



**ALOHA ARBORIST ASSOCIATION
MEETING MINUTES – 08/16/2017 – APPROVED
Dixie Grill, Aiea, HI**

Members in Attendance: Jay Zambo, Lance Bookless, Desiree Page, Carol Kwan,
Dudley Hulbert, Kevin Eckert, Andrew Kendall, Angela Liu
Guests: Diane Eckert

1. Call to Order & Approval of the Meeting Minutes of 7/19/17 - The meeting was called to order at 6:34pm. J Zambo read aloud the following correction to the minutes to item 4d -

Andrew brought up the idea that AAA should do more marketing, promotion, and more workshops, to reach homeowners and other members of the public; he also offered to help in these areas. He raised many examples, and is interested in seeing AAA use new marketing tools more heavily rather than depending on email campaigns. He specifically raised the need to put the photos from the Tree Jamboree on AAA's Facebook page.

The motion was made and seconded to approve the minutes as amended; the motion was passed unanimously.

2. Old Business

- a) Research Committee (Chair: Dudley Hulbert) – Dudley contacted Don Winsett from Davey, who shared that Davey is very interested in finding out about opportunities to support research on tropical arboriculture. Carol suggested that Asplundh also be contacted for the same purpose; she also suggested there could be a conversation started with the new CTAHR dean.
- b) Queen Emma's Summer Palace Volunteer Workday & Barbecue, 07/15/17 (Steve Connolly) – AAA was paid the \$1,000 donation. There was no barbecue held after work was done.
- c) Chainsaw Workshops, Beginner Level (J Zambo) – Dudley will contact UGC. Any of AAA's professional tree trimmers can contact J for approval to become an instructor. Urban Garden Center will set the fee for registration.
- d) WCISA / AAA Hawaii Regional Workshop 2017 with John Ball, 6/27 to 6/30/17 (Angela Liu) – A financial report is not yet available. AAA's event coordination has been paid. Carol took a few photos that she will share with Angela for posting on social media. Better photos should be taken for future events.
- e) Tree Appraisal Workshop Part 2 by James Komen, 09/01/17 (Angela Liu) – Nine people have registered so far. Angela is coordinating email outreach and a few other tasks.
- f) LICH Conference, 10/05/2017 (J Zambo) - J will have a talk on turf and trees; Mark Lyum will make a presentation on new rules regarding stormwater management; Steve Nimz will have a talk about tree preservation; the new Maui County Planting Plan will be presented by Ernie Rezens. AAA will make an email announcement to our email list when the LICH event announcement is received.
- g) WCISA Annual Conference 2019, Sheraton Waikiki, April 2019 (Carol Kwan) – WCISA is currently focused on producing the 2018 event. The theme for the 2019 event will be pests and diseases, with a focus on issues relating to Hawaii. Elaine Malina has been chosen as the conference chair. Carol welcomes suggestions for speakers and presenters. The event is soliciting donations of table centerpieces that can be auctioned off – Carol suggested that items should fit into a flat-rate USPS box if possible, for convenient mailing. A suggestion was made to contact a local wood carving group.

- h) Monthly Meeting location (Desiree Page) – Dixie Grill’s patio might be better – members at today’s meeting can’t hear one another from one end of the table to the other. Several other locations were suggested, and Desiree will keep working on it.
 - i) Green Waste / Tree Industry Survey (J Zambo) – Carol, Desiree and Andrew have signed on to develop the green waste survey questions. Carol is planning to create a contact list of contractors using data available from the DCCA (Department of Commerce and Consumer Affairs). The anonymous survey would be sent to this list asking the contractors to participate.
 - j) A300 Part 1 Pruning 2017 Order (Carol Kwan) – This item is concluded.
3. New Business –
- a) Pest of the Month – Bot canker / Ficus branch dieback (*Botryosphaeria* complex)
 - i. Description: Opportunistic fungal complexes of the *Botryosphaeria* genus infecting Ficus and other stressed, wounded or predisposed trees and plants.
 - ii. Distribution: The Ficus Bot complex was initially identified in southern California. *Botryosphaeria* fungi are present in Hawaii, as are fungi in other genera the *Botryosphaeriaceae* family, though it is not known whether they cause branch cankers or dieback in Ficus.
 - iii. Hosts: Indian laurel-leaf fig (*Ficus microcarpa*). Bot complexes also occur on grapevine, avocado, citrus, etc.
 - iv. Symptoms and Damage: Canopy chlorosis, thinning and dieback, sometimes restricted to a particular branch; branch cankers; wedge-shaped discoloration of branches in cross-section, and black pycnidia on bark surface. After a branch has been killed, a mat of black spores develop beneath the bark. Diagnosis must be confirmed by a plant pathologist.
 - v. Control: Optimizing cultural care to reduce plant stress is the most important control method. Stress is believed to increase risk of disease development. Spores are dispersed by splashing water or wind-blown droplets. Spores develop in dead bark. Control includes pruning out diseased or dead twigs and branches, and proper disposal of diseased material. Avoid pruning during wet weather. There is no research as to whether sanitizing / sterilizing pruning tools helps, however this is routinely recommended along with pruning with hand tools only (chain saws cannot be sterilized). According to pest control experts, phosphorous acid products in addition to currently available fungicides applied as a soil drench may be beneficial.
 - vi. Reference:
 - “Disease Focus: The rise of Bot canker diseases,” University of California, Division of Agriculture & Natural Resources. Retrieved 08/14/2017 from: http://ucnfanews.ucanr.edu/Articles/Disease_Focus/DISEASE_FOCUS_The_rise_of_Bot_canker_diseases/
 - “Love them or hate them, ficus trees lining city streets are dying from a new fungal disease,” *San Gabriel Valley Tribune*, 6/17/2017. Retrieved 08/14/2017 from: <http://www.sgytribune.com/environment-and-nature/20170617/love-them-or-hate-them-ficus-trees-lining-city-streets-are-dying-from-a-new-fungal-disease>
 - b) Saluting Branches (Angela Liu) – A member of the public on Maui contacted AAA to ask us about sponsoring a workday under the umbrella of Saluting Branches, which is holding events

this year is in September. There was a discussion about which groups AAA should help, and it was brought up that AAA focuses its workday efforts on needy groups. The discussion concluded that AAA is already heavily committed at this time and is unable to take on this event. Angela will communicate with the original requestor to let them know.

- c) Offer for free media services from Olelo Channel (Angela Liu) – Olelo Channel is a community media service helping non-profit groups produce public service announcements (PSAs). We received an email from Olelo inviting AAA to make a PSA at no cost to us. They have quarterly events to help community groups network and learn about their services. Olelo's information will be forwarded to Kevin and Andrew, who will find out about the possibility of creating a PSA for the chainsaw training.
- d) Proposal for Arborist Rope Splicing Workshop (Angela Liu) – Mark Przekurat would like to get a minimum of 20 people for this event. It was pointed out that a large class means less individual attention. There was a general feeling that the course fee will be a significant constraint. There was a comment made that current climbing equipment does not require splicing. AAA will send out the interest survey with a deadline for responses.
- e) AAA Officers and Board members roles and responsibilities (Andrew Kendall) – There was a discussion of the benefits of updating and adopting an outline of roles and responsibilities, including the group accomplishing more, and better record-keeping. A draft by-laws document, including a section regarding officers and board members, will be forwarded to J and Lance, who will update the document.
- f) Treasurer's Report (Desiree Page) – Desiree continues to organize the treasurer's responsibilities, with support from Andrew. There was a discussion of different methods of accounting. AAA would like to preserve separate funds for the Shigo Fund, and for the Hawaii Tree Climbing Competitions/Jamboree. Carol will forward her latest spreadsheet with the Shigo Fund and Hawaii TCC amounts to Desiree.

4. Announcements

- a) ISA Annual Conference – 07/28 to 08/02, 2017 in Washington, DC – Kevin and Dudley were at this conference.
- b) Ken Palmer of ArborMaster will be on Maui in February to conduct a workshop on electric chainsaws. He's interested in putting on a training on Oahu. Desiree will try out Survey Monkey, and put together a survey to find out about interest in different training topics.
- c) Smart Trees Pacific is inviting Ian Shears and Paul Barker, of Melbourne and Perth respectively, to talk about their urban forestry programs in Australia. The event will be early next year, and Kevin would like AAA to be involved. AAA agreed to work together to plan the event. Smart Trees also has been carrying out their Citizen Forestry program, using volunteer effort to inventory and monitor public trees at various locations. Kevin shared that there could be funding opportunities for AAA and that we could get involved. There was a discussion about how the Honolulu Tree Coalition is working with stakeholders across Oahu on urban forestry.
- d) ***Please join us on:***

September 20th, 2017, 6:30pm – Monthly Meeting – Location TBD

5. Adjournment – The meeting adjourned at 8:28pm.

Respectfully submitted,
Angela Liu

HANDOUT:

Mayoruin, Joey S., James A. Downer, Donald R. Hodel, Angela Liu, Akif Eskalen, "Ficus branch canker of Indian laurel-leaf fig," *Western Arborist* (Spring 2012), pp.61-2.

Ficus branch canker of Indian laurel-leaf fig

Joey S. Mayorquin, A. James Downer, Donald R. Hodel, Angela Liu, and Akif Eskalen

INDIAN LAUREL-LEAF FIG (*Ficus microcarpa* – often grown as *F. nitida*) is an attractive ornamental tree found mostly outdoors, and is frequently encountered along city streets lining parkways, medians, and sidewalks. *F. microcarpa* is particularly susceptible to a disease previously known as 'Sooty Canker', which was believed to be caused by the fungus *Natrassia mangiferae* (synonym *Hendersonula toruloidea*), which has undergone a recent taxonomic revision to *Neofusicoccum mangiferae* (1, 2) (Fig 1, 2).

Neofusicoccum represents an anamorph (asexual state) genus of *Botryosphaeria*. A recent survey in southern California of *F. microcarpa* showing symptoms of branch canker and dieback, resulted in the recovery of a number of *Botryosphaeria* spp., specifically *Botryosphaeria dothidea*, *Neofusicoccum luteum*, *N. mediterraneum*, and *N. parvum*. *N. mangiferae* was not recovered from any of the samples. Pathogenicity tests showed

each species to be pathogenic on *F. microcarpa*.

Members of the *Botryosphaeriaceae* family represent an important group of canker-causing fungi, often involving a complex of species. *Botryosphaeria* spp. are known to occur on a variety of woody hosts, including important agricultural crops such as grapevine, avocado, citrus, and pistachio. Moreover, these species are known to occur on a variety of gymnosperms and, in California alone, *B. dothidea* has been found on at least 40 hosts belonging to the Fabaceae, Juglandaceae, Rosaceae, Myrtaceae, Oleaceae, and Pinaceae, to name a few

(5). This emphasizes the importance of the cosmopolitan distribution of these pathogens. Symptoms often include twig dieback and branch and root cankers with slightly sunken areas that may be visible on affected tissues. Infected sapwood appears gray to black and is distinct from the lightly colored healthy wood (Fig 3). Fungal fruiting bodies (perithecia and pycnidia), representing the sexual and asexual stages, respectively, of the fungus may also be present. These structures produce the infective spores and appear as tiny black bumps (blisters) that protrude from the bark in or around the canker tis-

Members of the Botryosphaeriaceae family represent an important group of canker-causing fungi often involving a complex of species.

Figure 1. (Left) Healthy ficus tree (left) near a severely declining tree.

Figure 2. (Right) Localized dead patch in crown with progressive branch dieback.





Figure 3. Cross-section of cankered branch.

sue, as well as on surrounding dead bark and twigs (Fig 4). Fungal spores are a source of natural inoculum and are often disseminated by rain, wind, pruning tools, etc. Spore trapping studies have shown an increase in spore dispersal during or soon after a rain event (4). Pruning wounds serve as a primary site for pathogen invasion, but other injuries including root pruning, sunburn, freeze, insect, and mechanical damage can create points of entry for fungal spores.

On *Ficus microcarpa*, symptoms initially begin with slightly discolored leaves and crown thinning often restricted to a particular branch. As the disease progresses into the canopy, twig and leaf dieback is observed and eventually branch dieback will follow, resulting in dead patches in the crown (Fig 3). If the disease progresses into the trunk or roots, the tree will eventually die (Fig 1) (2).

Ficus branch canker can be managed by implementing strategic cultural practices, but other management strategies could be used in conjunction with those cultural practices. *Botryosphaeria* often exerts its virulence during times of plant stress, therefore maintaining tree health through proper fertilization based on soil analysis and sufficient irrigation, can be a first line of defense in disease management. It is important to note that because many *F. microcarpa* in California are closely planted, competition for available resources is typically high. In addition, much of the natural precipitation is diverted by the pavement and other hardscape that often covers much of their root zones. Many are also subjected to

extensive root and shoot pruning necessary to maintain them in urban settings (2). This type of severe pruning should be minimized because it can increase the trees' susceptibility to pathogen infection. Pruning during dry weather and good sanitation practices of pruning tools can help reduce the risk of fungal spore transmission to pruning wounds. For this reason, the use of chainsaws is discouraged because they cannot be adequately disinfected. Also, if the disease is caught early on, diseased branches can be pruned out and properly disposed of to minimize spread to other parts of the tree as well as to surrounding trees. Although there is a continuing trend for more environmentally responsible practices, fungicides could be used to manage the disease. Chemical treatment of pruning wounds has been evaluated for other plant species and trials are being conducted for the management of avocado branch canker (4).

Recommended cultural practices to minimize infection include:

- Avoiding pruning during wet conditions (rain, dew, fog, overhead irrigation, etc.)
- Pruning cankered limbs at least five inches below the infection site. Fresh wounds can be treated with a fungicide to reduce the incidence of severity of canker development; a qualified pest control adviser should be consulted before applying any treatments.
- Pruning dead limbs and twigs that carry pycnidia and perithe-

cia (spore-forming structures).

- Sterilizing pruning tools with either 25% household bleach solution, Lysol® cleaning solution, 70% EtOH (ethyl alcohol), or by flame with a hand torch.
- Proper disposal of pruned branches from sites.

Joey S. Mayorquin
Department of Plant Pathology
and Microbiology, University of
California, Riverside, CA

A. James Downer
University of California Coopera-
tive Extension, Ventura County CA

Donald R. Hodel
University of California Coopera-
tive Extension, Los Angeles, CA

Angela Liu
Consulting Arborist, Mar Vista, Los
Angeles, CA

Akif Eskalen
Corresponding author: Email: aes-
kalen@ucr.edu

References

- 1) Crous, P. W. *et al.* 2006. Phylogenetic Lineages in the Botryosphaeriaceae. *Studies in Mycology* 55:235-253
- 2) Hodel, D. R. *et al.* 2009. Sooty canker, A Devastating Disease of Indian laurel-leaf fig trees. *Western Arborist* 28-32
- 3) Mayorquin, J. S. *et al.* Plant Disease (in press)
- 4) McDonald V. and Eskalen A. 2009. Avocado Branch Canker (Formerly Dothiorella Canker). *California Avocado Society Yearbook* 75-84
- 5) Michailides, T. and Morgan, D.P. 2004. Panicle and Shoot Blight of Pistachio: A Major Threat to the California Pistachio Industry. *APSnet Features*. Online. doi: 10.1094/APSnetFeature-2004-2010

Figure 4. Close-up of fruiting bodies embedded within the bark of a cankered branch.

