
HAPPY HOLIDAYS!

RapidOhiaDeath.org



2020 Rapid 'Ōhi'a Death Newsletter
Volume 4, Issue 4

~ He la'au ku ho'okahi, he lehua no Ka'ala

~

"A lone tree, a lehua of Ka'ala. An expression of admiration for an outstanding person, unequaled in beauty, wisdom, or skill"

From 'Olelo No'eau: Hawaiian Proverbs and Poetical Sayings, Honolulu, Hawaii: Bishop

Museum Press, 1983

This is our quarterly newsletter that was designed to update the community on current Rapid 'Ōhi'a Death (ROD) issues. If you wish to UNSUBSCRIBE, scroll down to the bottom to do so.



Event Update

The first virtual 'Ōhi'a Love Fest hosted November 18th to the 21st, 2020 was a week-long celebration of our beloved 'Ōhi'a Lehua tree. 'Ōhi'a Lehua is the most abundant tree in Hawaii's native forest. They are critical to providing the water we drink and keeping our ocean reefs clean and are deeply significant in the native Hawaiian culture. The 'Ōhi'a Love Fest opened with a Kīpaepae opening ceremony. Our colleagues with Hālau 'Ōhi'a set the intention of our festival, to care for and honor our sacred 'Ōhi'a Lehua tree. We hosted 3 events each day over 6 days totaling 18 'Ōhi'a Love Fest events. Our events highlighted crafting, storytelling, art, hula, music, hands-on demonstrations, and workshops. The success of our first virtual 'Ōhi'a Love Fest reflected in participant engagement, excitement, and desire to strengthen their 'Ōhi'a love stewardship. We look forward to an exciting and engaging 2021 'Ōhi'a Love Fest.

This event was hosted by the University of Hawai'i College of Tropical Agriculture

and Human Resources, the Department of Land and Natural Resources – Division of Forestry and Wildlife (DLNR-DOFAW) and Kauaʻi Invasive Species Committee in collaboration with Bishop Museum, Hawaii Public Library System, KKCR Public Radio, Studio HAA - Hula: An Alliance for the Arts, Club Sullivan, Halau Ka Lei Mokihana o Leināʻala, Patrick Ching, the Rapid ʻŌhiʻa Death Working Group, Watershed Partnerships, National Park Service, U.S. Forest Service (USFS), National Tropical Botanical Garden, Kalehua Consulting, and the ʻŌhiʻa Legacy Initiative. This festival is made possible through the support of Hawaii Tourism, DLNR-DOFAW, USFS, and the Omidyar Ohana Fund of the Hawaii Community Foundation.



Research Updates

Roy et al. 2020 (Community Ecology) - Research Summary

This study examined the presence of the viable ROD-causing fungi in the frass (insect waste) made by Ambrosia beetles (Curculionidae: Scolytinae) that eat ʻŌhiʻa trees. Ambrosia beetles and their frass are thought to play a major role in

the spread of ROD, yet little is known of their frass production and ecological role in trees across the landscape. For this study, tree stem sections known as boles were collected from multiple locations on Hawai'i Island that represented an entire individual tree. The beetles were reared and their frass was tested for the viable ROD-causing fungi. Frass production was estimated for three Ambrosia beetle species by weighing their frass over time. It was found that the Ambrosia beetles commonly found on ROD-infected 'ōhi'a produced frass containing viable *Ceratocystis* propagules (seeds or spores). Viable *Ceratocystis* propagules expelled in frass were found throughout entire tree bole sections as high as 13 m. Our results indicate the ambrosia beetle community and their frass play an important role in the ROD pathosystem (parasitic system). This information may help with the development and implementation of management strategies to control the spread of the disease.

Roy et al. 2020 (Plant Health Progress) - Research Summary

This study looked to develop an effective and practical surface decontamination method that can be used by the public. It is known that Rapid 'Ōhi'a Death (ROD) is caused by two recently described fungi species of *Ceratocystis*, *C. lukuohia* and *C. huliohia*. In order to prevent the spread of ROD, effective and practical surface decontamination methods were developed. This study tested the effect of different household and laboratory disinfectants on the *Ceratocystis* fungi in culture. The disinfectant cultures were applied to contaminated ambrosia beetle frass to determine which cultures were most effective. The results of this study showed that laboratory-grade ethanol (70, 80, and 95%), Clorox bleach (10%, 0.825% active ingredient), and isopropanol (70 and 91%), were all equally effective at decontaminating cultured *C. lukuohia* and *C. huliohia*. The study also showed that although all concentrations of isopropanol (50, 70, and 90%) and ethanol (50, 70 and 90%) were effective disinfectants of *Ceratocystis*-contaminated frass, treatments of frass with up to 20% Clorox bleach (1.2% active ingredient) were not completely adequate at killing the fungus. Thus, the data revealed that bleach is not a sufficient ROD disinfectant when frass is present, and that isopropanol or ethanol are more reliable options.

5 THINGS YOU CAN DO



1 DON'T MOVE 'ŌHI'A

Do not move 'ōhi'a wood, firewood, or posts, especially from an area known to have ROD. If you don't know where the wood is from, don't move it.

2 DON'T TRANSPORT 'ŌHI'A INTER-ISLAND

Comply with the new quarantine rule to help prevent ROD from spreading. Don't move 'ōhi'a plants, whole or parts, 'ōhi'a wood, or soil from Hawai'i island without a permit.

3 AVOID INJURING 'ŌHI'A

Wounds serve as entry points for the fungus and increase the odds that the tree will become infected and die from ROD. Avoid pruning and contact with heavy equipment wherever possible.

4 CLEAN YOUR GEAR/TOOLS

If you must work around or cut 'ōhi'a, clean tools and gear before and after use, especially when used on infected 'ōhi'a. Brush all soil off of tools and gear, then spray with 70% rubbing alcohol. Shoes and clothes should also be cleaned before and after entering forests. Wash clothes with hot water and soap.

5 WASH YOUR VEHICLE

Wash the tires and undercarriage of your vehicle with detergent and remove all soil or mud, especially after traveling from an area with ROD and/or if you have traveled off-road.

Updated March 2017

Management Tips

HOW CAN YOU HELP SAVE 'ŌHI'A?

1. Avoid injuring 'ōhi'a. Wounds serve as entry points for the fungus and increase the odds that the tree will become infected and die from Rapid 'Ōhi'a Death. Avoid pruning, weed-whacking, blazing trails, and stepping on roots wherever possible.
 2. Clean gear and tools, including shoes and clothes, before and after entering the forest and areas where 'ōhi'a may be present. Brush all soil off tools and gear, then spray with 70% rubbing alcohol. Wash clothes with hot soapy water and dry on high heat.
 3. Wash your vehicle with a high-pressure hose or washer if you've been off-roading or have picked up mud from driving. Clean all soil off tires--including mountain bikes and motorcycles--and your vehicle's undercarriage.
 4. Don't move 'ōhi'a wood or 'ōhi'a parts, including adjacent soil. The disease can be spread to new areas by moving plants, plant parts, and wood from infected areas to non-infected areas.
 5. Keep your eyes open. If you see 'ōhi'a with a limb or crown turning brown, take a picture and contact your local Invasive Species Committee via email or phone. Be sure to provide details on the tree's exact location. Samples of the wood must be taken by trained technicians and tested in a laboratory to confirm the presence of the ROD fungi.
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Meet Our People

Christy Martin

[Coordinating Group on Alien Pest Species \(CGAPS\)](#)

Public Information Officer

Christy Martin is the program manager for the [multi-agency/NGO Hawaii Coordinating Group on Alien Pest Species \(CGAPS\)](#), a PCSU project whose mission is to coordinate and catalyze action among government and non-government partners to prevent and manage invasive species in Hawai'i, as well as communicate key issues to the public. Christy was born and raised on the island of O'ahu and has worked on invasive species issues since 2000. Part of the ROD Strategic Response Team since spring of 2015, Christy has helped to develop and implement a communications strategy through public outreach and engagement, interagency communications and response planning, and the

collaborative production of products such as the ROD Strategic Plans and the Saving 'Ōhi'a documentary.

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