

California Pest Rating Proposal

Coccus capparidis (Green): soft scale

Hemiptera: Coccidae

Current Rating: Q

Proposed Rating: A

Comment Period: **9/1/2020 – 10/16/2020**

Initiating Event:

Coccus capparidis is occasionally intercepted. It has not been rated. Therefore, a pest rating proposal is needed.

History & Status:

Background: *Coccus capparidis* is a polyphagous soft scale that is reported to feed on plants in 21 families.

Hosts include citrus, oleander, and orchids. It is reported to be parthenogenetic (García Morales et al., 2016). It was described as a “minor pest” by Miller et al. (2005).

Worldwide Distribution: *Coccus capparidis* is reported to occur in Asia (including China, Hong Kong, and Israel), the Caribbean (including Cuba), Central America, Africa (including Egypt), Oceania (including Hawaii), and North America (Florida in the United States) (Ben-Dov, 2012; Martin and Lau, 2011; Miller et al., 2005; Mohammad and Moharum, 2013; Nakahara, 1981; Novoa et al., 2011; Wang and Feng).

Official Control: *Coccus capparidis* is considered reportable by the United States Department of Agriculture (U.S. regulated plant pest table).

California Distribution: *Coccus capparidis* is not known to be present in California.

California Interceptions: *Coccus capparidis* is intercepted occasionally on plant material from Florida (California Department of Food and Agriculture).

The risk *Coccus capparidis* poses to California is evaluated below.

Consequences of Introduction:

- 1) **Climate/Host Interaction:** Reported hosts of *C. capparidis* include citrus and oleander, both of which are widely planted in California. However, the known distribution of this scale appears mostly limited to warmer climates. 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:** This scale is reported to feed on plants in at least 21 families. Therefore, it receives a **High (3)** 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:** *Coccus capparidis* is reported to be parthenogenetic. Adult females are sessile, but this scale could be dispersed via movement of infested plant material. 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 scale attacks economic plants, including citrus. If it occurs in high numbers, it could increase crop production costs. 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.** This scale attacks citrus. It could trigger treatments and affect home gardens. Therefore, *C. capparidis* receives a **High (3)** in this category.

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

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 *Coccus capparidis*: 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: *Coccus capparidis* is not known to be present 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:

The greatest uncertainty is the likelihood of the pest significance of this scale if it was to become established in California. It does not appear to be a significant pest elsewhere in the world, and the number of known hosts that are of significance in California is small. It is possible that the climates in California may not be suitable for *C. capparidis*.

Conclusion and Rating Justification:

Coccus capparidis is a soft scale that attacks a wide variety of plants, including citrus. Although it does not appear to be a significant pest in other parts of the world, it is not known to be present in California and it seems prudent to keep it out. For these reasons, an “A” rating is justified.

References:

- Ben-Dov, Y. 2012. The scale insects (Hemiptera: Coccoidea) of Israel – checklist, host plants, zoogeographical considerations and annotations on species. *Israel Journal of Entomology* 41-42:21-48.
- California Department of Food and Agriculture. Pest and damage record database. Accessed August 4, 2020:
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- García, M., Denno, B., Miller, D., Miller, G., Ben-Dov, Y. and Hardy, N. 2016. ScaleNet: A literature-based model of scale insect biology and systematics. Database. doi: 10.1093/database/bav118.
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- Miller, D. R., Miller, G. L., Hodges, G. S., and J. A. Davidson. 2005. Introduced scale insects (Hemiptera: Coccoidea) of the United States and their impact on U.S. agriculture. *Proceedings of the Entomological Society of Washington* 107:123-158.
- Mohammad, Z. K. and F. A. Moharum. 2013. Key to the species of family Coccidae in Egypt (Hemiptera: Coccoidea: Coccidae). *Egyptian Academic Journal of Biological Sciences* 6:145-158.
- Nakahara, S. 1981. List of Hawaiian Coccoidea (Homoptera: Sternorrhyncha). *Proceedings of the Hawaiian Entomological Society* 23:387-424.

Novoa, N. M., Hamon, A., Evans, G., Kondo, T., Oliver, P. H., Marrero, A. H., and A. A. Alonso. 2011. Los cocoideos (Hemiptera: Sternorrhyncha: Coccoidea) presents en la Cordillera de Guaniguanico, Pinar del Río, Cuba, y la relación con sus hospedantes. *Insecta Mundi* 0183:1-25.

U.S. regulated plant pest table. Accessed August 5, 2020:

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

Wang, F. and J-N. Feng. 2012. A new species of *Coccus* (Hemiptera, Coccoidea, Coccidae) from China. *Zoo Keys* 244:59-65.

Responsible Party:

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***Comment Period: 9/1/2020 – 10/16/2020*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: A