

California Pest Rating Proposal

Jaliscoa hunteri (Crawford): parasitoid wasp

Synonym: *Catolaccus hunteri* Crawford

Hymenoptera: Pteromalidae

Current Rating: Q

Proposed Rating: D

Comment Period: **9/8/2020 – 10/23/2020**

Initiating Event:

An applicant applied for a federal permit to release *J. hunteri* in California for biological control. It has not been rated. Therefore, a pest rating proposal is needed.

History & Status:

Background: *Jaliscoa hunteri* is a fairly generalist parasitoid wasp that is reported to attack a variety of insects, including 20 species of weevils (Curculionidae), including *Anthonomus eugenii* and *A. grandis*, several species of seed weevils (Chrysomelidae: Bruchinae), including *Callosobruchus maculatus*, at least two species of flies, and a moth (*Pectinophora gossypiella*), although the moth record is suspect (Cortez-Mondaca, 2004; Gibson, 2013). Female *J. hunteri* lay eggs on or near a host larva inside fruit. The *J. hunteri* larva develops externally to the host. Development from egg to adult requires approximately 12-13 days at 27°C (Rodríguez-Leyva et al., 2000).

Worldwide Distribution: *Jaliscoa hunteri* is present in Canada, the United States (widely distributed), and Mexico. It may be native to Mexico (Gibson, 2013; Labbé et al., 2018; Rodríguez-Leyva et al., 2007).

Official Control: *Jaliscoa hunteri* is not known to be under official control anywhere.

California Distribution: Although there are no official state records, *J. hunteri* is reported from 10 counties in California: Contra Costa, Imperial, Kern, Inyo, Los Angeles, Orange, Riverside, San Bernardino, Santa Barbara, San Diego (Gibson, 2013).

California Interceptions: *Jaliscoa hunteri* has not been intercepted in California (California Department of Food and Agriculture).

The risk *Jaliscoa hunteri* poses to California is evaluated below.

Consequences of Introduction:

- 1) **Climate/Host Interaction:** *Jaliscoa hunteri* is a generalist parasitoid. Its hosts include the pepper weevil, *Anthonomus eugenii*, a common pest in southern California. This wasp has already demonstrated an ability to become established widely in California because it has already done so. 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:** This wasp has been reported to attacks a variety of beetles, a fly, and possibly moths. Therefore, it receives a **Medium (2)** 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:** *Jaliscoa hunteri* fly. In addition, they could be moved as larvae when fruits with parasitized, internal hosts are moved. Therefore, it receives a **Medium (2)** 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.** This wasp is not known to have any negative economic impacts. In Florida, Schuster (2007) found significantly fewer pepper weevil-infested fruits where this wasp was released. Therefore, *J. hunteri* may be a useful biological control agent against pepper weevil in California. Therefore, it receives a **Low (1)** in this category.

Economic Impact:

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.** This is a generalist parasitoid. It presumably attacks native species of beetles and perhaps other insects where it occurs in California. However, reports of such impacts have not been found. Therefore, *J. hunteri* receives a **High (3)** in this category.

Evaluate the environmental impact of the pest on California using the criteria below.

Environmental Impact: A, B

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 *J. hunteri*: 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: *Jaliscoa hunteri* is reported from 10 counties in California. The fact that it is present in Canada suggests it may be capable of becoming more widely distributed in California. It receives a **Medium (-2)** 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 (9)

Uncertainty:

This wasp may be much more widely distributed in California. It may be having significant impacts on native insect species.

Conclusion and Rating Justification:

Jaliscoa hunteri is considered a biological agent against pepper weevil. It is reported to be widely established in California. For these reasons, a “D” rating is justified.

References:

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<https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/rppl/rppl-table>

Responsible Party:

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***Comment Period: 9/8/2020 – 10/23/2020**

***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](mailto: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: D