CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Proposal

Hoplocallis picta (Ferrari): an aphid

Hemiptera: Aphididae

Current Rating: Q

Proposed Rating: A

Comment Period: 03/10/2021 – 04/24/2021

Initiating Event:

Hoplocallis picta was found infesting container-grown Quercus ilex at a nursery in Orange County in February 2021 during a regulatory inspection. This pest has not yet been rated. Therefore, a pest rating proposal is needed.

History & Status:

Background: The aphid *Hoplocallis picta* is reported to feed only on oak trees (*Quercus* species), including *Q. canariensis*, *Q. cerris*, *Q. faginea*, *Q. ilex*, *Q. pyrenaica*, *Q. rotundifolia*, *Q. suber*, and *Q. valentina* (Ferrer-Suay et al., 2016; Fierro et al., 2012; Melia et al., 1993; Rakhshani et al., 2015; Wojciechowski et al., 2016). It alternates between a parthenogenetic and sexual form (Melia et al., 1993).

Worldwide Distribution: *Hoplocallis picta* is reported from Europe (including the Azores, France, Greece, Italy, Malta, Slovakia, and Spain) and Asia (India) (Aguiar et al., 2013; Barbagallo and Cocuzza, 2014; Chakrabarti, 1988; Goffová and Wojciechowski, 2013; Pérez Hidalgo et al., 2009; Rakhshani et al., 2015; Schoeny and Gognalons, 2020; Tsitsipis et al., 2007). It may have become introduced to the western United States, because there are collection records from Arizona and Washington in the American Museum of Natural History (Symbiota Collections of Arthropods Network).

Official Control: *: Hoplocallis picta* is not known to be a regulated pest anywhere in the world.

California Distribution: *Hoplocallis picta* is not known to be established in California.

California Interceptions: *Hoplocallis picta* was found in February 2021 during a regulatory inspection of container-grown *Quercus ilex* at a nursery in Orange County (California Department of Food and Agriculture).

The risk *Hoplocallis picta* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** The known distribution of *H. picta* is evidence that the Mediterranean climate is suitable for this species. The known hosts of this aphid do not include oak species native to California. However, the known oak hosts are relatively diverse and the collection records of *H. picta* from the western United States suggest the presence of suitable oak hosts there. It appears likely that this aphid could establish over much of California. Therefore, it receives a **High (3)** in this category.

   – 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:** *Hoplocallis picta* is reported to feed on eight species of oak. It is not known to feed on any plants outside of this genus. Therefore, it receives a **Low (1)** in this category.

   – 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:** *Hoplocallis picta* is parthenogenetic at some times of the year. The winged adults can fly and dispersal could also be aided by wind. Therefore, it receives a **High (3)** in this category.

– 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**. *Hoplocallis picta* is reported to produce honey, resulting in sooty mold and defoliation. This could increase production costs in nurseries growing oaks. Therefore, it receives a **Low (1)** in this category.

Economic Impact: B

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: Low

– 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**. Oaks are an important part of California's ecosystems and there are rare species in the state. *Hoplocallis picta* is reported to produce honeydew when feeding, leading to sooty mold and defoliation. It is possible that this could have an impact on rare native California oaks. Ornamental oaks could also be impacted. Therefore, *H. picta* receives a **High (3)** in this category.

Environmental Impact: B, 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: High (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 *Hoplocallis picta*: Medium (11)

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:** *Hoplocallis picta* is not known to be established in California. 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:

7) The final score is the consequences of introduction score minus the post entry distribution and survey information score: Medium (11)

Uncertainty:

It is not known if *H. picta* will be able to feed on native California oak species. It appear likely that it will be able to because of the diversity (in terms of subgenera and species groups represented) of the species that are known to be hosts in Europe. If native California oaks are not suitable hosts, then the potential impacts have been overestimated in this proposal. Although honeydew, sooty mold, and defoliation are reported, the potential impact of this aphid on tree health (apart from aesthetics) is not known. Reports of tree mortality were not found. This aphid may be under the control of natural enemies in Europe and could have a greater impact in California, where many or all of these enemies presumably do not occur. Lastly, it is possible that *H. picta* already does occur in California but has escaped detection.

Conclusion and Rating Justification:

Hoplocallis picta is an aphid that is restricted to oak trees. Oaks are an important part of California's natural and urban landscapes. This aphid is not known to be present in California. For these reasons, an "A" rating is justified.

References:

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*Comment Period: 03/10/2021 – 04/24/2021

*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 permits[@]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.

Proposed Pest Rating: A