CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile

Melanaspis corticosa (Brain): South African obscure scale

Hemiptera: Diaspididae

Pest Rating: A

Comment Period: 05/15/2023 – 06/29/2023

Initiating Event:

Melanaspis corticosa was reported to be a pest of olive in Portugal. It appears to pose a threat to the California olive industry. A pest rating proposal is needed.

History & Status:

Background: *Melanaspis corticosa* is a polyphagous scale. Reported hosts include: **Anacardiaceae:** *Schinus mole*; **Celastraceae:** *Celastrus* sp.; **Fabaceae:** *Erythrina caffra*, *Robinia* sp., *Virgilia oroboides*; **Juglandaceae:** *Juglans* sp.; **Oleaceae:** *Olea europaea*, *Olea* sp. ("wild olive"); *Virgilia capensis*; **Rosaceae:** *Prunus persica*, *Pyrus* sp., *Rosa* sp., **Salicaceae:** *Populus* sp. (Brain, 1919; Mazzeo et al., 2023). In Portugal, it was found infesting olive trees in orchards and gardens (e.g., branches completely covered by scales). Damage was reported to include leaf browning and abscission and branch dieback. This appears to be the only report of economic damage inflicted by this scale (Mazzeo et al., 2023).

Worldwide Distribution: *Melanaspis corticosa* is presumably native to Africa. Its distribution includes: **Africa:** Guinea, Mozambique, South Africa, Zimbabwe; **Europe:** Portugal (García Morales et al., 2016; Mazzeo et al., 2023).

Official Control: *Melanaspis corticosa* would likely be considered Reportable by the United States Department of Agriculture, as it is a pest of olive and is not known to be established in the United States. It may also be listed as a quarantine pest in other olive-producing countries.

California Distribution: *Melanaspis corticosa* is not known to be established in California.

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

The risk *Melanaspis corticosa* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** *Melanaspis corticosa* is polyphagous and would likely find hosts over much of California. One important host, olive, is grown widely in the state. This scale is found in areas with a Mediterranean climate. Therefore, it could likely establish over much of California. Therefore, *M. corticosa* 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:** *Melanaspis corticosa* is polyphagous. 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:** Little information is available on the biology of *M. corticosa*. It could presumably be moved with infested plant material and the "crawlers" (first instar nymphs) may be wind-dispersed. 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 is reported to have serious impacts on olive trees (including branch dieback). Olives are an important industry in California, and infestations of this scale in the state could decrease yield and incur control costs. In addition, other olive-producing states and countries could impose quarantines if this scale was present in California. Therefore, it receives a **High (3)** in this category.

Economic Impact: A, B, C

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: High

– 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**. Olive trees grown in gardens and as part of landscapes could be impacted if this scale became established in California. Therefore, *M. corticosa* 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 *Melanaspis corticosa*: High (14)

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:** *Melanaspis corticosa* 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: High (14)

Uncertainty:

There is low uncertainty regarding the presence of this scale in California. It seems unlikely that a scale that occurs on olive trees in dense aggregations would escape detection in California. There is low uncertainty regarding the ability of this scale to establish in California; it is known to be established in areas with a Mediterranean climate and it is polyphagous.

Conclusion and Rating Justification:

Melanaspis corticosa is a threat to the olive industry of California. It may also pose a risk to other plants, as it is polyphagous. It is not known to be established in California and it appears likely it could establish here. For these reasons, an “A” rating is justified.

References:

Brain, C. K. 1919. The Coccidae of South Africa. III. Bulletin of Entomological Research 9:197-239.

California Department of Food and Agriculture. Pest and damage record database. Accessed April 24, 2023:
https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx

García Morales, M., Denno, B.D., Miller, D.R., Miller, G.L., Ben-Dov, Y., and N.B. Hardy. 2016. ScaleNet: A literature-based model of scale insect biology and systematics. Accessed February 13,

2023:
http://scalenet.info

Mazzeo, G., Pellizzari, G., Mateus, C., Borges da Silva, E., Russo, A., Nucifora, S., Soares, C., Tomé, D., de Andrade, E., and Franco, J. C. 2023. *Melanaspis corticosa*: a new insect pest of olive trees in Europe. Phytoparasitica https://doi.org/10.1007/s12600-022-01041-y

Responsible Party:

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***Comment Period: 05/15/2023 – 06/29/2023**

***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.

Pest Rating: A