CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile

Fiorinia japonica Kuwana: coniferous fiorinia scale

Hemiptera: Diaspididae

Pest Rating: B

Comment Period: 12/15/2021 – 01/29/2022

Initiating Event:

Fiorinia japonica has been found in Alameda and Los Angeles County nurseries in the past (in 1938 and 1942), and these infestations had apparently been eradicated (McKenzie, 1956). A large infestation covering at least 35 residences in Los Angeles County was found in 2008 and 2009 and it was found again in 2021. It has not been rated. A pest rating proposal is needed.

History & Status:

Background: *Fiorinia japonica* is known to feed on conifers in the families Cupressaceae (including *Juniperus bermudiana*, *Juniperus chinensis*, *Juniperus bedfordiana*, *Juniperus horizontalis*), Pinaceae (including *Abies*, sp., *Cedrus* sp., *Picea pungens*, *Pinus thunbergii*, *Tsuga* sp.), and Taxaceae (including *Torreya nucifera*) (Ahmed et al., 2021; Matile-Ferrero, 1989; Suh, 2012).

Feeding by *F. japonica* is reported to cause yellow stippling of leaves and to lead to defoliation and stunted growth (Arakelian, 2008). Miller and Davidson (2005) reported it as a pest (causing chlorosis and leaf drop) of conifers in the Washington D.C. area. Tang (1984) considered it to be a serious pest of pine trees in China. However, it is not reported to be a pest in the Republic of Korea.

Worldwide Distribution: *Fiorinia japonica* is reported from Asia (China, Japan, Republic of Korea, Taiwan) and North America: United States (Maryland, Virginia, Washington D.C.) (Ahmed et al., 2021; Matile-Ferrero, 1989; Miller, 2005; Miller and Davidson, 2005; Suh, 2012). This scale has been found in nurseries in additional localities but these reports may not indicate established populations in the environment.

Official Control: *Fiorinia japonica* is considered an A1 pest in Bahrain (EPPO).

California Distribution: A large infestation of *F. japonica* was found in Lakewood and Long Beach in Los Angeles County. Infestations were found on *Abies*, *Cedrus*, *Pinus*, and *Tsuga* species at 35 residences in 2008 and 2009. In December 2021, this scale was found on *Pinus thunbergii* in Long Beach (California Department of Food and Agriculture).

California Interceptions: *Fiorinia japonica* has been found in nurseries in Alameda and Los Angeles counties in 1938 and 1942 (McKenzie, 1956), and those infestations were considered eradicated (Gill, 1997).

The risk *Fiorinia japonica* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** *Fiorinia japonica* feeds on many different coniferous trees and it would likely find hosts over much of the state. Judging by its known distribution, it can establish in areas with a temperate climate. Therefore, *F. japonica* 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:** *Fiorinia japonica* is known to feed on trees in three families. 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:** *Fiorinia japonica* can be moved with 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**. *Fiorinia japonica* does not appear to often be reported as a significant pest. However, it is reported to cause chlorosis, defoliation, and stunted growth of host plants. It could increase production costs of conifers. 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**. *Fiorinia japonica* feeds on a wide variety of coniferous trees. California has native trees in known host genera. In addition, this scale could cause damage to ornamental and street trees and trigger treatments; the infestations in Los Angeles County were present on planted trees in residential areas, and damage was apparent. Therefore, *F. japonica* receives a **High (3)** in this category.

Environmental Impact: A, 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 *Fiorinia japonica*: 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:** *Fiorinia japonica* is 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:

There are no ongoing surveys for *F. japonica*, so it is possible that this scale is even more widely established in California. It is possible that it may not be capable of causing significant impacts to native trees in this state.

Conclusion and Rating Justification:

Fiorinia japonica is a scale that can feed on a wide variety of coniferous trees and is known to cause noticeable damage to planted trees. It may also pose a threat to the large number of native coniferous trees in California. It is already established in Los Angeles County. For these reasons, a “B” rating is justified.

References:

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***Comment Period: 12/15/2021 – 01/29/2022**

CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

***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: B