



CALIFORNIA OAK MORTALITY TASK FORCE REPORT FEBRUARY 2008

P. KERNOVIAE

The UK's Department for Environment, Food, and Rural Affairs (DEFRA) has confirmed the first finding in the wild of *P. kernoviae* on Bilberry (*Vaccinium myrtillus*) at a site in Cornwall, England. Containment and eradication strategies are under consideration with local stakeholders, and further investigations are underway to confirm that this finding is an isolated incident.

Bilberry is native to heaths, moors, and acidic woodlands, and forms an integral component of native heathland. It is commonly found throughout the British Isles and southeast England. Other known hosts to date include: *Fagus sylvatica* (beech), *Rhododendron* spp., *Quercus robur* (English oak), *Quercus ilex* (Holm Oak), *Gevuina avellana* (Chilean hazelnut), *Liriodendron tulipifera* (tulip tree), *Magnolia stellata*, *Michelia doltsopa* and *Pieris formosa*. For more information, go to the DEFRA website at: <http://www.defra.gov.uk/news/2008/080114b.htm>.

In January 2008, *P. kernoviae* was found for the first time in Scotland on two rhododendron plants in a private garden. Inspectors with the Scottish Government and Forestry Commission are surveying the rest of the garden and as well as a 3km-wide zone around the outbreak site. All plants found to be infected will be destroyed as well as any host plants within 2 meters of the confirmed plant(s). For more information, go to The Scottish Government website at: <http://www.scotland.gov.uk/News/Releases/2008/01/10144052>.

FUNDING

The USDA Forest Service, Pacific Southwest Research Station, has issued their [2008 Request for Proposals for Sudden Oak Death/*Phytophthora ramorum* research](#). Approximately \$750,000 will be awarded in 2008 through an international competitive process.

Proposals are due on or before Friday, **March 14, 2008 at 4:00 p.m.** For more information, contact Susan Frankel, Sudden Oak Death/*Phytophthora ramorum* Research Program Manager, at sfrankel@fs.fed.us or 510-559-6472.

RESEARCH

Anacker, Brian L.; Rank, Nathan E.; Hüberli, Daniel; Garbelotto, Matteo; Gordon, Sarah; Harnik, Tami; Whitkus, Richard; and Meentemeyer, Ross. 2008. [Susceptibility to *Phytophthora ramorum* in a key infectious host: landscape variation in host genotype, host phenotype, and environmental factors](#). New Phytologist 177: 756–766. DOI: 10.1111/j.1469-8137.2007.02297.x.

DiLeo, M.V.; Bienapfl, J.C.; and Rizzo, D.M. 2008. [Phytophthora ramorum infects hazelnut, vine maple, blue blossom, and manzanita species in California](#). Online. Plant Health Progress doi:10.1094/PHP-2008-0118-02-BR.



Frankel, Susan J. 2007. [Sudden oak death and *Phytophthora ramorum* in the USA: a management challenge](#). Australasian Plant Pathology, 37, 19–25.

Grünwald, N.J.; Goss, E.M.; Larsen, M.M.; Press, C.M.; McDonald, V. T.; Blomquist, C.L.; and Thomas, S.L. February 2008. First Report of the European Lineage of *Phytophthora ramorum* on *Viburnum* and *Osmanthus* spp. in a California Nursery. Disease Notes Volume 92, Number 2, Page 314. DOI: 10.1094/PDIS-92-2-0314B.

Grünwald, N.J.; Kitner, M.; McDonald, V.; and Goss, E.M. 2008. [Susceptibility in *Viburnum* to *Phytophthora ramorum*](#). Plant Dis. 92:210-214.

Linderman, R.G. and Davis, E.A. January–March 2008. [Eradication of *Phytophthora ramorum* and Other Pathogens from Potting Medium or Soil by Treatment with Aerated Steam or Fumigation with Metam Sodium](#). HortTechnology 18(1), Pages 106-110.

Vettraino, A.M.; Huberli, D.; and Garbelotto, M. 2008. [Phytophthora ramorum infection of coast live oak leaves in Californian forests and its capacity to sporulate in vitro](#). Australasian Plant Pathology, 37, 72–73.

DEFRA's Central Science Laboratory (CSL) has issued their "Investigation of Alternative Eradication Control Methods (Heat Treatment) for *P. ramorum* and *P. kernoviae* on/in Plants." It can be found on the DEFRA website at: <http://www.defra.gov.uk/plant/ramorum/phe2122reports.pdf>.

In Brief: Wet and dry heat treatments were investigated for the eradication of *P. ramorum* and *P. kernoviae* on *Camellia*, *Rhododendron* and *Viburnum* plants. Initial experiments determined the lethal threshold temperature and exposure times for three isolates of each *Phytophthora* species using wet (hot water) and dry-heat treatments against mycelium and sporangia.

Overall, wet heat treatments were more effective than dry heat treatments and *P. kernoviae* was consistently more temperature sensitive than *P. ramorum*. Mycelia of both *Phytophthora* species were more sensitive to wet heat treatment than sporangia, whereas sporangia were more sensitive to dry heat treatments than the mycelium.

DEFRA's CSL an "Epidemiology of natural outbreaks of *Phytophthora ramorum* Final Report," has been posted to the DEFRA website at: http://randd.defra.gov.uk/Document.aspx?Document=Ph0195_6395_SD5.pdf.

In Brief: Since the first finding in a UK nursery in 2002, over 150 outbreaks of *P. ramorum* have occurred in managed gardens, woodland, or wild planting areas in England and Wales. Three of the large managed gardens with outbreaks were selected



for intensive study, as were further outbreak sites. The progress of existing infections and the development of new infections were monitored at each site.

Overall, study results indicate that a strategy of early removal of infected plants and surface leaf litter has been successful in reducing inoculum and preventing further disease spread. However, residual levels of contamination remain in the soil, leaf litter, and watercourses. The risk of these residual levels providing inoculum for further disease outbreaks remains unknown. These results are in agreement with latest findings from monitoring of *P. ramorum* outbreaks in the United States. Ongoing monitoring of the UK sites during 2006/07 will continue to assess the outbreak situations and provide additional epidemiological information for the development of strategies for the eradication and containment of *P. ramorum*.

A summary table of *P. ramorum* isolates is now available online at:

http://www.jki.bund.de/cln_045/nn_932586/SharedDocs/12_G/Publikationen/phytophthora/Phytophthoramorum_isolatelist.pdf.html. Summary details include the country and institute that originally isolated the strain, as well as information on the host plant from which it was isolated. To add a new isolate or information on an isolate already included in the report, contact Sabine Werres at Sabine.Werres@jki.bund.de.

The following five papers on remote sensing, modeling, and spatial-temporal mortality patterns have been published by Maggi Kelly, UC Berkeley and associates.

Guo, Q.C.; Kelly, M.; Gong, P.; and Liu, D. 2007. [An object-based classification approach in mapping tree mortality using high spatial resolution imagery](#). *GIScience and Remote Sensing* 44(1): 24-47.

Kelly, M.; Guo, Q.; Liu, D.; and Shaari, D. 2007. [Modeling the risk of a new invasive forest disease in the United States: an evaluation of five environmental niche models](#). *Computers, Environment and Urban Systems* 31(6): 689-710.

Liu, Desheng; Kelly, Maggi; Gong, Peng; and Guo, Qinghua. December 15, 2007. [Characterizing spatial-temporal tree mortality patterns associated with a new forest disease](#). *Forest Ecology and Management*, Volume 253, Issues 1-3, Pages 220-231. [doi:10.1016/j.foreco.2007.07.020](https://doi.org/10.1016/j.foreco.2007.07.020).

Pu, R.; Kelly, M.; Anderson, G.L.; and Gong, P. 2008. [Spectroscopic determination of health levels of coast live oak \(*Quercus agrifolia*\) leaves](#). *GeoCarto International* 23 (1): 3-20.

Pu, R.; Kelly, M.; Anderson, G.L.; and Gong, P. In Press. [Using CASI hyperspectral imagery to detect mortality and vegetation stress associated with a new hardwood forest disease](#). *Photogrammetric Engineering & Remote Sensing*.

**REGULATIONS**

Corylopsis spicata (spike witch hazel - Hamamelidaceae) and *Physocarpus opulifolius* (ninebark - Rosaceae) were added to the list of federally regulated associated host plants in December 2007. The Canadian Food Inspection Agency found both plants naturally infected in a British Columbia, Canada nursery. Spike witch hazel symptoms were identified as leaf necrosis and ninebark symptoms included leaf necrosis and dieback.

USDA APHIS has posted a new protocol for retail nurseries found infested with *P. ramorum*, “Official Regulatory Protocol for Retail Nurseries Containing Plants Infested with *Phytophthora ramorum*,” to their website:
http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/rCNP_12-19-07r.pdf.

The USDA APHIS “Notice of Request for Approval of an Information Collection; *Phytophthora Ramorum* Surveys and Data Collection Form” has been published in the Federal Register and is open for public comment through February 8, 2008.

APHIS has developed a questionnaire for property owners and managers where *P. ramorum* is found and in areas where surveys are being conducted. The surveys would help determine the infection source/origination. They have also developed a data collection form to assist in determining how the pathogen is spreading. APHIS is asking the Office of Management and Budget to approve these activities for 3 years.

For more information, go to: <http://www.regulations.gov/search/index.jsp>. Using the “Search for Documents Open for Comment” function, select “Animal and Plant Health Inspection Service” from the agency drop-down menu, then “Submit.” In the Docket ID column, select APHIS 2007-0137 to submit or view comments and to view supporting and related materials. You may also contact Jonathan Jones at (301) 734-8247.

In December 2007, the Canadian Food Inspection Agency (CFIA) published amendments to the “*Phytophthora Ramorum* Compensation Regulations.” The amendments promote timely compensation payments to individuals and nursery producers who incurred losses as a result of activities required by CFIA to eradicate *P. ramorum*.

Compensation is intended to cover costs to Canadian nursery owners as well as landscapers and private property owners for disposal of infected plant material and soil, and loss of intended use for the plant material. Compensation payments will support the purchase of replacement plants as appropriate. The provision of compensation is in keeping with CFIA’s overall strategy to promote early reporting when pests are found and to assist producers in complying with their obligations to carry out eradication and control activities.

The *Phytophthora ramorum* Compensation Regulations came into effect in June 2007, and cover activities from 1/1/03 to 12/31/08. Applications for compensation must be



submitted on or before December 31, 2010. For [more information on *P. ramorum* and on how to apply for compensation](#), visit the CFIA's website at www.inspection.gc.ca or contact Shane Sela at (250) 363-3432.

COMTF-WIDE MEETING

The “Sudden Oak Death: A Decade of Management Challenges” 2008 COMTF-wide annual meeting will be held in San Rafael at the Marin Center, April 15 – 17, 2008. On April 15th, an afternoon field trip will be provided for attendees interested in seeing Sudden Oak Death after 10 years in Marin County. An evening reception at a local brewery will follow. On 4/16, presenters at the COMTF meeting will provide general nursery, wildland, and regulatory updates as well as the latest management and research information available and challenges being faced. The Nursery Committee (open to all interested parties) will wrap up the meeting on 4/17, with a half-day session focusing on nursery-related research, management and regulation issues. For more information, or to register by the 4/11 deadline, go to the Task Force website at: www.suddenoakdeath.org.

EDUCATION

Sudden Oak Death (SOD) Treatment Workshops, sponsored by UC Cooperative Extension, UC Berkeley, the US Forest Service, Pacific Southwest Research Station, and the COMTF, are being offered once a month from March to July in 2008 at Tolman Hall “Portico,” UC Berkeley campus (future dates will be forthcoming). Each 2-hour field workshop will provide basic information on SOD/*P. ramorum*, integrated pest management approaches to managing SOD, how to select candidate trees for treatment, and proper treatment application.

The workshops are free; however **registration is required** and space is limited to 20 people. To register, email SODtreatment@nature.berkeley.edu, and provide your name, phone number, affiliation (if applicable), and the date for which you are registering.

Tolman Hall is on Hearst Avenue @ Arch/Le Conte, a short block past the Oxford Street-Hearst Avenue intersection. This is the NW corner of the UC Berkeley campus. For directions and parking information, go to:

<http://www.berkeley.edu/visitors/traveling.html>. Workshops will be held regardless of weather conditions, so please come prepared for wet weather.

RESOURCES

Forest stewardship leaflet series on the Internet: The UC Cooperative Extension Forestry Program and the UC Center for Forestry have released a 24-part Forest Stewardship leaflet series. Although designed for California landowners, people in other regions may find it helpful. To download the leaflets, go to <http://anrcatalog.ucdavis.edu> and type “forest stewardship” into the search box.

The COMTF 2007 Sudden Oak Death Education and Outreach Accomplishment Report is now available on the Task Force website. To access the report, go to: http://nature.berkeley.edu/comtf/pdf/COMTF_2007_outreach_accomplishments.pdf.

**MANAGEMENT**

The Sonoma County Strategic Response Plan has been accepted by the County Board of Supervisors. To access the plan, go to the Sonoma County website at: <http://www.sonoma-county.org/des/>.

KUDOS

Thanks go to Holly LaCount, a high school senior and member of the Freshwater 4-H Club in Eureka, who fulfilled a community service project requirement by sewing 90 fiberglass mesh stream bags to aid in watercourse monitoring for *P. ramorum* in Mendocino, Humboldt, and Del Norte Counties. These bags will be filled with rhododendron leaves and used as bait to attract any *P. ramorum* spores present in each of the monitored streams. The bags will be deployed by a team of ecologists and foresters working for UC Cooperative Extension, the Bureau of Land Management, the Hoopa and Yurok Tribes, and Redwood National Park.

PERSONNEL

Michele Laskowski has replaced Jim Jensen as the new Sudden Oak Death

Outreach Assistant for UC Cooperative Extension, Marin. Before earning her Masters degree at Colorado State University, Michele served as a Peace Corps Volunteer in El Salvador. In her new role she looks forward to participating in public education activities, as well as research, protection, and restoration efforts. Michele can be reached at: (415) 499-3281 or via email at mlaskowski@co.marin.ca.us.



Allison Wickland has left her position with the UC Davis, Rizzo lab where she had been working on SOD issues in the Big Sur area. Any future questions regarding Sudden Oak Death in Big Sur should be directed to her coworker, Kerri Frangioso, at kfrangioso@ucdavis.edu. Allison has decided to do some traveling, and may be reached via email at alliwickland@gmail.com.

CALENDAR OF EVENTS

2/12 – Burlingame Sudden Oak Death Community Meeting; Public Library, Lane Room; 480 Primrose Rd.; Burlingame, CA 94010; 6:30 p.m. – 8:30 p.m.; For more information, contact Katie Palmieri at (510) 847-5482 or palmieri@nature.berkeley.edu.

3/12 - Sudden Oak Death (SOD) Treatment Workshop; Tolman Hall “Portico,” UC Berkeley Campus; 1 – 3 p.m.; Pre-registration is required. This class is free. For more information, see “Education” above. To register, email SODtreatment@nature.berkeley.edu, and provide your name, phone number, affiliation (if applicable), and the date for which you are registering. For more information, contact Katie Palmieri at (510) 847-5482 or Palmieri@nature.berkeley.edu.



- 3/14 – 2008 USDA FS Pacific Southwest Research Station Request for Proposals**
Deadline; Proposals must be received by 4:00 p.m.; For more information, contact Susan Frankel at sfrankel@fs.fed.us.
- 4/11 – Online Registration Deadline for “Sudden Oak Death: A Decade of Management Challenges” COMTF 2008 general meeting;** To register, go to the COMTF website at:
http://nature.berkeley.edu/comtf/html/comtf_2008_meeting.html; For more information, contact Janice Alexander at JAlexander@ucdavis.edu.
- 4/15 – Free half-day Marin County field trip highlighting 10 years of forest disease;** 1 – 5 p.m.; Wear hiking shoes and layered, comfortable clothing. To register, go to: http://nature.berkeley.edu/comtf/html/comtf_2008_meeting.html. For more information, contact Janice Alexander at JAlexander@ucdavis.edu.
- 4/15 – COMTF Meet and Greet Evening Reception at a local brewery;** By registration only; 7 - 9 p.m.; To register, go to:
http://nature.berkeley.edu/comtf/html/comtf_2008_meeting.html. For more information, contact Janice Alexander at JAlexander@ucdavis.edu.
- 4/16 – “Sudden Oak Death: A Decade of Management Challenges” COMTF 2008 general meeting;** 8:00a.m. – 5 p.m.; Marin Center Showcase Theatre; 10 Avenue of the Flags, San Rafael, CA 94903; Registration Required; To register, go to: www.suddenoakdeath.org. For questions, contact Janice Alexander at JAlexander@ucdavis.edu.
- 4/17 – COMTF Nursery Committee Meeting; 9 a.m. – 1 p.m.; Marin Center,** Friends Room; 10 Avenue of the Flags San Rafael, CA 94903; Registration is free, but required. To register, go to: www.suddenoakdeath.org. For questions, contact Katie Palmieri at palmieri@nature.berkeley.edu.
- 5/4 – Bringing Back the Natives Free Garden Tour; 3 Sudden Oak Death talks will** be provided throughout the day.; Registration is required in order to receive a guidebook, which contains garden addresses, maps, and directions. The Tour is expected to fill up, so register early at: www.bringingbackthenatives.net.
- 8/23 – 8/24 – 3rd International *Phytophthora* and *Pythium* Workshop “Integration of** Traditional and Modern Approaches for Investigating the Taxonomy and Evolution of *Phytophthora*, *Pythium* and Related Genera,” Turin, Italy, in association with the 9th International Congress of Plant Pathology; For more information, or to register, go to: http://www.icpp2008.org/workshops_det1.php.