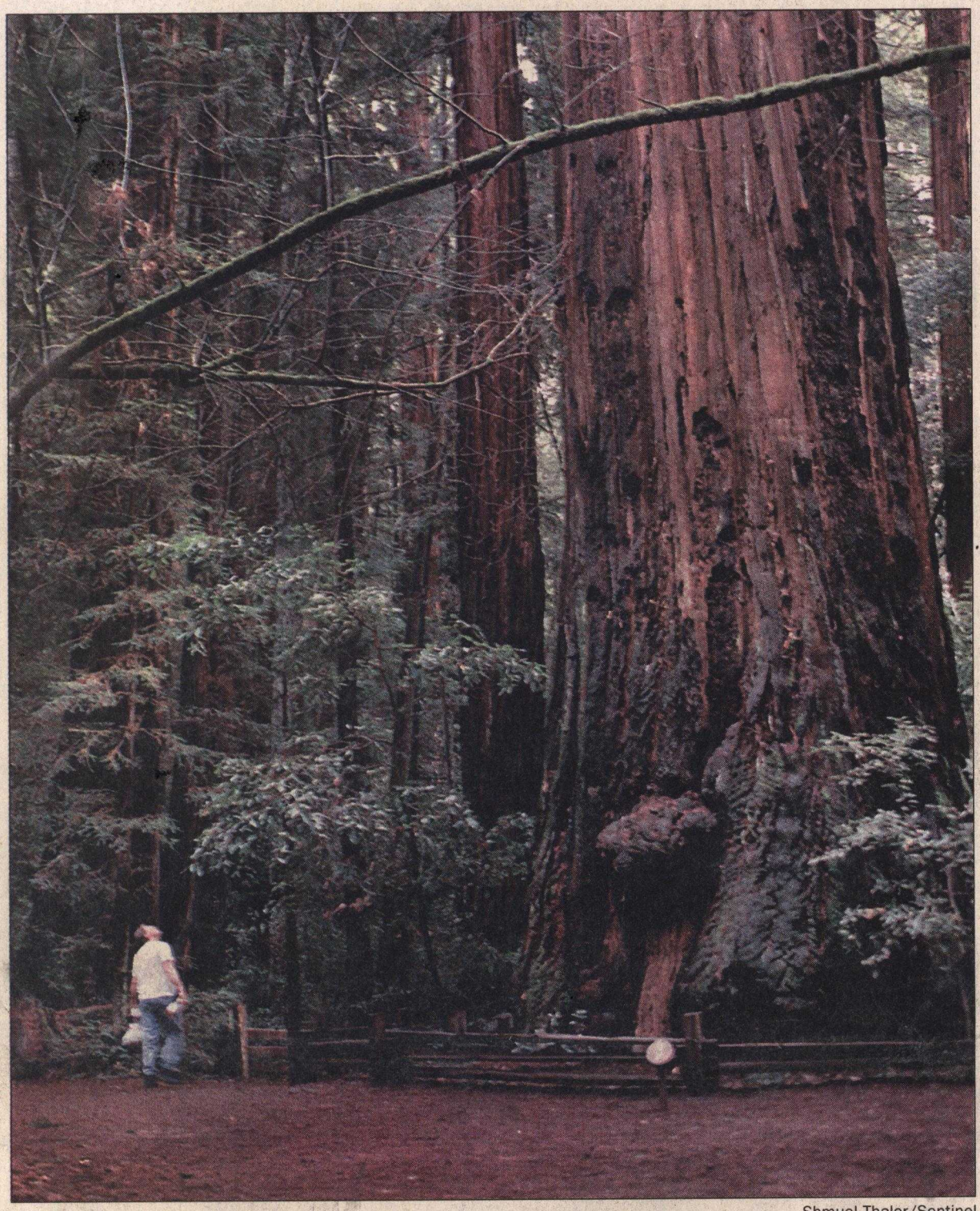
Redwoods may be in peril



Shmuel Thaler/Sentinel

A visitor to Henry Cowell Redwoods State Park on Tuesday, bottom left, is dwarfed by the park's tallest tree. Experts worry that redwoods may be susceptible to sudden oak death.

Trees

Trees tested for sudden oak death; results pending

SENTINEL STAFF AND WIRE REPORTS

A shudder went through the redwood-loving world Tuesday with news the towering trees may be susceptible to the disease that has been laying waste to California oaks.

The warning was preliminary; scientists are still waiting for the results of lab tests to see whether redwoods are acting as hosts or could become infected.

Still, even the suggestion of redwoods in danger struck an ominous note. Huge and majestic, the trees are key to timber and tourism and as essential as sun, sea and fog to the California mystique.

"Obviously, it is of great concern to us," said Ruskin Hartley, conservation planner for the 84-year-old Save-the-Redwoods League. "We've watched in concern as the oaks in California have fallen."

The disease, sudden oak death, has killed tens of thousands of black oak, coast live oak and tan oak trees from Monterey County to southern Oregon, about 500 miles north. Campsites have been closed and trees chopped down to try to contain the infection.

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The disease-causing organism, Phytophthora ramorum, sometimes referred to as a fungus but more like brown algae, is related to the same type of organism believed to have caused the Irish potato famine in the mid-19th century. No cure has been found, although some chemicals have been shown to reduce infectious lesions.

The disturbing new discovery is that DNA from Phytophthora ramorum spores has

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been extracted from coastal redwood sprouts. Sprouts are how redwood trees reproduce; when a redwood dies, a new tree grows from one of its sprouts.

UC Berkeley forest pathologist Matteo Garbelotto says tests are now being conducted to see whether the spores are simply on the surface of the tree or whether they have burrowed into the tissue, meaning the redwoods can be a host. Plant experts also have injected healthy redwood sprouts with the disease to see whether they become infected.

Results are expected in a few weeks. However, even if they show redwood sprouts can be infected, it would be several months before researchers will know whether big trees also would succumb, Garbelotto said.

Meanwhile, Marin County arborist Ken Bovero says lab tests showed Phytophthora in a dying redwood he was called out to treat. The lab didn't confirm the pathogen was Phytophthora ramorum (there are a number of different types), but Bovero suspects it is to blame.

The disease is familiar to Santa Cruz officials and researchers who, like others, were taking a wait-and-see stance on the latest revelation.

"I'll be interested to see other information that comes out," said David Moeller, Santa Cruz County Agricultural Commissioner. "It's kind of unsettling."

Researcher Steve Tjosvold of UC Extension in Watsonville agreed. He said more tests are needed.

"I wouldn't get panicked," he said. "I think it's a big extrapolation ... that all the redwoods are going to succumb to this disease."

The disease was first detected in Marin County in 1995 and has spread through 10 California counties, infecting other species of trees and plants in its path.

In September, forest pathologists attending a conference in Carmel noticed dead sprouts coming out of redwood trunks in a state park. Lab tests detected the spores in those sprouts and later on trees at the UC Berkeley campus, leading to the current investigation.

Results so far indicate "it is very likely that redwoods are going to be a host," Garbelotto said.

"The worst-case scenario is that, yes, large trees will be susceptible and that in some areas there's going to be a lot of mortality of redwoods," he said. "More than that, I can't say. It's rare to see a microorganism completely wipe out a tree."

Even if lab tests show the redwood only acts as a host, it could prove ruinous to the state's timber industry and dwindling old-growth forests.

A statewide quarantine currently limits the movement of wood products containing the pathogen. Such a finding in redwoods could make it hard for companies to get their lumber to mills.

Meanwhile, the flocks of tourists who visit protected old-growth groves might face restrictions because of concern they would spread the spores.

Stacy Carlsen, agriculture commissioner of Marin County and a member of the California Oak Mortality task force, said more research is needed to gauge the severity of the threat.

"Detecting DNA in leaf samples is a far step removed from having redwoods dying," Carlsen said.

If more research does show the redwoods are at risk of getting the disease, it will add a new facet to a fight that up until now has pitted logging and development interests against conservationists.

The lure of the redwoods, says Hartley, is apparent in the cathedral-like hush of an old-growth grove.

"There's a sense of quiet. There's a sense of calm and there's something intangible that seems to stretch into the past and reach into the future," he said.

"One of the advantages the redwoods have is they're a very diverse species. They have survived for many millions of years, and let's hope that they survive for many millions more."

State parks spokesman Steve Capps said the department's field biologist have been placed on alert, but like others, the department is still seeking more definite information.

Businesses are doing the same.

"If it is what they say it is, it's extremely serious," said Bud McCrary of Big Creek Lumber.

"Only time will tell."

On the Net: Oak Mortality Task Force: http://www.suddenoakdeath.org/
Save-the-Redwoods League: http://www.savetheredwoods.org/default.htm
Garbelotto lab: http://www.cnr.berkeley.edu/garbelotto/

Staff writer Brian Seals contributed to this report.