

California Pest Rating Proposal

Paropsis atomaria Olivier: leaf beetle

Coleoptera: Chrysomelidae

Current Rating: Q

Proposed Rating: B

Comment Period: **10/10/2022 – 11/24/2022**

Initiating Event:

Paropsis atomaria was found in the environment in California. A pest rating proposal is needed.

History & Status:

Background: The Australian leaf beetle *Paropsis atomaria* feeds on foliage as a larva and adult. Reported hosts are limited to the Myrtaceae and include 17 species of *Eucalyptus* (including *E. cloeziana*, *E. dunnii*, *E. grandis*, and *E. pilularius*) and *Corymbia citriodora* (Lawson and McDonald, 2005; Schutze, 2008). Development from egg to adult takes approximately one month and there are up to four generations per year (Duffy, 2006; Schutze and Clarke, 2008).

Paropsis atomaria is considered a pest in eucalyptus plantations in Australia and is reported to cause defoliation, decreased growth and wood quality, and sometimes tree death (Lawson and McDonald; Schutze, 2008). Significant impacts have not yet (as of September 2022) been reported in California (G. Arakelian, pers. comm.).

Worldwide Distribution: *Paropsis atomaria* is native to Australia. It has been introduced to California, United States. It is not reported elsewhere in the world (California Department of Food and Agriculture).

Official Control: *Paropsis atomaria* is not known to be under official control.

California Distribution: *Paropsis atomaria* was found on approximately 10 *Corymbia citriodora* trees at a park in Los Angeles County in August 2022 (California Department of Food and Agriculture).

California Interceptions: *Paropsis atomaria* has not been intercepted (California Department of Food and Agriculture).

The risk *Paropsis atomaria* poses to California is evaluated below.

Consequences of Introduction:

- 1) **Climate/Host Interaction:** This beetle is known to occur in southeastern coastal areas of Australia with temperate or Mediterranean climate. It is already known to be established in Los Angeles County. Eucalyptus trees are widespread in California. It appears likely that this beetle could establish over much of coastal California. Therefore, it receives a **Medium (2)** 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:** *Paropsis atomaria* is only known to feed on trees in two general in the family Myrtaceae. 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:** *Paropsis atomaria* can presumably fly. It is reported to have multiple generations per year. 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:** Detailed information on economic impacts resulting from *P. atomaria* were not found. However, it is reported to cause defoliation and sometimes death in its host trees. Nursery production of trees and ornamentals could be impacted. Therefore, it receives a **Medium (2)** in this category.

Economic Impact: A, 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: Medium

- 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:** *Paropsis atomaria* could trigger treatments and impact ornamental plantings. There are no native California plants in the host family Myrtaceae. Therefore, *P. atomaria* receives a **High (3)** in this category.

Environmental Impact: 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: 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 *Paropsis atomaria*: 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:** *Paropsis atomaria* is known to be established in Los Angeles County. It receives a **Low (-1)** 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 (10)

Uncertainty:

Paropsis atomaria may be more widely established in California than is currently known. There is significant uncertainty regarding the potential impacts of this beetle in California. If the significant impacts reported in the literature are limited to plantation situations, the impacts may have been overestimated in this proposal. Significant impacts have not yet been reported in California.

Conclusion and Rating Justification:

Paropsis atomaria is an Australian leaf beetle that feeds on eucalyptus trees. It could impact street plantings and nursery production in California. It is already established in Los Angeles County. For these reasons, a “B” rating is justified.

References:

California Department of Food and Agriculture. Pest and damage record database. Accessed September 9, 2022:

<https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx>

Duffy, M. P. 2006. Population phenology and natural enemies of *Paropsis atomaria* Olivier (Coleoptera: Chrysomelidae) in south-east Queensland. Master’s thesis. Queensland University of Technology.

Lawson, S. A. and McDonald, J. 2005. Emerging insect pests of *Corymbia*. pp. 20-21 in (D. Lee, ed.) *Corymbia* research meeting. Queensland Government Department of Primary Industries and Fisheries.

Schutze, M. K. 2008. The significance of genetic and ecological diversity in a wide-ranging insect pest, *Paropsis atomaria* Olivier (Coleoptera: Chrysomelidae). Ph.D. thesis, Queensland University of Technology, Brisbane, Australia.

Schutze, M. K. and Clarke, A. R. 2008. Larval development of two geographically isolated populations of *Paropsis atomaria* on two species of Eucalyptus. pp. 86-102 in (M. K. Schutze, author) The significance of genetic and ecological diversity in a wide-ranging insect pest, *Paropsis atomaria* Olivier (Coleoptera: Chrysomelidae). Ph.D. thesis, Queensland University of Technology, Brisbane, Australia.

Responsible Party:

Kyle Beucke, 1220 N Street, Sacramento, CA 95814, 916-698-3034, [permits\[@\]cdfa.ca.gov](mailto:permits[@]cdfa.ca.gov)

***Comment Period: 10/10/2022 – 11/24/2022**

***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 [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: B