

## National Updates

### New Lucid Key Available For Wood Boring Beetles

Joel Floyd, USDA, APHIS, PPQ

CPHST is pleased to announce the release of its newest identification resource, *Wood Boring Beetles of the World Part 1: Wood Boring Beetle Families*. This resource is

being developed in response to the growing threat to our forests and timber and wood products industries from beetles that attack by burrowing in wood and are often transported in wooden pallets and shipping crates.

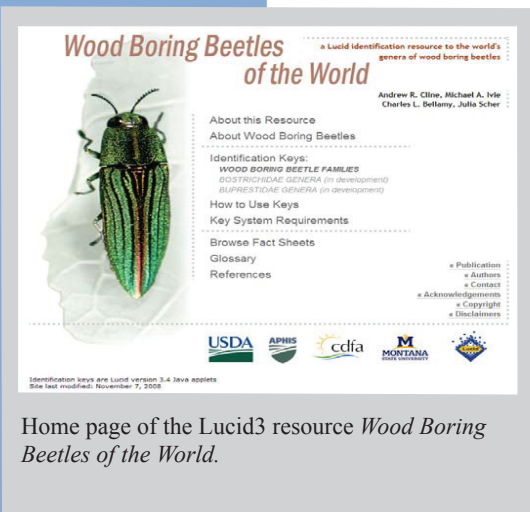
*Wood Boring Beetle Families* was created through a federal-state collaboration among USDA/APHIS/PPQ – CPHST, California Department of Food and Agriculture (CDFA), and Montana State University (MSU). This tool contains the resource's top level key, which helps users identify to which family a wood boring beetle adult or larva belongs. Users will then be directed to tools to genera of the individual families. Family level tools for two of those families, the Buprestidae (jewel beetles) and Bostrichidae (powder-post beetles), are currently under development.

*Wood Boring Beetles of the World Part 1: Wood Boring Beetle Families* was developed and released in Lucid version 3.4 software and uploaded to the Internet to support easy access by PPQ and its cooperators. *Wood Boring Beetle Families* can be accessed at:

<http://www.lucidcentral.org/keys/v3/WBB>

*Wood Boring Beetles of the World Part 1: Wood Boring Beetle Families* is cross-platform; it can be viewed and used on PCs or Macs. The interactive key component of this identification resource requires that your computer has Java Runtime Environment version 1.4.2 or greater installed; Lucid software is not necessary.

As globalization continues, the need to accurately and efficiently identify beetles derived from wood and wood products will rise. Wood used to support, brace, or



Home page of the Lucid3 resource *Wood Boring Beetles of the World*.

### Issue Highlights:

- ◆ New Lucid Key Available
- ◆ Diagnostics Subcommittee Update
- ◆ National Database Subcommittee Update
- ◆ Operations Update
- ◆ STAR-D Information and Update
- ◆ Diagnostic Tip of the Month: Using Cheap Filters for Digital Imaging...
- ◆ Upcoming Events



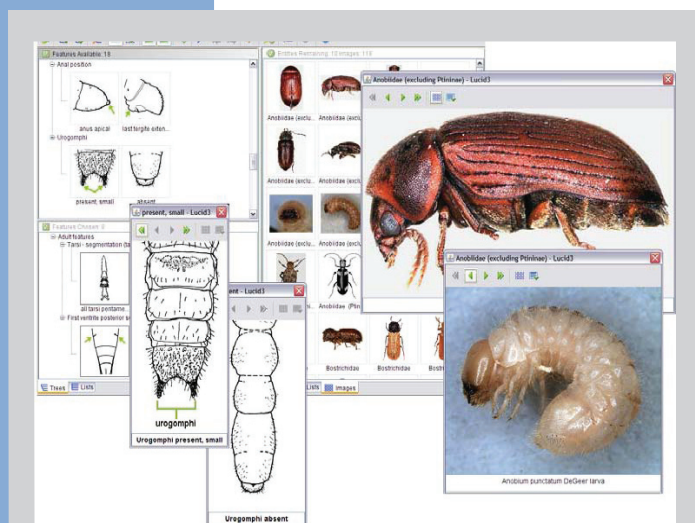
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package commodities during shipment provides a pathway for global transport of wood boring beetles. Storage of commodities packaged or shipped with low grade wood products near forested lands, the disposal of wood packaging in or near natural forest, and the transport of firewood further provide an avenue for introduction and establishment of non-indigenous beetle taxa.

Lucid keys are easy-to-use, electronic, and matrix-based. In a matrix-type key, users can select characters to examine, and are thus not hampered by the pathway structure of traditional paper-based dichotomous keys. Identification is facilitated by multimedia (images, Html pages) attached to taxa and characters. This tool is illustrated with easy to understand character drawings and finely detailed photographs and drawings of

The authors of *Wood Boring Beetles of the World Part 1: Wood Boring Beetle Families*, Drs. Andrew Cline and Charles Bellamy (CDFA), Dr. Michael Ivie (MSU) and Julia Scher (USDA/APHIS/PPQ - CPHST), 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 Julia via email ([julia.l.scher@aphis.usda.gov](mailto:julia.l.scher@aphis.usda.gov)) or by phone (970-490-4465).

To learn more about Lucid software and other Lucid tools, visit [www.lucidcentral.org](http://www.lucidcentral.org). For information concerning identification tools and resources for plant protection and quarantine activities, contact Terrence Walters ([terrence.w.walters@aphis.usda.gov](mailto:terrence.w.walters@aphis.usda.gov)).



*Wood Boring Beetle Families* key matrix and associated media: interactive matrix (background); illustrations for the two states of the larval feature “Urogomphi,” a photograph of an *Anobium punctatum* DeGeer larva and of a *Xyletinus* sp. adult (foreground)

representative species. Taxon fact sheets include descriptions of both larvae and adults along with pest information.

## **Diagnostics Subcommittee Update**

**Karen L. Snover-Clift  
Committee Chair**

**Cornell University**

**Department of Plant Pathology and  
Plant-Microbe Biology**

The Diagnostics Subcommittee held a conference call on December 18, 2008. During this meeting a number of issues were addressed. Please refer to the website, <http://www.npdn.org/DesktopDefault.aspx?tabindex=1&tabid=19>, for complete minutes of this meeting. (login and password are required)

- Participant notification for HLB and *Phytophthora kernoviae* workshops, Beltsville-NPDN Diagnostician Training
- Review of IT/Diagnosticians Meeting
- Diagnostician Survey Results
- Review Operations Committee Meeting
  - SOPs and new select agent SOPs
  - Diagnostic recipe/protocol library
  - STAR-D, the NPDN laboratory QA/QC program
- National meeting update

The next conference call will be held on Thursday, January 15, 2009.

## **National Database Subcommittee Update**

**Karen L. Snover-Clift  
Committee Chair**

**Cornell University**

**Department of Plant Pathology and  
Plant-Microbe Biology**

The National Database Subcommittee met on December 16, 2008 to continue our work on reviewing the massive EPA 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 website, <http://www.npdn.org/DesktopDefault.aspx?tabindex=1&tabid=40>, for complete minutes of this meeting. (login and password are required)

- Discussed change submission requests
- Discussed a diagnostician's concern with use of "Unidentified" vs. "Unspecified"
- Summarized the IT/Diagnosticians meeting
- Reviewed fungal disease common names beginning with the letter Q, R
- Assigned new common name codes to be reviewed
- Discuss issue of getting legacy data that does not contain common names into the database

The next meeting will be held on Wednesday, January 14, 2009.

# **Diagnostic Updates**

## Operations Update

### **NPDN Operations Committee meets in Gainesville, FL** **Carrie Harmon** **University of Florida**

The NPDN Operations Committee met at the University of Florida Dec 10, 2008, to complete the strategic planning matrix for the duration of the current Cooperative Agreement (until 2012). Areas such as diagnostics, training and education, IT and systems management, exercises, epidemiology, interface with research and public relations were discussed and plans for implementing new objectives were outlined. The new matrix will be used to determine the course of action for all NPDN committees and regions. Activities and policies developed under the new strategic plan will be communicated to all NPDN members, likely via the NPDN website at [www.npdn.org](http://www.npdn.org) and through the regional meetings and subcontract language each year.



*L-R- Carla Thomas, Eileen Luke, Amanda Hodges, Steve Cain, Kitty Cardwell, Lee Dunslager; Carrie Harmon, George Hudler (top), R. Charudattan (bottom), Jim Stack, Mary Palm, Rick Bos-tock, Karen Snover-Clift, Ray Hammerschmidt, and John Ayers*  
*Photo by Rachel Brown, SPDN.*

Diagnostics” (STAR-D) to reflect the fact that the NPDN CSREES is not an accrediting body. Six tiers of QA/QC standards have been developed through the work of the LAS Working Group and further developments made of the checklist by Anne Vitoreli and auditor manual by Kitty Cardwell. Anne Vitoreli developed a draft Systems Manual which will be transformed to a template that all labs can use. The Working Group will be reconvened in January to fine-tune the checklist, auditor manual, and systems manual and set a plan for implementation of the system.

## STAR-D

### **NPDN Lab Accreditation system – now the STAR-D!** **Carrie Harmon** **University of Florida**

The NPDN Executive Committee, Karen Snover-Clift (Diagnostics Committee Chair and NEPDN Associate Director), Anne Vitoreli and Richard Cullen (SPDN Hub lab), and Pat Shiel (APHIS-CPHST) gathered in Gainesville, FL, December 8th and 9th to perform a walk-through of the NPDN lab Quality Assurance/Quality Control (QA/QC) system. The group changed the name to the NPDN “System for True and Reliable

## Using Cheap Filters to Soften Lighting Hot Spots for Digital Imaging

**Paul Bachi**  
**Plant Disease Diagnostic Laboratory**  
**University of Kentucky, Department of**  
**Plant Pathology**

Taking good quality digital images of many types of objects, including insects and plant samples, can be difficult when these objects have surfaces which are highly reflective. Shiny surfaces cause bright hot spots which can block out details of the object as well as play havoc

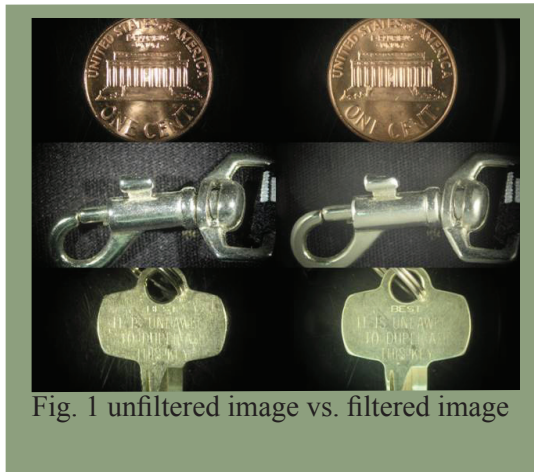


Fig. 1 unfiltered image vs. filtered image

with camera settings. Shadows can obstruct important features when using a direct lighting source. (figure 1)

We purchased a portable lighting tent for the diagnostic laboratory in 2008 after noticing other diagnosticians getting such even lighting, without any obstructive shadows, in their images of plant samples. After having personally experienced the high quality of images taken within the portable lighting tent, I went about trying to get the same effect for samples under the dissecting scope. Never wanting to reinvent the wheel, an internet search brought me to

a work by Dr. Alexander Riedel (Museum of Natural History - Karlsruhe, Germany). The work showed filters made from a Styrofoam cup and vellum.

I used a Styrofoam cup and some tracing paper. Cut the bottom out of a Styrofoam cup and place the cup upside down over the object of which to take images. I did not cut small holes in the side of the cup, one for each fiber optic light arm, because the desired affect was achieved without the holes.

As far as the tracing paper is concerned, you can construct a cylinder but I found a curved piece of the paper worked just as well. (figure 2) With bulkier samples you could make tracing paper cylinders (a lip balm stick or AA battery work well as patterns) adhered to the end of each fiber optic arm but I found the results were not nearly as desirable as with the Styrofoam cup or curved sheet of tracing paper. (figure 3)

The images in this article were taken with Nikon Coolpix 8800 digital camera set on Aperture-priority auto mode. The light was provided by a fiber optic source with two arms set to the same output for each photo.

## Diagnostic Tip of the Month

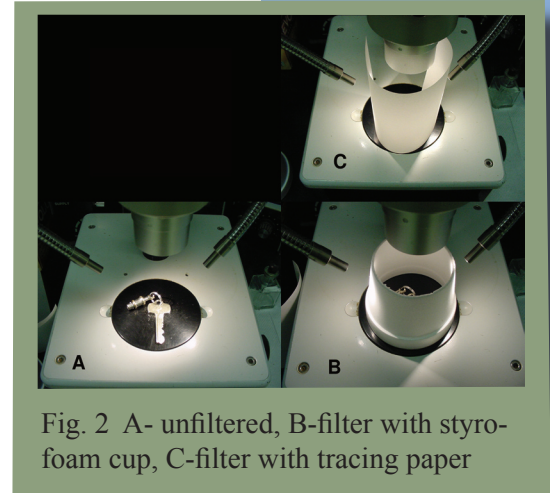


Fig. 2 A- unfiltered, B-filter with styrofoam cup, C-filter with tracing paper

## Diagnostic Tip Con't.

Try this the next time you cannot get rid of those blinding, shiny spots or obstructive shadows.

### References:

1. Riedel, A. 2005: Digital imaging of beetles (Coleoptera) and other three-dimensional insects. pp. 222-250 in: Häuser, C.L., Steiner, A., Holstein, J. & Scoble, M.J. (eds.) Digital imaging of biological type specimens – a manual of best practice. Stuttgart, viii + 309 pp.



Fig. 3 Tracing paper cylinders

2. Longino, J. T. (2002): Accessed December 2008 at <http://www.notesfromunderground.org/archive/vol912/methods/pictures.html>

# Upcoming Events

## *National Events*

March 24-26, 2009, [Sixth International IPM Symposium](#), Portland, OR  
December 6-10, 2009, NPDN National Meeting, Miami, FL

## *Diagnostician Training Events*

**Citrus Greening**, USDA-APHIS-PPQ-CPHST-NGBTL, Beltsville, Md.  
February 3, 2009

***Phytophthora kernoviae***, USDA-APHIS-PPQ-CPHST-NGBTL, Beltsville, Md.  
February 10-12, 2009  
February 17-19, 2009  
March 3-5, 2009  
March 10-12, 2009

## **Adult Lepidoptera Identification Workshops**

March 17-19 2009, University of California- Davis  
March 24-26, 2009, University of California- Davis

**Potato Wart**, USDA-APHIS-PPQ-CPHST-NGBTL, Beltsville, Md.  
March 17-19, 2009  
April 7-9, 2009  
April 17-19, 2009

## *Regional Events*

January 21-22, 2009, GPDN Annual Meeting, Fargo, ND  
March 18-19, 2009, NEPDN Annual Meeting, New Brunswick, NJ

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