

**Aloha Arborist Association
Meeting Minutes
February 18, 2015**

Members Present: Steve Connolly, Carol Kwan, Steve Nimz, Dudley Hulbert, J Zambo, Jamilee Kempton, Gregory Severino, and Desiree Hughes

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

A) President Steve Connolly called the meeting to order at 7:18 p.m. Approval of the 1/21/2015 minutes was deferred pending Carol's edit. It was Jolie's first time working on the minutes.

II. TREASURER'S REPORT – Steve Nimz

A) As of the end of last year, AAA has a total of \$12,422.43

- i) Operating budget: \$6,744.46.
- ii) Shigo Fund: \$4,200.71
- iii) TCC: \$1,477.26.

B) There was an issue with revenues from last year's TCC. Amy was moving, she thinks she gave it to Steve Nimz. Steve Nimz and Steve Connolly have looked for it unsuccessfully. Hopefully it will turn up at some point in the future. We are financially secure at this point. Steve Connolly noted that everything for 2014 TCC was donated except for food, which wasn't very much.

III. OLD BUSINESS

A) TRAINING

i) Tree Care First Aid and CPR 1/24/2015

(a) Ryan did a great job. The workshop was well received. Carol sent out an email about companies possibly hiring Ryan to train their crews with Ryan's contact info. We should plan to do this workshop maybe a couple of times a year for companies that don't have large enough crews to do it on their own.

ii) WCISA/AAA Pests and Trees workshops 3/24-27/2015

(a) Steve Nimz will pick up Bruce Hagen at the airport. Steve Connolly will take Bruce around to look at pests on Sunday or Monday. Carol still needs to apply for pesticide applicator CEUs.

B) RESEARCH COMMITTEE

i) Dudley talked to Andy Kaufman at UH Manoa. The \$250K DOT research project is coming to fruition. Concrete has been poured at the Waimanalo Research Station and they are collecting data now. Andy suggested that we meet with the Dean at UH again. There is a new Dean who is very gung ho.

ii) Jamilee asked about the growth rates project. Steve Connolly met with Andy awhile back and told him what equipment to buy. UH bought something else that doesn't work. Nothing else has happened with it since then.

IV. NEW BUSINESS

A) Pest of the Month – Potato Psyllid (*Bactericera cockerelli*)

- i) Hosts: Preference for Solanaceae plants but also attacks species in other plant families including Amaranthus, Polygonum, Mentha, Concoluculus, Raphanus, Atriplex, Avena, Malva, and Hibiscus. Hibiscus would be of most concern to arborists.
- ii) Plant symptoms: Causes direct damage in the form of “psyllid yellows”. Also vectors plant pathogens in the genus *Candidatus Liberibacter*. The damage from that is associated with poor growth, purple tip foliage, dieback, and poor yield.
- iii) Distribution: USA west of the Mississippi River, southern Canada in some seasons, Mexico, Central America, and New Zealand. Not yet known to occur in Florida.
- iv) Per Bernarr Kumashiro, HDOA, we intercept this occasionally in Hawaii but it’s not established here. Usually found on the calyx of bell peppers. It’s tiny. You need magnification to see it. See publication from Florida attached.

B) Public Outreach Training ideas:

- i) Desiree suggested teaching people how to plant their trees when giving out the Arbor Day plants. We tried that one year and the public didn’t come to the training. They grabbed their plants and ran.
- ii) Jamilee would like to see plant phenology again. We should keep it simple this time. It was too complex last year. Cover the topic “how to get my fruit tree to start fruiting”. We need to get someone to help us who is an expert in the topic, but we can coordinate. Dudley thinks Mark Nickum (from last year) has left UH Hilo. Possible alternatives are someone from Frankie’s Nursery or Carl Evensen’s son. Dudley volunteered to contact Jayme Grzebik about scheduling this.

C) LICH Conference – 10/8/2015

- i) Steve Nimz reported that this year there will be some longer speaker with slots up to 2 hours.
- ii) Suggestion: Could we do a Climber’s Corner on the Trade Show floor?
 - (a) Logistics: The logistics are challenging because we can’t damage the floor and we would need hefty iron to stabilize the base of the tree. Maybe heavy-duty scaffolding might work. We might be able to secure some trees with lateral branches to the side of scaffolding. It might be easier to do real trees outside with sufficient notice and insurance to cover it. Doing it off of a crane is another possibility. Steve Nimz is leaning toward scaffolding with basic climbing techniques.
 - (b) When: We could do this at lunch or during the social hour. Maybe a 1-2 hour demonstration. It would be good to get it in a spot where everyone is together. If we go outside, it takes people away from the vendors at the Trade Show. We could go over to Thomas Square and do a climbing and rigging demonstration there, but the trees were just pruned.
 - (c) Need to consider how much work, how many people to help to do it, and how many people would attend.

- iii) Are there are any speakers that we want at the conference? Need to come up with something by next month and make a decision. Steve Nimz will confirm what the theme of the conference is this year. These are volunteer opportunities for 1 hr and 2 hr sessions. Maybe Jay Zambo could speak. LICH is also trying to put together a field day the day after the LICH Conference for Neighbor Island people, maybe at Urban Garden Center.

V. ANNOUNCEMENTS

- A) Jolie Wanger is doing the admin now. You can email her at info@alohaarborist.com
- B) WC TCC – Jamilee Kempton and Justin Donohue will be competing as Hawaii’s representatives this weekend (2/21-2/22).
- C) WCISA Conference – 4/27-5/1 at Yosemite. This will be a great conference if you can attend.
- D) ITCC – 3/21-22 Tampa FL
 - i) Sponsorships of our WC TCC climbers.
 - ii) Dudley brought up the possibility of sponsoring our climbers, Jamilee and Justin, for this year’s WC TCC. While there aren’t sufficient funds in the TCC Fund for this year and next, it was agreed that we should send out an email asking for members to sponsor the trips for this year via donations.

ADJOURNMENT

- E) The meeting was adjourned by Treasurer Steve Nimz at 8:33 p.m.

Respectfully submitted,
Jolie Wanger

NEXT MEETING:

PLEASE JOIN US!

*The next meeting will be on Wednesday, March 18, 2015, 6:30 p.m. – 8:30 p.m., at **Schooner’s Restaurant at 57 Arizona Memorial Drive. See map below.***



Attachments:

1. 2015 AAA Membership Application
2. Pest of the Month – Potato Psyllid

**2015 Aloha Arborist Association
Membership Application**

Please process my membership with Aloha Arborist Association for calendar year 2015.

Membership: \$10 Student \$25 Government Employee \$50 Individual

\$150 Company \$1,000 Lifetime Member Date: _____

Name: _____

Company: _____

If Company Membership, please designate 3 company representatives for voting purposes*:

Address: _____

_____ Website: _____

Phone: _____ Fax: _____ Mobile phone: _____

E-Mail: _____

You may publish this information on the AAA website: Yes No

**Company members may send any of their employees to workshops at AAA member rates*

Please send this completed form to Aloha Arborist Association, 3620 Waialae Ave Ste 203, Honolulu, HI 96816 with a check made payable to Aloha Arborist Association. If you prefer, you can pay online with a credit card at alohaarborist.com/index.php/become-a-member/ and send us this form via email (info@alohaarborist.com).

Mahalo for your support!

Pest Alert

Florida Department of Agriculture and Consumer Services
Division of Plant Industry

Potato Psyllid (*Bactericera cockerelli*) (Hemiptera: Psyllidae) a Pest of Solanaceae and Vector of Plant Pathogens Established in the Western USA

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Wayne N. Dixon, Wayne.Dixon@FreshFromFlorida.com, Assistant Director, Florida Department of Agriculture and Consumer Services, Division of Plant Industry

INTRODUCTION: The potato psyllid, *Bactericera cockerelli* (Šulc), is a serious pest of solanaceous crops. It causes direct damage to the plants and also vectors one or more species of 'Candidatus Liberibacter,' known in the literature as 'Ca. Liberibacter solanacearum' (Lso) and 'Ca. Liberibacter psyllaeus' (Lps). The synonymy relationships among the bacteria are unclear at this time. Potato psyllids have been known for many decades in the Great Plains. They were thought to overwinter in south Texas and northern Mexico and migrate seasonally north into the plains states (Liu *et al.* 2006). Recently, new populations have developed that are able to overwinter in California (Liu *et al.* 2006) and even in the Pacific Northwest (Swisher *et al.* 2014). So far, potato psyllids have not established east of the Mississippi River. All potato psyllids found in Florida have been interceptions from places known to be infested with the pests.

DESCRIPTION: Potato psyllids are in the Psyllid family Trioziidae, characterized by wing veins that have three main branches. The North American potato psyllid has clear wings, a white band at the base of the abdomen, and a white polygonal pattern on the head (Fig. 1). Nymphs are green, resembling scales or whiteflies (Fig. 2), but unlike scales and whiteflies, they will move when irritated. Eggs are laid on stalks (Fig. 3). *Bactericera cockerelli* is the only potato psyllid known from North America, but other species of psyllids occur on potatoes in the Palearctic and South America (Halbert and Munyaneza 2012). Any psyllids found colonizing potatoes should be considered serious new pests in Florida.



Fig. 1. Adult potato psyllids.
Photography credit: Joseph E. Munyaneza, USDA-ARS, Wapato, WA.



Fig. 2. Potato psyllid nymph.
Photography credit: Joseph E. Munyaneza, USDA-ARS, Wapato, WA.



Fig. 3. Potato psyllid eggs.
Photography credit: Joseph E. Munyaneza, USDA-ARS, Wapato, WA.



Florida Department of Agriculture and Consumer Services
Adam H. Putnam, Commissioner

BIOLOGY: Potato psyllid females lay eggs on suitable host plants. Numbers of eggs laid seems variable. According to Knowlton and Janes (1931), females usually laid 5-50 eggs in a 24-hour period; however one female was observed to lay 157 eggs in 24 hours. This female laid 865 eggs between 3 and 26 June, after which she escaped from captivity. Eggs hatch in 3-9 days. About 73% of 9,615 observed eggs hatched (Knowlton and Janes 1931). Potato psyllids have five nymphal instars (Knowlton 1933). The timing of the nymphal life cycle is dependent on temperature and host plant (Yang and Liu 2009). Knowlton and Janes (1931) observed a variation between 12 and 21 days on potato in the laboratory. Lehman (1930) observed an average of 24 days.

HOSTS: The North American potato psyllid is polyphagous, with a strong preference for Solanaceae. Plants in other families, such as *Amaranthus* (Amaranthaceae), *Polygonum* (Polygonaceae), *Mentha* (Lamiaceae), *Convolvulus* (Convolvulaceae), *Raphanus* (Brassicaceae), *Atriplex* (Chenopodiaceae), *Avena* (Poaceae), *Malva* (Malvaceae), and *Hibiscus* (Malvaceae) can be colonized (Gall 2009), probably particularly when the psyllids are newly established in the area. Knowlton and Thomas (1934) observed that the complete life cycle occurred mostly on solanaceous plants; however, they also observed reproduction on *Convolvulus* (Convolvulaceae), and *Micromeria* (Lamiaceae). Adults can be found on a very wide assortment of plants.

ECONOMIC IMPORTANCE: Potato psyllid causes direct damage to plants in the form of “psyllid yellows,” which has been known since the 1920s. Perhaps recently, the insects acquired one or more plant pathogens in the genus *Candidatus* Liberibacter. However, there are hints that some pathogen associated with potato psyllids has been around for decades, with sporadic importance. Binkley (1929) observed a destructive syndrome in potatoes in 1926-1928 that was associated with potato psyllid. Damage was most significant in potato and tomato. In 1927, it reduced the early potato crop “from a six hundred to a two carload crop.” Nymphs secured under sterile laboratory conditions did not produce the syndrome when placed on clean plants in the laboratory, suggesting that the syndrome was due to a pathogen, and that the putative pathogen was not transmitted transovarially. The syndrome was characterized by “upward cupping of the leaves and a marked dwarfing of the plant.” Richards (1928) states that the epidemic in 1927 reached southern Idaho, Montana and Wyoming. He mentions brilliant purpling as well as rolling of the leaves. Nymphs confined to a single leaf produced symptoms in other leaves remote from the infested leaf in nine days.

The damage associated with *Ca. Liberibacter* species is more severe than psyllid yellows, and it does not go away when the psyllids are killed with pesticide. The disease is associated with poor growth, purple tip foliage, die-back, and poor yield and quality of potatoes (Munyaneza 2012). Affected tubers have internal striping that shows up particularly when the tubers are fried for chips, leading to the name “zebra chip” for the disease (Fig. 4). *Candidatus* Liberibacter spp. also cause general yellowing and decline of tomatoes (Liefting *et al.* 2009; Hansen 2008). Some strains of the pathogen also cause serious damage to *Capsicum* peppers (Liefting *et al.* 2009; Munyaneza *et al.* 2009). In Europe and North Africa, Lso has become established and caused major damage in vegetable crops in the family Umbelliferae, associated with at least two other species of psyllids (Alfaro-Fernández *et al.* 2012; Teresani *et al.* 2014; Tahzima *et al.* 2014).



Fig. 4. Striped potato chips made from tubers of potato plants infected with *Ca. Liberibacter solanacearum/psyllaourous*.
Photography credit: Joseph E. Munyaneza, USDA-ARS, Wapato, WA.



Fig. 5. Potato psyllid nymphs can be found underneath the calyx on peppers from Western states and Mexico. Sometimes, but not always, there is sooty mold around the calyx that indicates the presence of the insects. Even if it is present, the sooty mold is difficult to see in cultivars like poblano, where the calyx is inside a deep cavity.
Photography credit: Susan Halbert.

DISTRIBUTION: North American potato psyllid: USA west of the Mississippi River, southern Canada in some seasons, Mexico (Liu *et al.* 2006), Central America (Aguilar *et al.* 2013; Munyaneza *et al.* 2013; Bextine *et al.* 2013), and New Zealand (Liefting *et al.* 2009). So far, no potato psyllid has been reported in Costa Rica or Panama.

'*Candidatus* Liberibacter solanacearum/psyllaourous': New Zealand (Liefting *et al.* 2009), western USA (Hansen *et al.* 2008), Mexico (Munyaneza *et al.* 2009), Central America, including at least Honduras (Aguilar *et al.* 2013), Nicaragua (Munyaneza *et al.* 2013), and El Salvador (Bextine *et al.* 2013), Europe (Munyaneza *et al.* 2010), and North Africa (Tahzima *et al.* 2014). Old World records for the pathogens are associated with different psyllids.

REGULATORY ISSUES: Potato psyllids are intercepted with some regularity on vegetables from Western states and Mexico. Most interceptions have been on *Capsicum* peppers. Psyllid nymphs can be found on the calyx of the pepper, sometimes on the underside, between the calyx and the adjacent skin of the fruit. In this case, especially with deep-welled poblano peppers, the insects are nearly impossible to detect without removing the calyx of the pepper to inspect for nymphs (Fig. 5). Occasionally, live colonies of nymphs have been found in the open on the skin of the fruit. Live adult potato psyllids also have been intercepted on leafy vegetables, especially lettuce.

FLORIDA DISTRIBUTION: Not yet known to occur.

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