Aloha Arborist Association
Meeting Minutes
March 18, 2015

Members Present: Steve Connolly, Carol Kwan, Steve Nimz, Dudley Hulbert, J Zambo, Kevin Eckert, Gregory Severino, Desiree Page, Lance Bookless, and Diane Zuniga (guest)

I. CALL TO ORDER AND APPROVAL OF THE JANUARY 21, 2015 AND FEBRUARY 18, 2015, MEETING MINUTES

President Steve Connolly called the meeting to order at 6:49 p.m. The 1/21/15 and 2/18/15 minutes were approved without changes.

II. OLD BUSINESS

A) TRAINING

i) WCISA/AAA Pests and Trees workshops 3/24/2015 to 3/27/2015
   (a) Workshops were approved for 4 CEUs for pesticide applicators.
   (b) Steve Nimz will be picking Bruce up at the airport, Steve Connolly will take him around on Sunday or Monday to see local pests.
   (c) Hand lenses will be available for sale at the workshops.
   (d) 79 people registered so far for Oahu. Today is last day to register through WCISA. Walk-ins will be accepted.
   (e) Request: If you can easily bring in bagged samples of pests that we wouldn't find near McCoy Pavilion please do so.

ii) John Ball workshops – Maui – Carol suggested that we give Maui Green & Beautiful $100 as a thank you for its assistance. Steve Nimz moved, Dudley seconded. The motion passed unanimously.

iii) Public Outreach Training – Carol contacted Jayme Grezbik. It looks like we could do August or September for "How Do I Get My Fruit Trees to Fruit?" Carol has a couple of leads for possible speakers. Dudley will follow up with Jayme and the speakers.

B) RESEARCH COMMITTEE

i) Dudley reported that Lester Inouye emailed him today. Lester sent some photos of what he wants us to do to help with the Biophilic research project at the preschool. Lester wants to be able to prove that kids learn better when surrounded by trees.
   (a) Regarding mulch on the playground: Lester thought that the chippers chip too coarse. Re-chipping chips doesn't work per Steve Nimz. Can do chips and logs together but not just chips – the machine will jam. Tub grinders might work.
   (b) Per Steve Nimz, woodchips are used on playgrounds on the mainland without problems, but here mulch is full of centipedes, cockroaches, earwigs, ants, etc. so it doesn't work. Shredded rubber is commonly used here because of this. For a display, mulch is fine, but not as a playground. Lester can seek approval from the school for wood chips on their playground but he should make them aware of the issues. Dudley will get back to Lester on this.

C) LICH Conference:

i) 10/8/15 (Conference): Steve Connolly and Greg will put together a breakout session on knots. Greg has a great knots display board. Mark Suiso can do something on grafting. LICH is not pushing for pesticide stuff at the conference this year.

ii) 10/9/15 (Vendors Day) Field day at Urban Garden Center with equipment – chippers, lawn mowers, etc. Members encouraged to talk to vendors they work with about

participating if they are interested and let Steve Nimz know. Hoping 100 people will come. Give topic ideas to Steve Nimz by 5/15 at the latest.

iii) Will also check with Blaisdell to see if we can do a climbing demonstration there.

iv) There are still opening at the conference for classes/ speakers. Kevin proposed a session on what to look for in tree risk assessment. He also suggested a breakout session and/or demonstration on structural pruning of young trees. These would appeal to more than just arborists. They should include what not to do – lawnmower damage, etc. – with the theory, principles, liability, and duty of care. These are the types of things maintenance guys need to know.

v) Steve Nimz said that LICH is trying to find out if golf course people are going to come in with us. A whole track was offered to them.

D) WC TCC – AAA raised $525 to sponsor last year's winners Jamilee Kempton and Justin Donohue. We will be sending them checks to help defray their expenditures. Jamilee won the 2015 women's WC TCC. This weekend is ITCC and she's on her way out there now. Tickets are very expensive going to Florida ~$1K. We will have the same issues next year – WC TCC and ITCC are very close together again, tough to get cheap airfare/hotel. Per Desiree, Justin placed 3rd at WC TCC.

III. NEW BUSINESS

A) Pest of the Month – Rapid Ohia Death. It's only on the Big Island for now. It seems to have jumped from sweet potato and taro – it's never been seen in ohia before. It has been in the news the past couple of weeks [summary below, full news article attached]. Any disease with "rapid" and "death" in the title is never a good thing.

i) Cause: Ceratocystis (a fungal pathogen) also found on Okinawan sweet potato and taro.

ii) Plant Symptoms: The tree goes from green to yellow to dead in a matter of two weeks. Distinct from ohia dieback, or ohia senescence, which is a relatively slow process and affects entire stands of trees.

iii) Still several questions being researched: What is spreading the fungus from tree to tree (insects, people, tools)? Why are some ohia killed, while others nearby are not? Where did the fungus come from?

iv) People can help by reporting where the disease is being found and how quickly it is spreading. Look for the brown crowns of leaves atop dying trees, black discolorations in the wood in cross sections of their trunks and a fruity smell in samples.

v) Contact: JB Friday at jbfriday@hawaii.edu or Flint Hughes at fhughes@fs.fed.us.

B) Kunia Orchid Society Annual Show – 3/20-22/2015. AAA is listed as a co-sponsor of the Invasive Species Booth. Carol will be manning the booth on Friday afternoon and Sunday afternoon. Also CGAPS, HDOA, and OISC will be manning the booth at various times.

C) AAA Promotional Handout (history of AAA). Dudley volunteered to lead the effort to document the history of AAA and prepare a handout about our organization. He was inspired by Lester Inouye to promote the organization. We started in the 1960s with Hawaii Tree Trimmers Association and then morphed into AAA per Steve Nimz. The audience for the handout is the general public. Maybe we could post it to the website. Kevin suggested we try to hook them, bring them in with what we can do for them, then lead into what we have done,

our past. Dudley and Steve Nimz volunteered to be the committee to work on this. Steve Connolly volunteered to post it to the website.

D) Elections. The next meeting is the Annual Meeting. We need a slate of officers for next year to vote on in April. Carol nominated Jay Zambo for president. Steve Nimz seconded. Carol nominated Lance Bookless for VP. Steve N seconded. Steve C past president automatically. Carol nominated Jamilee for secretary, Steve Nimz seconded, Carol nominated Steve Nimz for Treasurer –Steve Nimz seconded. Three directors were nominated – Carol, Dudley, and Greg. Carol nominated, Steve Connolly seconded. The slate of proposed candidates was approved. Elections will be held at the next meeting. Anyone else who wants to run is welcome to put their name in. We have had contested elections before. We'd be happy to prepare a ballot.

E) HTCC 2015. Dudley and Greg are holding a planning meeting about HTCC (Hawaii Tree Climbing Championship) on 3/20 at Moanalua Gardens. Steve Connolly will go too.

IV. ANNOUNCEMENTS

A) WCISA Conference – 4/27 to 5/1 at Yosemite. Looks like a great conference. Carol will be going.

B) ISA Conference, Orlando, FL – Dudley and Kevin will be going. Steve Nimz doesn't know yet.

C) Kevin brought up TRAQ – coming in June. Carol will get the details from WCISA for next meeting. Also may have another one in fall, maybe September.

D) Moanalua Gardens is charging an entrance fee now to help defray maintenance costs.

V. ADJOURNMENT

A) The meeting was adjourned at 7:53 p.m. by President Steve Connolly.

Respectfully submitted,
Jolie Wanger

NEXT MEETING:

PLEASE JOIN US FOR THE ANNUAL MEETING!
Wednesday, April 22nd, 2015, 6:30 p.m. – 8:30 p.m., at ***Gordon Biersch***, Aloha Tower Marketplace.

Note: The date has been changed from 4/15 to 4/22 to avoid tax day. The Annual Meeting is more social – feel free to bring your family or significant other along!

Attachments:

1. Pest of the Month – Rapid Ohia Death
2. Plant Disease Journal Article Abstract: “First Report of *Ceratocystis* wilt on `Ōhi`a”

Hawaii Tribune Herald: http://hawaiitribune-herald.com/news/local-news/mystery-ohia-deaths-solved

Posted February 22, 2015 - 1:00am

Mystery of ohia deaths solved?

Photo courtesy J.B. Friday/University of Hawaii The finger points to a telltale fungal stain in a cross section of an ohia tree. The stains have been found in trees that have been killed or are dying from the Ceratocystis fungal infection. - See more at: http://hawaiitribune-herald.com/news/local-news/mystery-ohia-deaths-solved#sthash.RMJNeDpI.dpuf

By COLIN M. STEWART Hawaii Tribune-Herald

Experts call it the single most important tree for the protection and proliferation of native forests across the state. The ohia is the most widespread, as well as arguably the most beloved and iconic, native tree in Hawaii. And for the last five years, it has been under attack by a troubling new foe that had foresters and scientists scratching their heads. Until recently. A scientific paper currently under review reports findings that the disease, known as Rapid Ohia Death, is the result of a fungal pathogen called Ceratocystis, which has been found on other plants here including Okinawan sweet potato and taro.

But this is the first instance of it killing ohia. The effects of the fungus are nothing short of devastating, said University of Hawaii extension forester J.B. Friday. “There are several things that have us worried,” he said. “One is just how rapid it is. “A lot of things can kill ohia. Most commonly, it’s people clearing land with a bulldozer. They’ll drive over the roots, injuring the roots, and that tree will decline and die over a year or two. … and there’s the other usual stuff killing ohia, like the atmosphere — vog or drought — which can take years. … But with Ceratocystis, the tree goes from green to yellow to dead in a matter of two weeks. This is very much faster (than other common causes of ohia death).”In fact, Friday said, when he received his first call about ohias mysteriously dying in forest land in Puna, he initially thought the trees were treated with a poison. “Honestly, it looked to me at first like someone had just dumped some herbicide there,” he said. “But then I noticed all these other beautiful, healthy native trees below them. “The trees die so quickly that they don’t even have time to drop their leaves, said Flint Hughes, an ecosystems ecologist with the Institute of Pacific Islands Forestry. That set the disease apart from many other known causes of ohia death, including one that was the recent subject of long-term research by Pacific ecology expert Dieter Mueller Dombois.“There is a large body of work investigating a phenomenon called ohia dieback, or ohia senescence … where you see a stand of ohia trees on a particular age of lava flow … go through a synchronous die-off. … It’s a relatively slow process. It’s usually when the older ohia stands are basically getting old, and something triggers them to die, and they seem to do it as a group,” Hughes said. “This (Rapid Ohia Death) seemed very distinct from that when we started looking at it as ecologists. It was patchy, and it was FAST. The trees looked perfectly fine one day, and then a week or so later they could show signs of severe disease, and then mortality within a couple more weeks. “After receiving calls beginning in 2010 from people in Leilani Estates and other areas of Puna, scientists began working to identify a pathogen because the symptoms didn’t seem to match any known diseases at the time. “We were very unsure about what the cause was, and we really puzzled over it for quite some time. We came up with some different possibilities that didn’t seem all that plausible, but we couldn’t rule them out,” Hughes said. “One of them was earthquake activity (damaging roots). One of them was some kind of outgassing from subterranean lava, which never really seemed to be that satisfactory of an answer. “In January 2014, Friday brought a cross-sectioned sample of a dead ohia tree trunk, known as a “cookie,” to Brian Bush at the University of Hawaii Agricultural Diagnostic Service Center, explained Lisa Keith, a research plant pathologist with the Pacific Basin Agricultural Research Center.” I got this list of the fungi (Bush) found in the sample, and I thought, hmmm, Ceratocystis seems kind of unusual,” she said. “It is a well known pathogen that causes problems in a lot of different hosts … but this was really the first time Ceratocystis came into the picture (with ohias).”After performing a number of experiments with the fungus, including inoculating ohia seedlings with the pathogen in a controlled environment and then observing the trees showing signs of the disease, Keith felt fairly confident they had found their culprit in the mysterious die-offs. Much remains to be discovered, however, Keith said. What is spreading the fungus from tree to tree? Are spores hitching a ride on

insects, or even people and their tools? Why are some ohia killed, while others nearby are not? Where did the fungus come from? These and other questions will be the focus of research for years to come, Friday said.” I think, in the long term, we’re going to be working on this project for the next 20 years,” he said. “It’s like we’ve opened up this big box, this huge, complicated problem. “It’s still too soon to say what kind of an impact Rapid Ohia Death could eventually have on Hawaii Island forests, but that question definitely is a concern at the moment, he added. The public can help by keeping scientists informed about where the disease is being found and how quickly it is spreading. Apart from the brown crowns of leaves atop dying trees, cross sections of their trunks reveal telltale black discolorations in the wood, and the samples typically have a fruity smell. For more information, contact Friday at jbfriday@hawaii.edu or Hughes at fhughes@fs.fed.us.Email Colin M. Stewart at cstewart@hawaiitribune-herald.com.

ISSN: 0191-2917

plant disease

Editor-in-Chief: Mark L. Gleason
Published by The American Phytopathological Society

Accepted for publication
http://dx.doi.org/10.1094/PDIS-12-14-1293-PDN

First Report of *Ceratocystis* wilt on `Ōhi`a

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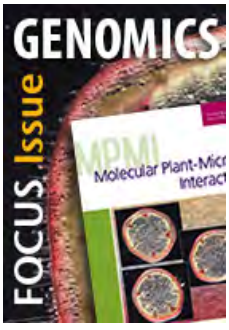

`Ōhi`a (*Metrosideros polymorpha* Gaudich.) is Hawai`i's most common and widespread native tree, occurring from sea level to 2500 m elevation in both dry and wet forests and on substrates ranging from 50 to 4 million years in age (Friday and Herbert, 2006). It is the most ecologically important native Hawai`ian tree, defining native forest succession and ecosystem function over broad areas, providing critical habitat for rare and endangered native bird and insect species, and exemplifying the strong links between native Hawai`ian culture and the islands' environment (Dawson and Stemmermann, 1990). Within the past 5 years, extensive `ōhi`a mortality has been observed in the Puna District of Hawai'i Island in previously healthy trees growing in undisturbed forest settings. Affected trees exhibit rapid, synchronized death of leaves on individual branches that eventually spreads to the entire canopy. Dark brown to black discoloration can be seen in the woody xylem of affected trees. Five branch samples from two trees displaying characteristic symptoms were collected in February and June, 2014 from Leilani Estates subdivision ($19^{o}28$ N, $154^{o}55$ W). A fungus that

February and June, 2014 from Leilani Estates subdivision (19°28'N, 154°99'W). A fungus that produced perithecia and formed olive brown cultures on 10% V8 agar was consistently isolated from infected tissue. After 14 days the perithecia were black, globose, 143 to 275 × 110 to 264 µm, and possessed a long black neck (660 to 880 µm). Ascospores were "hat" shaped, hyaline, and were 5.7 to 8.6 × 2.7 to 4.3 µm. Hyaline, cylindrical endoconidia (14.3 to 38.6 × 2.9 to 4.3 µm) were found. PCR amplification and sequencing of the ITS region of rDNA were carried out for one isolate, P14-1-1. BLAST analysis of the sequence data (GenBank Accession No. KP203957) showed that the isolate was 98.9% homologous (525/531 nt) to *Ceratocystis fimbriata* (KC493164, derived from CBS115167). This strain and others with 100% homology were collected from *Syngonium* sp. in Hawaii, Florida, Brazil and Australia (Thorpe et al., 2005). Based on these morphological and molecular characteristics the fungus was identified as *C. fimbriata* (Engelbrecht and Harrington, 2005). Pathogenicity was tested on 1 to 2-year-old *M. polymorpha* seedlings as follows. Eight healthy plants were wounded with a scalpel ~50 cm above the soil level. Two filter paper disks soaked in a 10^6 spore/ml suspension was inserted in a stem flap and wrapped with parafilm. Control plants were inoculated with filter disks soaked in sterile water. The treated plants were incubated at 24°C with 12-h light in a humid chamber. Wilt symptoms were observed on 7 of 8 plants within 17-36 days. As the disease progressed, leaves withered, died and remained attached to the plant. Plant death occurred around 100 days. Internal discoloration was observed in the main stem. *C. fimbriata* was successfully re-isolated and identified morphologically from the infected seedlings. All control plants remained healthy. To our knowledge, this is the first report of *C. fimbriata* causing disease in *M. polymorpha*. This pathogen poses a serious threat to Hawai`i's flagship native tree species whose loss would be catastrophic for the diversity, structure, and function of Hawai`i's remaining native forests and the services they provide.