International Oak Society

Oak News & Notes

THE NEWSLETTER OF THE INTERNATIONAL OAK SOCIETY, VOLUME 13, NO. 2, SUMMER 2009

Oak Wilt Rears Its Ugly Head

In 2008 one red oak hybrid (*Quercus rubra* × *ellipsoidalis*) was diagnosed with oak wilt disease (*Ceratocystis fagacearum*) at Starhill Forest Arboretum in Illinois. The tree was removed to below grade and burned to prevent Nitidulid sap beetle vectors from spreading the fungus. The roots were treated with butoxyethyl ester of triclopyr (Garlon-4 herbicide) to try to prevent them from conducting the disease to adjacent trees via root grafting. One of the adjacent trees was another red oak (*Q.* ×*subfalcata*), and that tree has been watched very closely for any sign of infection. The other two closest trees were a white oak (*Q. mongolica*) and a Cerris oak (*Q. variabilis*), which presumably would be unlikely to root graft with the red oak and were considered comparatively safe.

In mid May of 2009, it was noticed that the *Q. mongolica* was displaying typical symptoms as normally seen on systemically infected white oaks (scattered wilt throughout the tree). A few days later, the *Q. variabilis* wilted rapidly with a similar pattern, and was defoliated within about 10 days. The following week, the *Q.* ×*subfalcata* began to wilt, showing the classic red oak symptoms (large branches wilting, beginning near the top of the tree and progressing rapidly downward).

Because each of these new infections occurred adjacent to the first tree, no new infections were found elsewhere in the stand, and there was no pruning activity or other noticeable damage that would have attracted the beetle vectors, it can be presumed that the fungus has been moving via root grafts across taxonomic sectional boundaries. To our knowledge, this has not previously been reported to occur. Confirmation would require full root excavation, which we are not prepared to do, but there is little doubt of the circumstances involved.

Continued on page 6, col. 1

New Pest Threatens California's Oaks

As if life wasn't tough enough already for California's oaks with Sudden Oak Death (see *International Oaks* issues 15 and 18), continuing drought, and anthropogenic impacts from residential developments, firewood harvesting and agricultural conversions, a new pest has emerged in the last several years that is decimating some oak species in southern California. This pest, called the gold-spotted oak borer or GSOD (*Agrilus coxalis*), has been killing thousands of oaks in the mountains in eastern San Diego County. This flatheader borer attacks the trunks and branches of mature oaks, feeding primarily at the interface between the sapwood and the phloem under the bark. To protect Southern California's majestic oaks, federal, state and local officials are urging San Diego County residents not to bring in firewood from outside the county, and to avoid chopping down backcountry oaks for burning in the fireplace. They worry that without intervention, GSOB will continue to spread in San Diego County and will then move north into Riverside County and other parts of the state. For this reason, some districts in the Cleveland National Forest have also stopped issuing permits to cut oaks for firewood. While officials recognize that the range of the pest will likely continue to expand, they feel they can slow its progress by educating the public and modifying firewood harvest regulations.

Experts think the GSOB (who some refer to as the Golden SOB!!), arrived in the county sometime in the last few years, hidden under the bark of imported firewood – most likely from Mexico or Arizona -- though that has yet to be confirmed. To date it has attacked coast live oaks (*Quercus agrifolia*), California black oaks (*Q. kelloggii*) and canyon live oaks (*Q. chrysolepis*), but has not been found on any white oak species. The beetle is about 10 mm long and 2 mm wide, with gold spots on its dark green forewings. It is a native of

Continued on page 6, col. 2

Website Up and Running

As you have read in the Editor's Introduction of your last issue of the Journal ***International Oaks***, the website is up and running. The latest information and registration forms for the 2009 Conference in Puebla, as well as for the Pre- and Post-Conference Tours, are now available on the website.

Thus far, nine members have contributed information about their arboreta or gardens; in Oak Collections Around the World you can access this information. One of the many useful tools included in the website, Oak Collections Around the World attempts to collect and make available valuable information about who's growing what. You can all contribute to this project, indeed, it is essential!

Many thanks to Mr. Russell Ryan, a new Society member and the first to contribute to the Seed/Plant Exchange. If you want to visit the **Seed/ Plant Exchange** you need to select it from the main menu on the left-hand side of the screen. If you wish to contribute seeds or plants to exchange, in **Create Content** you will find **Seed/ Plant Exchange** in the drop down menu.

Contributions are all made through the **Create Content** menu (upper right-hand side of the screen) except for weblinks. This is found in the main menu, **Suggest a Link**.

Information submitted by members is not immediately published. It is first posted on the home page of Board Members who have authority to approve submissions. Once this is done, your contribution is published on the website and hence available to all members.

There are of course some bugs in the system – some because it is the nature of technology, others because in some

Continued on page 5, col. 1

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Oak News & Notes
The Newsletter of the International Oak Society
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Highlights from Recent SOD Symposium

In mid-June 2009 the Fourth Sudden Oak Death (SOD) Science Symposium was held in Scott's Valley, California. This meeting was attended by 200 people including scientists from Europe, South America, Canada and over a dozen different states. The latest information on detection, epidemiology, genetics, management and ecological impacts was presented in 57 oral presentations and 47 posters. Some of the highlights of the information presented include the following:

• In California the outside perimeter of the infected area has not expanded much since 2002. However, there has been continual infilling within the 14 infested counties and the number of confirmed species, as well as the number of infected individual plants and trees killed, has increased dramatically.

• In Europe, on the other hand, the number of countries with confirmed SOD cases has expanded rapidly. The vast majority of new infections have been in nurseries or garden centers. Nine countries have reported non-nursery outbreaks, mainly affecting rhododendron. Only Britain and the Netherlands have had confirmed tree-bole infections.

• In spite of some reports to the contrary, and observations by many firefighters battling blazes in SOD-impacted forests (i.e. the extensive fires in the Big Sur area last year), preliminary assessments of fire severity and damage suggest that elevated mortality from SOD has not greatly increased fire risk or fire behavior in infested areas that have recently had wildfires.

• Programs to monitor *P. ramorum* using stream baiting have detected the pathogen in waterways in four states: California, Florida, Mississippi and Washington. Although there currently is no evidence that it has spread to adjacent plants on land, the widespread detection in water suggests that the pathogen can move from infected nurseries to waterways, potentially increasing the risk of spread into the environment.

• Models predicting the future spread of SOD in the United States (without efforts to restrict pathogen movement) indicate that coastal forests in Northern California and the Pacific Northwest will likely have significant increases in SOD infestations in the next two decades.

• The threat of SOD being transmitted via nursery stock will continue, largely because infected plant material can be asymptomatic and soil can contain viable spores, making it virtually impossible to identify – and destroy - every infected plant.

• The number of recognized *Phytophthora* species in the world has nearly doubled in the last decade and further discoveries of new species are almost guaranteed. Unfortunately, current detection and quarantine efforts focus exclusively on known and named disease species. This means that efforts to identify and control new species will clearly be inadequate, resulting in new outbreaks threatening native plant communities.

• Phosphonate (Agri-Fos®) treatments on individual trees have proven effective in reducing infections and prolonging tree life, as long as the trees are treated before they are infected. It remains unclear, however, if more broad-scale wildland treatments (i.e aerial spraying from helicopters) are biologically sound or economically feasible.

• SOD eradication efforts (removing all susceptible host species in infested areas) in southern Oregon appear to be slowing the spread of the pathogen. But new infections have continued, in part because sprouting tanoak clumps continue to harbor the disease. As a result, numerous new detections outside the perimeter of the original treated area have been identified, resulting in a substantial increase in the size of the quarantine area.

Continued on page 6, col. 1

send your photos & illustrations to the editor!

Sixth International Oaks Conference Abstracts & Registration

We are waiting for all attendees to submit their abstracts or papers for the upcoming conference. Remember, your participation is very important. This is an ideal opportunity to share information about oaks with others in the Society, thus increasing everyone's knowledge and understanding of *Quercus*, which in turn will promote better management and conservation. It is also a great opportunity to make contacts and establish relationships with others interested in oaks. To submit an abstract you need to be a Society member first (annual registration is $25.00) and submit your conference registration fee of $300.00.

If you are not going to submit a paper and are only planning to attend the conference, you should also register right away. Registration details can be found on the Society's web: http://www.internationaloaksociety.org

The itineraries for both the Pre- and Post-Conference Field Trips are listed below:

Pre-Conference Tour to Taxco 17-19 October 2009
This tour will start in Mexico City on October 17 at 09:00. Those attending should stay in Camino Real Airport Hotel as the tour will leave from there. In case you already have a plane ticket to Puebla, let us to know so that we can arrange transportation to Mexico City. You can book your evening of October 16 by contacting the following:

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The first day (Oct. 17) we are planning to visit an oak forest near to Mexico City and then head to Taxco in Guerrero State where we will arrive at approximately 18:00. The morning of the 18th we will visit the Taxco mountain surroundings where we will have the opportunity to see about 17 oak species including *Q. urbanii*, *Q. scytophylla*, and *Q. candicans*. After that, we will travel to Puebla City where we will spend the night. On Oct. 19th we will tour the surroundings of Puebla City where different oak species will be seen, arriving back at the hotel about 16:00.

The cost of the tour is $ 255 (double room) plus $ 61 for

Continued on page 5, col. 1

Continued from page 2, col. 1

Website Up & Running

areas better decisions could have been made and still others because of budget constraints. For example, if you receive an e-mail saying that your membership has expired, please do not worry about this. However, it would be helpful if you let me know. Similarly, if you have problems accessing your account, please let me know.

More than "up and running" the web site is "ready and waiting". Ready to become a useful tool that will facilitate communication between members, as well as certain administrative tasks, and waiting for your contributions in order to become that.

Béatrice Chassé
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Continued from page 4, col. 2

6th International Oaks Conf.

single occupancy, but may change if not enough people sign up. Dinners are not included. A detailed Itinerary will be sent to the Pre-Conference tour participants.

Post-Conference Tour to Sierra Norte de Puebla. 23-25 October 2009

This tour is devoted to seeing the rare oak species *Q. insignis* and *Q. corrugata*, two of the most magnificent oaks in Mexico. The 3 day/2 night tour will start the day after the end of the Conference (Oct 23). We will first travel to Huatusco and Xalapa where we will be spending the night. This area is the wettest part of Veracruz where *Q. insignis*, *Q. germana* and *Q. xalapensis* are the most abundant oaks.

The next day (Oct. 24) we will head to Sierra Norte de Puebla, where we will see *Q. corrugata* and *Q. lancifolia*, among other species. We will spend the night in Cuetzalan in the middle of the Sierra. The road there is long and winding, but the scenery is magnificent. The tour will end Oct. 25th about 18:00 when we will arrive back in Puebla City. After that you can either stay in Puebla in the hotel of your choice or head back to the airport in Mexico City.

Once you have decided what to do, or if you have any queries, please contact Mrs. Irinna A. Petrak who is compiling all the information in order to know which individual arrangements need to be made. Her email address is acevedoirinna@hotmail.com. The Post-Conference Tour will cost $ 295 (double room) plus $15 for single occupancy. Dinners are not included.

Hola and see you in Mexico!

Book Review: "The Oaks of Chevithorne Barton"

Chevithorne Barton in Devon (UK) is where Michael Heathcoat Amory, a long-standing member of the International Oak Society, created an oak collection that became the UK's National Collection in 1992. With 384 named taxa it is probably the largest oak collection in the world - and qualitatively the best because each specimen has been checked and validated by Allen Coombes. These two factors obviously make this collection a fascinating laboratory for horticulturists, as well as for scientists investigating a variety of questions including crucial issues such as phenotypic responses to the environment and what this may imply about our understanding of genotype, and ultimately, about our definition of what a species is.

More than just a book about oaks, this is a book about growing oaks in Devon. The botanical descriptions (written by A. Coombes) are followed by comments and observations relating to the behaviour of each species in this particular environment – precious information for anyone growing oaks in other environments. Organised in alphabetical order, 96 species receive full descriptions and are accompanied, where appropriate, by descriptions of similar or related species, subspecies and/or hybrids in the collection. For anyone (or should I say everyone ?) struggling with oak identification, this is unquestionably the best way to organise such a book.

The introductory text, written by Michael Heathcoat Amory, also yields much information about

Continued on page 6, col. 1

Continued from page 5, col. 1

Book Review: "The Oaks of Chevithorne Barton"

the science of growing oaks and, although not every specimen is mentioned, one gets the feeling from what is written that Michael holds a deep personal relationship with all of his trees; this is surely what accounts for the poetry of his comments.

Introductory texts covering oak propagation (James MacEwen), the origin of oaks (Richard Jensen) and oak classification (Allen Coombes), beautiful and detailed photography by James MacEwen, faultless editing and proof-reading, plus a sober and elegant graphic design, all contribute to make this a truly valuable addition to any botanic library. Appendices include a map of Chevithorne Barton, a complete accessions list, a glossary and a conversion table, to name but a few.

The book may be ordered from timesonline.co.uk/booksfirst or through amazon.uk and costs £25.00.

Béatrice Chassé

Continued from page 1, col. 1

Oak Wilt Rears Its Ugly Head

We are treating all surrounding oak trees via macro-infusion root-flare injection of propiconazole (Alamo fungicide) and preparing to severe root connections with a trencher. Once that has been completed, the symptomatic trees will be removed and burned to prevent beetle access. Meanwhile, we are seeking any observations from other Society members regarding previous observations of natural root grafting leading to disease transmission across sectional lines.

Please forward comments (or condolences!) to Guy@StarhillForest.com .

Guy Sternberg

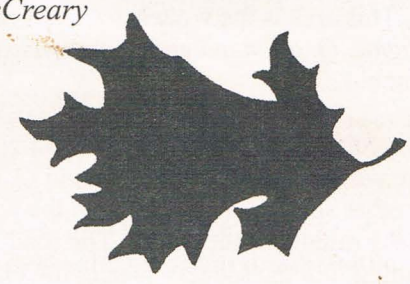
Continued from page 1, col. 2

New Pest Threatens California's Oaks

Arizona, Mexico and Guatemala. "The jury's still out on whether this is a natural expansion of the territory of this beetle or whether it is an introduced species," said Bob Atkins, San Diego County Agricultural Commissioner. A recently written Pest Note on the GSOB can be viewed at the Cleveland National Forest web site: (http://www.fs.fed.us/r5/cleveland/).

Unlike some pests that seem to only target weak or stressed trees, the GSOB also attacks large, vigorous, and healthy trees, including urban trees in people's yards. As yet there is no recommended treatment, largely because so little is known about the insect. So far, more than 17,000 oaks have succumbed to the borer at elevations ranging from about 650 m above sea level to almost 2000 m. While residents of the affected areas watch in dismay as this new pest takes its toll, scientists are trying to learn more about the beetle and understand its life cycle and behavior so that treatments and management recommendations can be developed and tested. Until then, efforts are focused on educating the public and preventing the spread through the movement of firewood.

Doug McCreary



Continued from page 3, col. 2

Highlights from Recent SOD Symposium

- It is anticipated that Symposium presentations (oral and visual) will be posted by mid-July, to the California Oak Mortality Task Force website: http://www.suddenoakdeath.org/. A Conference Proceedings will also be published.

Doug McCreary