

## California Pest Rating Proposal

### *Oncometopia orbona* (Fabricius): broad-headed sharpshooter

Hemiptera: Cicadellidae

Temporary Current Rating: Q

Proposed Rating: A

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Comment Period: 10/14/2022 through 11/28/2022

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#### Initiating Event:

*Oncometopia orbona* is currently Q-rated. A permanent pest rating proposal is required to support an official pest rating.

#### History & Status:

**Background:** *Oncometopia orbona* is also known as the broad-headed sharpshooter. Like many other members of the family Cicadellidae, it feeds on a variety of vascular plants including conifers, grasses, sedges, and many families of broad-leaved woody and herbaceous plants (Deitz et al., 2008). *Oncometopia orbona* is widespread in eastern North America and also occurs in Central and South America. The species is a vector of the bacterium *Xylella fastidiosa*, which causes Pierce's disease in grapevines (Wallingford, 2007). Female *O. orbona* develop white patches called brochosomes on the sides of their forewings. These contain proteins that are smeared onto eggs to prevent them from drying out (Eaton and Kaufman, 2007).

**Worldwide Distribution:** *Oncometopia orbona* has been found in Mexico, Costa Rica, Venezuela, Paraguay, Brazil, and Argentina (Hopkins, 1989; Redak et al., 2004). In the United States it can be found in the eastern states from Texas through the southeast and parts of the central states and northeast to Pennsylvania (Takiya and Dmitriev, 2011).

**Official Control:** *Oncometopia orbona* is listed as a Harmful Organism by Republic of Korea (USDA-APHIS-PCIT).

**California Distribution:** *Oncometopia orbona* is not known to occur in California.

**California Interceptions:** There were three interceptions of this insect reported in 2017 and one in 2022.

All four shipments from eastern states (PHPPS-PDR Database).

The risk *Oncometopia orbona* (broad-headed sharpshooter) would pose to California is evaluated below.

### Consequences of Introduction:

- 1) **Climate/Host Interaction:** *Oncometopia orbona* can found in nearly every habitat that has vascular plants, therefore, it likely to establish and widespread in California. It receives a **High (3)** in this category. Evaluate if the pest would have suitable hosts and climate to establish in California.

**Score: 3**

- Low (1) Not likely to establish in California; or likely to establish in very limited areas.
- Medium (2) may be able to establish in a larger but limited part of California.
- **High (3) likely to establish a widespread distribution in California.**

- 2) **Known Pest Host Range:** *Oncometopia orbona* can feed on variety of plants, included 47 species and 25 families of grasses, shrubs, and trees (Turner and Pollard, 1959). It receives a **High (3)** in this category. Evaluate the host range of the pest.

**Score: 3**

- Low (1) has a very limited host range.
- Medium (2) has a moderate host range.
- **High (3) has a wide host range.**

- 3) **Pest Reproductive and Dispersal Potential:** *Oncometopia orbona* females develop white patches called brochosomes which helps to save eggs from predators and drying out. *Oncometopia orbona* has 2-3 generations each year and adults can fly. It receives a **High (3)** in this category.

Evaluate the natural and artificial dispersal potential of the pest.

**Score: 3**

- Low (1) does not have high reproductive or dispersal potential.

- Medium (2) has either high reproductive or dispersal potential.
- **High (3) has both high reproduction and dispersal potential.**

4) **Economic Impact:** *Oncometopia orbona* sucks fluid from plants and causes mechanical injuries to plant tissues, promoting the spread of plant pathogens, including bacteria, viruses, and mycoplasma-like organisms. The family *Cicadellidae* ranks very high among insect groups that transmit pathogens among agricultural crops. *Oncometopia orbona* is a vector of the bacterium *Xylella fastidiosa*, which causes Pierce's disease in grapevines (Wallingford, 2007). It receives a **High (3)** in this category.

**Economic Impact: A, B, C, E**

- A. **The pest could lower crop yield.**
- B. **The pest could lower crop value (includes increasing crop production costs).**
- C. **The pest could trigger the loss of markets (includes quarantines).**
- D. The pest could negatively change normal cultural practices.
- E. **The pest can vector, or is vectored, by another pestiferous organism.**
- F. The organism is injurious or poisonous to agriculturally important animals.
- G. The organism can interfere with the delivery or supply of water for agricultural uses.

**Economic Impact Score: 3**

- Low (1) causes 0 or 1 of these impacts.
- Medium (2) causes 2 of these impacts.
- **High (3) causes 3 or more of these impacts.**

5) **Environmental Impact:** *Oncometopia orbona* is reported to attack and damage a wide variety of vascular plants in 25 families (Turner and Pollard, 1959). If this sharpshooter became established in California, it is possible it could attack native vegetation and crops. It might trigger new chemical treatments in agriculture and by residents who find infested plants unsightly. Therefore, it receives a **High (3)** in this category.

**Environmental Impact: A, D, E**

- A. **The pest could have a significant environmental impact such as lowering biodiversity, disrupting natural communities, or changing ecosystem processes.**
- B. The pest could directly affect threatened or endangered species.
- C. The pest could impact threatened or endangered species by disrupting critical habitats.
- D. **The pest could trigger additional official or private treatment programs.**
- E. **The pest significantly impacts cultural practices, home/urban gardening or ornamental plantings.**

**Environmental Impact Score: 3**

- Low (1) causes none of the above to occur.
- Medium (2) causes one of the above to occur.
- **High (3) causes two or more of the above to occur.**

Consequences of Introduction to California for *Oncometopia orbona* (broad-headed sharpshooter): **High (15)**

Add up the total score and include it here.

- Low = 5-8 points
- Medium = 9-12 points
- High = 13-15 points**

6) **Post Entry Distribution and Survey Information:** There are no official records indicating this species is established in the environment of California, so it receives a Not Established (0) in this category.

–**Not established (0) Pest never detected in California or known only from incursions.**

–Low (-1) Pest has a localized distribution in California or is established in one suitable climate/host area (region).

–Medium (-2) Pest is widespread in California but not fully established in the endangered area, or pest established in two contiguous suitable climate/host areas.

–High (-3) Pest has fully established in the endangered area, or pest is reported in more than two contiguous or non-contiguous suitable climate/host areas.

### **Final Score:**

The final score is the consequences of introduction score minus the post entry distribution and survey information score: **High (15)**

### **Uncertainty:**

No recent detection surveys have been conducted for *O. orbona*. The environment of California is highly favorable for this sharpshooter, and it is possible it may be present in the state but undetected.

## Conclusion and Rating Justification:

*Oncometopia orbona* is apparently not present in California. If it became established here, it could cause significant economic and environmental impacts. Therefore an “A” rating is justified.

## References:

Deitz, L. L., Dietrich, C. H., McKamey, S. H., Rakitov, R. A., Southern, P. S., Balme, G. R., and Alvarez, P. A. 2008. A resource on cicadas, leafhoppers, planthoppers, spittlebugs, and treehoppers. Accessed September 8, 2022:

<https://www.lib.ncsu.edu/specialcollections/digital/metcalf/introduction.html>

Eaton, E.R. and Kaufman, K. 2007. Field Guide to Insects of North America. Houghton Mifflin, New York, New York.

Hopkins DL., 1989. *Xylella fastidiosa*: a xylem-limited bacterial pathogen of plants. Annual Review of Phytopathology 27:271–90.

Pest and Damage Record Database, California Department of Food and Agriculture, Plant Health and Pest Prevention Services. Accessed September 8, 2022:  
<http://phpps.cdfa.ca.gov/user/frmLogon2.asp>

Redak, R. A., Purcell, A. H., Lopes, J. R. S., Blua, M. J., Mizell III, R. F., and Andersen, P. C., 2004. The Biology of xylem fluid – feeding insect vectors of *Xylella fastidiosa* and their relation to disease epidemiology. Annual Review of Entomology 49:243–70.

Takiya, D. and Dmitriev, D. A. 2013., 3i Cicadellinae: 3i interactive keys and taxonomic databases, subfamily Cicadellinae - Oct 2011 version. Accessed September 8, 2022:

<http://dmitriev.speciesfile.org/taxahelp.asp?hc=1855&key=Proconia&lng=En>

Turner, W. F., and Pollard, H. N., 1959. Life histories and behavior of five insect vectors of phony peach disease. United States Department of Agriculture Technical Bulletin 1188:1-28.

USDA Phytosanitary Certificate Issuance & Tracking System (PCIT) Phytosanitary Export Database (PExD). Accessed September 8, 2022:

<https://pcit.aphis.usda.gov/pcit/>

Wallingford, A.K., 2007. Evaluating the risk of Pierce's disease in Virginia's vineyards. Ecological Society of America Annual Meeting. Accessed September 8, 2022:

<http://www.virginiafruit.ento.vt.edu/Pfeiffer%20Pubs/WallingfordPfeiffer2012.pdf>

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**\*Comment Period: 10/14/2022 through 11/28/2022**

### **\*NOTE:**

You must be registered and logged in to post a comment. If you have registered and have not received the registration confirmation, please contact us at plant.health[ @ ]cdfa.ca.gov.

### **Comment Format:**

- ❖ Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on, as shown below.

### **Example Comment:**

Consequences of Introduction: 1. Climate/Host Interaction: [Your comment that relates to "Climate/Host Interaction" here.]

- ❖ Posted comments will not be able to be viewed immediately.
- ❖ Comments may not be posted if they:

Contain inappropriate language which is not germane to the pest rating proposal;

Contains defamatory, false, inaccurate, abusive, obscene, pornographic, sexually oriented, threatening, racially offensive, discriminatory or illegal material;

Violates agency regulations prohibiting sexual harassment or other forms of discrimination;

Violates agency regulations prohibiting workplace violence, including threats.

- ❖ Comments may be edited prior to posting to ensure they are entirely germane.
- ❖ Posted comments shall be those which have been approved in content and posted to the website to be viewed, not just submitted.

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**Proposed Pest Rating: A**