

Campus News > Media Relations

Berkeley

[NEWS SEARCH](#)[NEWS HOME](#)[ARCHIVES](#)[EXTRAS](#)[MEDIA RELATIONS](#)[Press Releases](#)[Image Downloads](#)[Contacts](#)

UC researchers announce results that could complicate measures to halt spread of Sudden Oak Death
10 Jan 2001

By Catherine Zandonella, Media Relations

NOTE: [Print-quality images available for download](#)

See also: [Cautions for Californians \(practical tips\)](#)

Berkeley - A common nursery plant may lead to increased complications and possible new management practices in the fight to halt Sudden Oak Death, a highly contagious fungal disease that is killing California oak trees, University of California researchers announced today (Wednesday, Jan. 10).

In a breakthrough in the study of the disease, UC researchers discovered that the rhododendron, a popular ornamental plant, can be infected by the same fungus that is causing the oak disease. The fungus has infected European rhododendrons and, as of yesterday, the researchers confirmed that it also is affecting California rhododendrons, suggesting a transcontinental link. Finding this relatively new fungus in two different parts of the world - and in two species - is unusual, the researchers said.



The rhododendron discovery gives insight to the potential origin and transmission of this pathogen and may suggest new ways of spread. Previously, the pathogen only was known in three other California oaks - tanoaks, coast live oaks and black oaks.

"We now know we have a host that could have carried the fungus a long way," said Matteo Garbelotto, a plant pathologist and adjunct professor in the Department of Environmental Science, Policy & Management in UC Berkeley's College of Natural Resources. "People don't really export oak trees across state lines or around the world," he said, "but they export rhododendrons."

The finding may have a major impact on how scientists manage the disease. Co-investigator David Rizzo, assistant professor of plant pathology at UC Davis, said it may result in new restrictions on the rhododendron nursery industry. "The big concern is that someone will transport a sick rhododendron to a place where there are susceptible oak species," he said.

The breakthrough came when a Clive Brasier, a British researcher who had visited UC Berkeley last summer, later noticed in Europe a fungus that looked like one he'd seen in Garbelotto's lab. The European fungus had been found on rhododendrons in Germany and the Netherlands. Brasier contacted the UC scientists, and researchers from all four countries

determined together that the European rhododendron fungus was identical to the California oak-killing agent. This finding established that the fungus is not exclusively found in California and has important implications for international trade.

But Rizzo and Garbelotto needed more proof to confirm the link between the two plant species, and yesterday they got it. Rizzo and Steve Tjosvold, a Santa Cruz County farm advisor, found the fungus in a rhododendron taken from a Santa Cruz County nursery, and Garbelotto confirmed with DNA analysis that it was the same fungus killing the oaks.

The scientists don't know whether the disease was transmitted from California to Europe, or vice versa, or whether it traveled to both places from a third, as yet unknown, location. The fungus, first noted in European rhododendrons in 1993, has not been found in European oaks. However, European scientists are concerned that the disease will spread to European oak forests, particularly those in areas with a climate similar to that of California.

Since the discovery of the mysterious oak-killing illness in California in 1995, researchers have been scrambling to understand the disease and design strategies to stop its spread. It is not known if the fungus recently was introduced into California, or if it is a native fungus that recently became a tree-killer because of environmental changes. Tens of thousands of oak trees have succumbed to the disease, and the researchers have reported up to 80 percent mortality in some infected groves.

Through molecular sleuthing, Rizzo and Garbelotto determined that the disease was caused by a never-before-seen strain of fungi from the genus *Phytophthora* (*Phy-TOFF-thoruh*). A relative belonging to this 60-member group caused the Irish potato famine, and another relative is linked to the dieback of cedar trees in Northern California and southern Oregon, eucalyptus trees in Australia and oaks in Mexico, Spain and Portugal.

In California, Sudden Oak Death has been reported from Sonoma Valley in the north to Big Sur in the south, a 190-mile range, as well as east to the Napa County border, about 25 miles inland. The hardest hit counties are Marin and Santa Cruz. The disease affects tanoak (*Lithocarpus densiflorus*), coast live oak (*Quercus agrifolia*), and California black oak (*Quercus kelloggii*) found along the coastal belt in California. To date, the disease has not been found in other oaks such as blue oak or interior live oak.

The dieback is alarming, researchers say, for its potential to disrupt the coastal forest ecosystems. Oaks provide habitat for wildlife and a food supply for small mammals and are frequently planted as ornamentals in gardens and parks. Additionally, downed dead trees create a fire hazard from the resulting buildup of dry fuel.

There are similarities between the disease in oaks in California and rhododendron in Europe. In both cases, the fungus attacks above ground parts of the plants. In oaks, the fungus enters through the trunk and causes the formation of bleeding cankers on the trunk. On rhododendron plants, the fungus causes similar cankers and spreads from twig tips to the stem base, according to the European researchers.

The researchers have notified agricultural and ecosystem managers in the affected areas of the rhododendron discovery. Research is underway to determine if native rhododendrons - those that have not been imported - are being infected. Research also is being conducted to determine how many other susceptible species may be affected by the fungus.

###

For more information, go to <http://camfer.cnr.berkeley.edu/oaks/>

NOTE: [Print-quality images available for download](#)

Cautions for Californians

Inspect your rhododendrons for cankers (sores) that spread from twig tips to the base of the stem.

Do not transport rhododendrons out of areas where Sudden Oak Death has occurred. This area includes a 190-mile stretch between Big Sur and Sonoma County, as well as east to Napa Valley. As yet, Sudden Oak Death has not been observed in the East Bay.

Do not transport wood products such as mulch, bark or firewood out of Sudden Oak Death areas. Sudden Oak Death occurs in tanoaks, coast live oaks and black oaks. It does not occur in blue oaks or interior live oaks.

After visiting Sudden Oak Death areas, clean the soil from your shoes and remove any soil from vehicle tires and sporting or construction equipment.

If your oak tree or rhododendron that you think may be infected, contact your county agricultural commissioner.

Contact phone numbers and other information are listed at <http://www.suddenoakdeath.org>.

[UC Berkeley](#) | [News](#) | [Archives](#) | [Extras](#) | [Media Relations](#)

Comments? E-mail newscenter@pa.urel.berkeley.edu.

Copyright 2001 UC Regents. All rights reserved.