Items of Interest to Diagnosticians
- Need to develop a list of infrastructure and enhancements for the whole IT Network
- Action Items

Please refer to the website, www.npdn.org/IT, for the complete minutes of this meeting. The next conference call is scheduled for Tuesday, November 30, 2010.

NATIONAL DATABASE

National Database Committee

Nancy Gregory, Committee Chair, University of Delaware, Department of Plant and Soil Sciences

The Committee did not meet in October due to the IT/Diagnostician/Epidemiology group meeting in Phoenix on October 12 and 13. The next list to be reviewed will be the Abiotic, and the Committee will be looking for an expert to assist with the Phytoplasma group. The Committee will also be working on development of a system to accommodate synonyms and pest groupings in the database.

The next meeting will be held on Nov 2, 2010 at 1:30 PM EST.

TRAINING EDUCATION

Training and Education Committee

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

The Training and Education Committee held a conference call on September 27, 2010 and the following agenda items were discussed on the call:

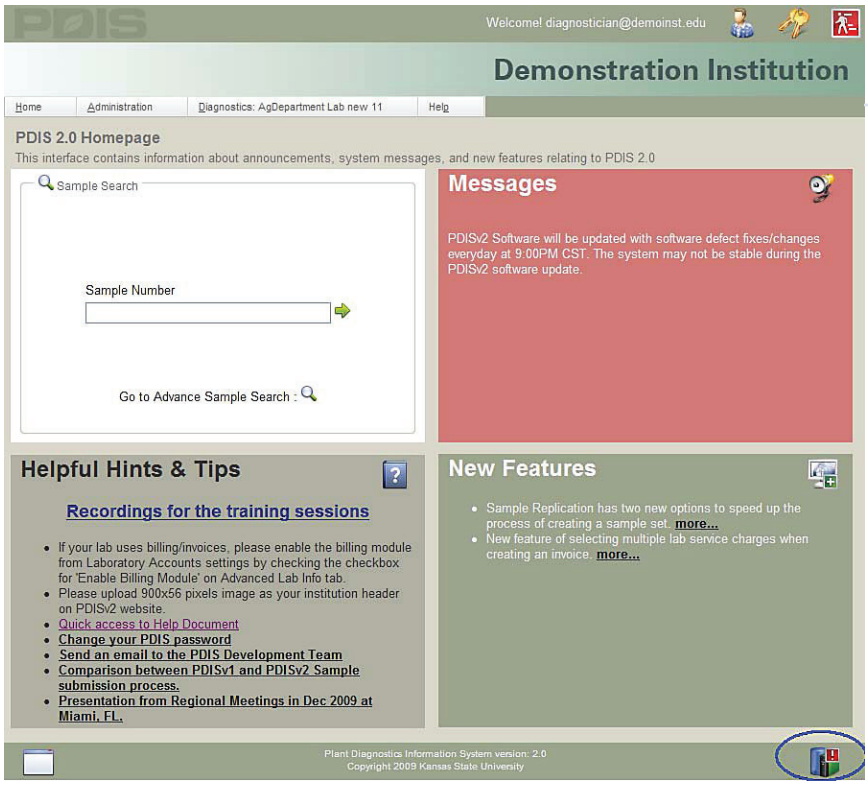
- NPDN e-Learning Authorship Guidelines www.npdn.org/webfm_send/1278
- Review Committee for modules
- Inclusion of aquatic pests in training? Zebra and quagga mussels, etc.
- First Detector Educator awards
- Scripted PowerPoints to e-learning modules
- TCD photo clue

The next conference call is scheduled for Monday, November 15, 2010.

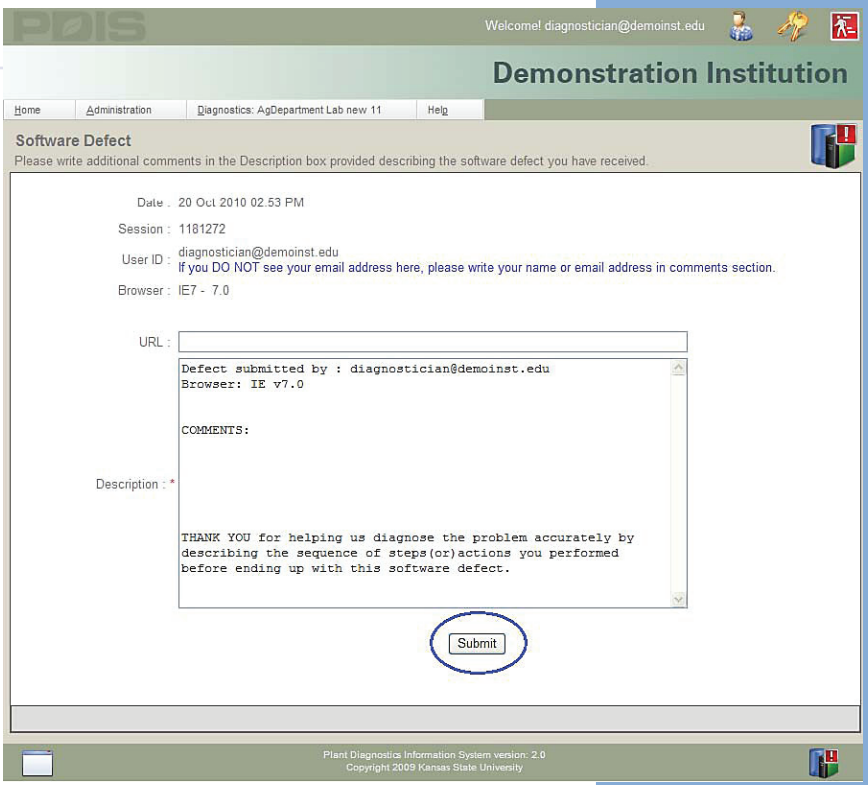
Submitting Software Defects in PDIS2

Judy Dizon, Kansas State University, Department of Plant Pathology

A user has the option of sending in software defects/comments/suggestions to the PDIS Team. All submissions done through the system will be recorded and added on to the software defects queue.



1. **Login to PDIS.**
2. **At the bottom of the page, click on  to submit a software defect.**



3. **Type in the URL (if any) and the comments you have, then click on the 'Submit' button.** *Note: If this page has been displayed because of a real software defect, the URL and the error that occurred are pre-filled. The PDIS Team recommends the user type in as many details as possible (i.e. tasks performed before the software defect page popped up, pages navigated, etc.) when sending in software defects. This will help in addressing the issue at hand in a timely manner.*

Training and Education

A Resource for Pests and Diseases of Cultivated Palms: Screening Aid to Pests

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

CPHST is pleased to announce the release of its newest identification tool: *A Resource for Pests and Diseases of Cultivated Palms: Screening Aid to Pests*, developed through collaboration among USDA-APHIS-PPQ-CPHST, University of Florida, and the Southern Plant Diagnostic Network. *Screening Aid to Pests (SAP)* is part of the commodity-based *A Resource for Pests and Diseases of Cultivated Palms*, developed to support Federal, State, and County plant protection agencies and other organizations involved with surveillance, detection, and monitoring of pests and diseases associated with cultivated palms. Palms are commonly cultivated as ornamentals and have been used as crop plants for centuries, providing important sources of food and a variety of other products. As such, palms are one of the most economically important groups of plants.

The soon-to-be-released *A Resource for Pests and Diseases of Cultivated Palms* has been designed as a screening resource to aid individuals conducting field surveys for pests and diseases of cultivated palms. When complete, the resource will include links to six different tools offering detection and identification support for cultivated palms and their pests, diseases, and disorders known to occur in the continental US, Hawaii, and the Caribbean Islands as of 2010, as well as those of immediate concern to these regions. *SAP*, the first of the palm resource tools to be released, is aimed at the novice entomologist, supporting identification of palm pests to order, family, and in some cases, to species.

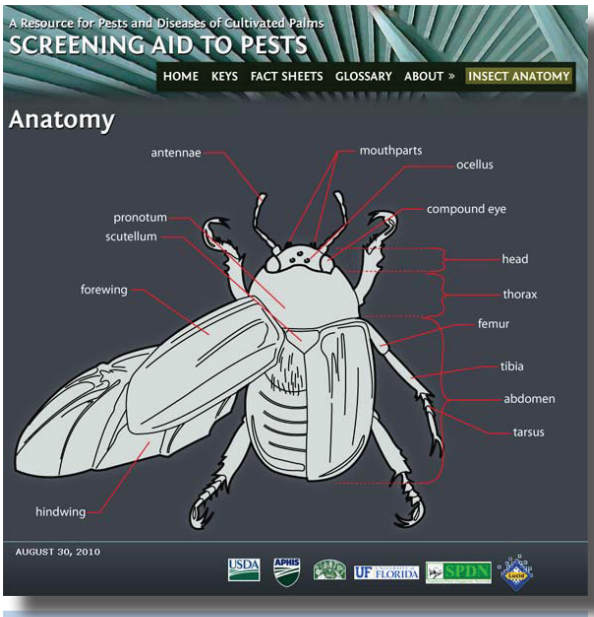
The interactive keys featured in *SAP* were developed in Lucid version 3.4 software. The tool was uploaded to the Internet in September 2010 to support easy access by the Cooperative Agricultural Pest Survey (CAPS) community, the National Plant Diagnostic Network (NPDN), and other PPQ cooperators. *SAP* can be accessed at:

http://itp.lucidcentral.org/id/palms/SAP/

SAP is cross-platform and is compatible with all major operating systems, including Windows, Macintosh, and Unix. The interactive keys require

Home page of SAP (foreground) provides several explanatory links to major tool components. Each tool will be linked from the resource home page (background).

that your computer has Java Runtime Environment version 1.4.2 or greater installed; Lucid software is not necessary.



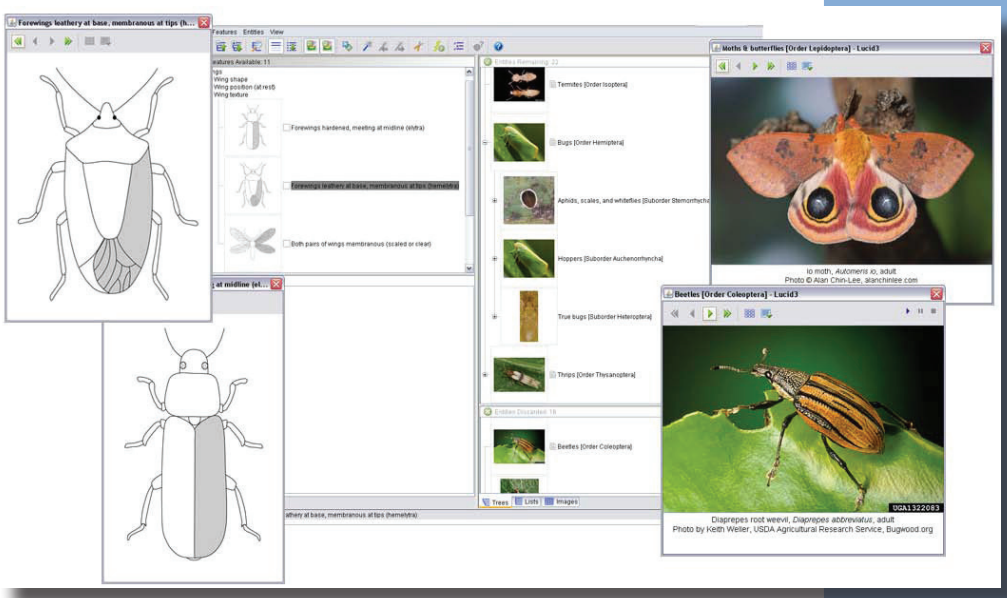
An illustrated guide to insect anatomy is provided to support users with little entomology background.

Lucid keys are easy to use, electronic, and matrix based. Quite different from traditional pathway or dichotomous keys, matrix keys allow users to direct the identification process, choosing which characters to examine. The process is facilitated by multimedia attached to taxa and characters, including photographs, illustrations, and HTML pages.

SAP features illustrated fact sheets with descriptions of each pest or group of pests, as well as two interactive keys, one to adult arthropod pests and one to select larvae. In the keys themselves, common language terms are used to help support their use by inexperienced individuals. The keys are fully illustrated, providing the user with diagrammatic illustrations along with photographs of live specimens to support identification. A glossary is provided to assist the user in understanding the specialized entomological terminology that appears in the fact sheets. An illustrated guide to insect anatomy is also provided.

The authors of *SAP* would appreciate receiving any comments about the value and usefulness of this tool and learning of any problems you encounter when accessing or using the tool. Please contact Amanda Redford (email amanda.j.redford@aphis.usda.gov) with any comments or questions.

To learn more about Lucid software and Lucid tools, visit www.lucidcentral.org. For information concerning tools resources for plant protection and quarantine, contact Amanda Redford, USDA-CPHST-ITP Tool Developer.

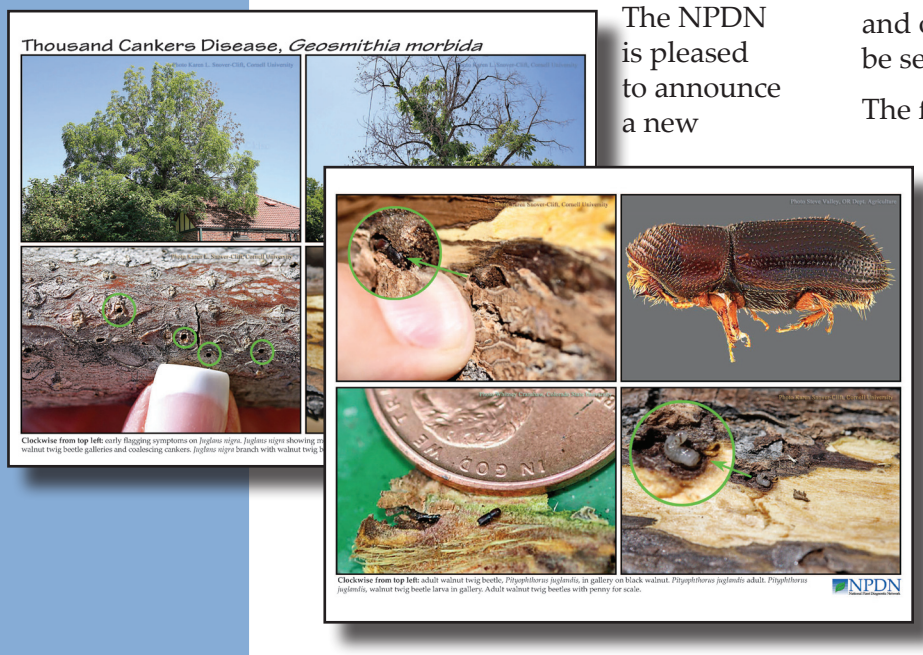


SAP interactive matrix key to adults (background) and associated media. Illustrations show the difference between two states of the feature "wing texture" (lower left). Two images associated with entities within the key (right).

Authors: Amanda J. Redford, Terrence Walters, Amanda Hodges, Forrest W. Howard, and Matthew Trice

First Detector Photo Clue for Thousand Cankers Disease

Rachel McCarthy, Cornell University, Department of Plant Pathology and Plant-Microbe Biology



The NPDN is pleased to announce a new educational resource designed to assist First Detectors in the recognition of thousand cankers disease and the walnut twig beetle. The photo clue is composed of eight characteristic photos including tree symptoms, close-ups of the beetle and other diagnostic symptoms likely to be seen in the field.

The format of the photo clue is designed so that First Detector educators and diagnosticians can print, laminate and three-hole punch the photo clue and distribute to their interested First Detectors. The photo clue can be accessed, linked to and downloaded from the First Detector information page at www.npdn.org/first_detector under the NPDN Training Site News section. Questions or comments can be directed to Rachel.McCarthy@cornell.edu.

Regional News

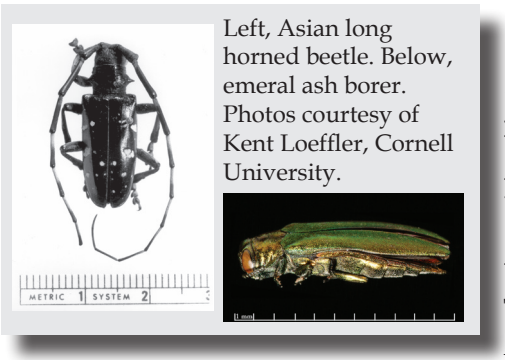
NEPDN
Northeast Plant Diagnostic Network

Quarantine Area Expanded in Worcester County, MA for ALB

October 21, 2010, APHIS announced the expansion of the quarantined area in Worcester County, Massachusetts for the Asian long horned beetle (ALB), *Anoplophora glabripennis*. Read the official announcement.

In 2010, the ALB program detected approximately 1,857 infested trees during delimitation surveys in Worcester County. As a result, APHIS will continue to work closely with the State and affected municipalities to conduct surveys and other response activities, including the removal and treatment of any infested trees.

The Federal Order Expansion of the Quarantine Area in Worcester County, Massachusetts released on October 22, 2010, defines the revised boundaries and includes the associated reference to the Code of Federal Regulations that lists the provisions for the movement of ALB host material.



Left, Asian long horned beetle. Below, emeral ash borer. Photos courtesy of Kent Loeffler, Cornell University.

Sixteen Counties in New York Added to the EAB Quarantine Area

This summer APHIS confirmed the identification of emerald ash borer (EAB), *Agrilus planipennis*, in Genesee, Greene, Livingston, Monroe, Steuben,

and Ulster counties in New York. Ten additional counties are being added to the EAB quarantine area due to their proximity to known infestations and movement patterns of regulated articles.

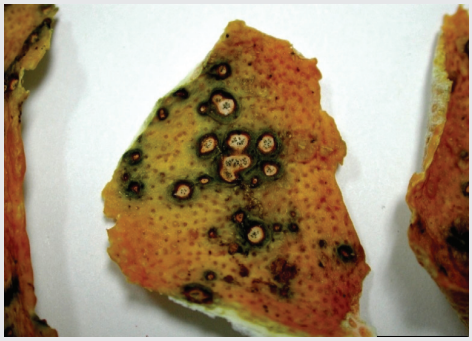
Click here to read the announcement and official Federal Order.

SPDN
Southern Plant Diagnostic Network

Quarantine Established for CBS in Florida

APHIS Newsroom

On October 14, 2010, APHIS issued a Federal Order establishing quarantine and regulated areas for certain portions of Collier and Hendry counties, FL, for citrus black spot (CBS). The Order outlines requirements for allowing the interstate movement of fresh citrus fruit from these areas and protects other citrus-producing states as well as our trading partners from this disease.



Symptoms of citrus black spot on orange. Photo courtesy of Cesar Calderon, USDA-APHIS-PPQ, Bugwood.org.

Citrus black spot is a fungal disease caused by the pathogen *Guignardia citricarpa*. It was first detected in the United States in April 2010.

Click here to read the official announcement and Federal Order.

WPDN
Western Plant Diagnostic Network

Red Palm Weevil detected in Laguna Beach, Orange County

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

An exotic beetle, the red palm weevil (RPW), has been found in palm trees in the Laguna Beach area of Orange County, California. This is a very serious insect pest of palm trees. The hosts include *Areca catechu, Arenga pinnata, Borassus flabellifer, Caryota maxima, C. cumingii, Cocos nucifera* (coconut palm), *Corypha gebanga, C. elata, Elaeis guineensis, Livistona decipiens, Metroxylon sagu, Oreodoxa regia, Phoenix canariensis, P. dactylifera* (date palm), *P. sylvestris, Sabal umbraculifera, Trachycarpus fortunei, Washingtonia* sp.) It can also attack *Agave americana*, and *Saccharum officinarum* (sugar cane).

The red palm weevil, *Rhynchophorus ferrugineus*. Photo courtesy of Dick Hoenisch.

Click here to read the press release from CDFA.

Do you have regional news you would like to include in the *NPDN News* newsletter?

Send regional news and announcements to Rachel McCarthy at rachel.mccarthy@cornell.edu

Upcoming Events

National Events

November 9-10, 2010
WPDN Annual Meeting
Davis, CA

December 1-3, 2010
National CAPS Meeting
Kansas City, MO

December 12-15, 2010
ESA Annual Meeting
San Diego, CA

January 25-28, 2011
Nucleic Acid-Based Pathogen Workshop
Lexington, KY

November 6-8, 2011
NPDN National Meeting
San Francisco, CA

Regional Events

February 22-24, 2011
NEPDN Meeting
New Haven, CT

March 21-23, 2011
Soilborne Plant Pathogens and California Nematology Workshop
Davis, CA

Rachel McCarthy, Editor
NEPDN
Cornell University

NPDN National Plant Diagnostic Network
USDA United States Department of Agriculture
National Institute of Food and Agriculture