Spotted Wing Drosophila Found in Michigan

Stephanie Stocks, Department of Entomology and Nematology, University of Florida

The spotted wing drosophila (*Drosophila suzukii* (Matsumara) Diptera: Drosophilidae) was detected in Michigan in the fall of 2010 (after the fruit harvest). It is an exotic, invasive from Southeast Asia that can damage fruit crops such as cherries, raspberries, strawberries, grapes, blackberries, and blueberries (i.e. fruits with soft flesh). Unlike other vinegar flies that attack damaged or decaying fruit, this one attacks maturing fruit. In as few as two days, feeding by the maggots will cause the fruit to collapse around the feeding site. It was detected in Hawaii in 1986 and in California in 2008. It has also been found in Oregon (2009), Florida (2009), Washington (2010), and most recently Michigan (2010).

The adult fly looks like many other drosophilids you may have seen with a body length of 2-3mm, red eyes, yellow-brown body color with dark bands on the abdomen. The males have a small black spot on the leading edge of its wing, near the tip (which results in this pest’s common name). The females have a sawlike ovipositor for inserting her eggs in the fruit. The larvae are 3mm in length, white to cream in color, and without legs or even a recognizable head (i.e. a typical maggot appearance). The pupae are oval, reddish-brown in color, and 2-3mm in length. The pupal cases have two small projections at one end. In Japan, this fly produces 13 generations in a year with a single life cycle being as short as 8-9 days. The reproductive potential of this insect is of particular concern. The adults can overwinter beginning in late summer or fall laying their eggs the following summer on early ripening fruit.

The Michigan Department of Agriculture needs the help of First Detectors in the area to aid in tracking the presence of these invasives over the coming year should they survive the Michigan winter. Please click here for more information.
In October 2010, the California Department of Food and Agriculture announced the detection of a red palm weevil (*Rhynchophorus ferrugineus* (Oliver) Coleoptera: Curculionidae) in Orange County. This pest is considered one of the world's worst pests of palms with infestation typically resulting in the death of the tree. They are attracted to damaged palms, but can also attack healthy ones. Its presence could impact not only nursery growers and date farmers, but also homeowners and landscape companies with all the palms that have been planted as ornamentals.

The red palm weevil is a native of Southeast Asia, but has since spread throughout Asia (including China and India), Northern Africa, the Middle East, Europe, Oceania (Australia, Papua New Guinea, etc.), and the Caribbean (Aruba and the Dutch Antilles). The adult measures 1.4-1.6 inches long, varies in coloration from a fairly uniform reddish brown color to a dark color with a red streak on its back (this color variation was the one found in California), and has a long, slender rostrum (snout). This snout is used by the female to penetrate palm tissue in which to deposit eggs. The eggs are light yellow, 2.5mm long, can be laid anywhere along the trunk, and hatch in one to six days. The larvae are legless with a pale yellow body and brown head and average two inches in length. They pass through three to seven instars before the pupal stage is reached (usually takes two months). The cocoon is made of coarse palm fibers and is located in the damaged tissues of the palm. Pupation takes three to four weeks and the adults can live for two to three months. Dispersal of this pest over large distances occurs primarily through the international trade in live palms. The adults, however, can disperse locally because they are strong fliers. They can move a little more than 4 miles in three to five days.

The detection of this pest in California was made by an observant landscape contractor who was removing a large dying Canary Island date palm from the home of a Laguna Beach resident. Adults and larvae were noted on the palm, along with feeding damage on the trunk. The landscaper contacted agricultural authorities who in turn sent the samples to the USDA-ARS Systematic Entomology Laboratory for identification. They determined that the unknown beetles and larvae were, in fact, the red palm weevil.

State and local agricultural officials working with USDA conducted a door-to-door survey and deployed pheromone baited traps in a 9 mile square area (a 1.5 mile radius around the initial detection point) to determine if there was an infestation. As of today, the red palm weevil seems to remain confined to the original Laguna Beach neighborhood. Confirmed dead specimens and damage were noted from two sites while a live weevil was found in one site. Trapping continues throughout the area along with visual surveys that are conducted in association with reports submitted to the California Department of Food and Agriculture hotline. No weevils have been found in the traps and hopes are high that the infestation is small and confined to the immediate area.
Exotic Long-horned Beetle Found in Fargo, North Dakota

Patrick Beauzay, Research Specialist, Department of Entomology, North Dakota State University

A single live adult Purpuricenus temminckii (Guérin-Méneville), a stem-boring long-horned beetle native to China, Korea and Japan, was discovered at a local business that sells oriental furnishings. Dr. Gerald Fauske and I identified the beetle and contacted North Dakota state entomologist Dave Nelson, who relayed the information to APHIS-PPQ. The specimen was sent to the regional cerambycid identifier, who confirmed our identification.

A Pest Alert was issued by APHIS-PPQ for the genus Purpuricenus in January, 2000, after a Purpuricenus species was found in a nursery in St. Paul, MN, emerging from dried bamboo stakes that were imported from China. Exotic Purpuricenus species are classified as quarantine pests.

Purpuricenus temminckii (see photo) appears to utilize only bamboo species (live and felled) as hosts. I could find no literature indicating otherwise. Six other Asian Purpuricenus species are associated with fruit trees. Six Purpuricenus species are native to North America, ranging from the eastern United States south to Texas and west to California. North American species are borers of deciduous hardwood species.

Protect U.S. Webinar Held on February 8

Stephanie Stocks, Department of Entomology and Nematology, University of Florida

The Protect U.S. webinar had 209 participants which heard about existing and upcoming educational material developed for the program. Scripted presentations and e-learning modules that are currently available include: Overview: Invasives that Affect Plants and Laurel Wilt and the Redbay Ambrosia Beetle. Scripted presentations and e-learning modules for Citrus Greening and the Asian Citrus Psyllid, Plant Biosecurity, and Wheat Stem Rust Ug99 should be available within the next few months. A lesson plan that features Plant Biosecurity will also be available in this time period. To view the presentations given during the webinar, go to www.protectingusnow.org and click on Training. To view the scripted presentations and e-learning modules, click on Educational Material.

About NPDN:

The NPDN is a network of state and federal officials, land grant universities, and First Detectors whose mission is to detect, diagnose, and disseminate information regarding high consequence plant disease or pests. The NPDN was established in 2002 in response to a need for greater agricultural security.

Over the past eight years the NPDN has grown into an internationally respected consortium of plant diagnostic laboratories. The five regions that make up the NPDN are the: NEPDN, SPDN, NCPDN, GPDN, and WPDN.

Please feel free to browse the links to the various regions to get a better idea of what is going on in your part of the country.
Beta Testers Needed for ID Source

Julia Scher, Resource Developer, Identification Technology Program, USDA, APHIS, PPQ, CPHST

ID Source, a gateway to identification resources on the Internet, has been released for beta testing by USDA’s Center for Plant Health Science and Technology, Identification Technology Program (CPHST ITP).

CPHST ITP invites you to participate in beta testing of this ID Source beta release. We seek interested individuals willing to test-use ID Source and then provide beta feedback about their experience. As a beta tester you have the opportunity to get involved in determining how ID Source will develop and what it will become, making it a better product for its users, including you. By giving beta feedback about your experience using ID Source, you will provide ID Source developers with input they need to decide what features and functionality to change, add, and remove.

To be a beta tester, go to http://idsource.colostate.edu. After using ID Source as much as you like, click on the “Provide Beta Feedback” button at the top right of every page. There you can provide open-ended comments and/or respond to a 10-question survey.

We value your beta feedback. All feedback received will be gathered and analyzed, and results incorporated into the second beta version, and ultimately, the first live release.

ID Source is your gateway to an identification-themed subset of the web, a subset focusing on plant pest, weed, and disease groups of concern for plant protection and quarantine. This subset contains, e.g., keys, fact sheets, screening aids, and image galleries specifically designed for or otherwise facilitating identification, as well as recognition, verification, diagnostics, and screening of organisms of current and future concern to the United States.

By gathering from the perhaps millions of web sites only those felt to be of value to its users, ID Source concentrates useful identification-themed, plant pest web resources in one, easily accessible place. ID Source calls such web sites “ID Aids.” ID Source then leads users to these ID Aids via its search fields, among them organism group, site content, scientific name, commodity, and region, with which users can perform tailored searches that lead to more fruitful and helpful ID Aid results than standard Internet search engine searches can provide. Visit the “About” page at the above URL to learn more about ID Source and its background.

Continued on next page

ID SOURCE: UPCOMING RELEASES

June 2011 - ID Source Beta 2
Revamped home and results pages and search capability, based on user feedback

September 2011 - ID Source Live 1.0
ID Aid rate and review and other features to be determined, based on user feedback

Source’s Search Results page showing the 10 ID Aids resulting from a combined search for screening aids for the insect order Lepidoptera (moths and butterflies) associated with fruit and vegetable commodities. The lower right corner graphic shows the ID Aid information users can see by clicking on the “More Detail” button to the right of each ID Aid listed. In this case, information including Commodity, Region, Taxonomy, and the URL are shown for the ID Aid “Guide to Codling Moth Damage Identification.” By clicking on either the ID Aid’s Title or its URL, users will be sent directly to the ID Aid’s home page (upper right hand corner).
ID Source’s success depends on its users; their participation is an essential component. Users will be able to contribute ID Aid suggestions (including their own), let us know about ID Aid problems, and will soon be able to rate and review ID Aids. Through natural end-user participation, ID Source is envisioned to become dynamic, current, relevant, and self-sustaining; the first stop for online identification needs.

During 2010, an ID Source alpha release went through two extensive human-computer interaction studies, which provided guidance resulting in the design and functionality you see today. ID Source is in the beta development phase because it is now ready for testing by a diverse user group intended to be a subset of its eventual audience.

ID Source is being developed to serve the needs of those directly involved with pest detection and identification, as well as those ultimately responsible for actions dependent on pest detection and identification as they concern U.S. agriculture and natural resources. The primary users are intended to be individuals within APHIS-PPQ, but other users of major importance are PPQ’s international, national, state and local government cooperators. The diversity and breadth of ID Aids in ID Source are meant to serve this broad user base in support of U.S. plant protection and quarantine.

ID Source is being developed by USDA CPHST’s ITP in cooperation with Colorado State University. If you have questions or comments about ID Source, please contact: Julia Scher at Julia.L.Scher@aphis.usda.gov or (970) 490-4465.

First Detector Training Opportunities:
• February 24 - Online First Detector Training & Pest Update - click here to register

Employment Opportunities:
• Assistant Professor - Cropping Systems Disease Management Specialist Job posted at University of Nebraska - Lincoln. Click here for more information.
• For additional listings, click here.

Do you tweet?
• Click here for updates.

Upcoming Meetings:
• February 28 - March 24 marks the National Invasive Species Awareness Week with meetings and workshops held in Washington, D.C. - click here for more details.
• June 5-7 - the Florida State Horticultural Society Meeting will be held jointly with the Soil and Crop Science Society in St. Petersburg, Florida - click here for details.
• October 11-14 - the International Master Gardener Conference will be held in Charleston, West Virginia - click here for more details.
• November 6-8 - the third annual NPDN meeting will be held in San Francisco, California - click here for more information.

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To submit news items in future editions of the newsletter, contact clharmon@ufl.edu or sstocks@ufl.edu. You can include a short descriptive paragraph, links, and related images or documents – don’t forget to include author credits though.