CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

# California Pest Rating Proposal

## *Rhizoecus floridanus* Hambleton: a root mealybug

## Hemiptera: Pseudococcidae

## Current Rating: Q

## Proposed Rating: A

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**Comment Period: 04/11/2022 – 05/26/2022**

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### Initiating Event:

*Rhizoecus floridanus* has been intercepted on plant material from Florida and found in nurseries in Riverside and San Diego counties. A pest rating proposal is needed.

### History & Status:

***Background:*** *Rhizoecus floridanus* has numerous reported hosts including: **Adoxaceae:** *Viburnum suspensum*; **Amaranthaceae:** *Philoxerus vermicularis*; **Apocynaceae:** *Carissa grandiflora*, *Hoya* sp; **Aquifoliaceae:** *Ilex cornuta*; **Araceae:** *Dieffenbachia* sp., *Philodendron selloum*; **Araliaceae:** *Aralia* sp., *Dizygotheca elegantissima*; **Araucariaceae:** *Araucaria excelsa*; **Arecaceae:** *Arecastrum romanzoffianum*, *Chrysalidocarpus lutescens*, *Phoenix canariensis*; **Asparagaceae:** *Dracaena marginata*; **Asteraceae:** *Anthemis* sp., *Pluchea* sp.; **Bromeliaceae:** *Aechmea chantinii*, *A. orlandiana*; **Amaryllidaceae:** *Allium* sp., *Billhergia* sp.; **Buxaceae:** *Buxus* sp.; **Combretaceae:** *Conocarpus erecta*; **Ericaceae:** *Rhododendron* sp.; **Fabaceae:** *Calliandra* sp.; **Fagaceae:** *Quercus* sp.; **Haemodoraceae**: *Lachnanthes tinctoria*; **Lythraceae:** *Cuphea* sp.; **Oleaceae:** *Jasminum* sp.; **Malvaceae:** *Sida* sp; **Myrtaceae:** *Callistemon rigidus*, *Eugenia* sp.; **Poaceae:** *Andropogon virginicus*, *Bambusa* sp., *Cortaderia selloana*, *Distichlis spicata*, *Eremochloa ophiuroides*, *Panicum* sp.; **Rosaceae:** *Prunus angustifolia*, *Pyracantha* sp.; **Rubiaceae:** *Gardenia thunbergia*, *Ixora* sp.; **Rutaceae:** *Citrus mitis*, *Citrus* sp.; **Scophulariaceae:** *Leucophyllum frutescens*; **Urticaceae:** *Pilea microphylla* (Halbert, 2005; Halbert,

2007; Hambleton, 1976). It is reported to be "common" on bromeliads and difficult to control (Hodges, 2003). It has been found in greenhouse situations and reported causing a severe infestation in onions (Halbert, 2005; Halbert, 2007). Infestations are reported to cause a "severe decrease in host vigor" (Halbert, 2007).

**Worldwide Distribution:** *Rhizoecus floridanus* is native to the continental United States. It is reported from: **North America:** United States (Florida, Georgia, Indiana, and Maryland) (Hambleton, 1976).

**Official Control:** *Rhizoecus floridanus* is considered a quarantine pest in Mexico (EPPO global database).

**California Distribution:** *Rhizoecus floridanus* is not known to be present in California.

**California Interceptions:** *Rhizoecus floridanus* has been intercepted on plant material from Florida and found in nurseries in Riverside and San Diego counties (California Department of Food and Agriculture).

The risk *Rhizoecus floridanus* poses to California is evaluated below.

## Consequences of Introduction:

1) **Climate/Host Interaction:** *Rhizoecus floridanus* is reported from only a few eastern states, but it appears that it prefers temperate and subtropical climates and much of California may have an appropriate climate for this species. This mealybug is polyphagous, and suitable hosts are presumably present widely in the state. Therefore, *R. floridanus* 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:** *Rhizoecus floridanus* has reported hosts in 28 plant 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:** *Rhizoecus floridanus* could be moved in infested plant material (in pots). 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:** Although details on impacts are sparse, *Rhizoecus floridanus* is considered a pest and it has been reported to decrease host vigor and attack a wide variety of plants. In addition, it is considered a quarantine pest in Mexico. 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**. *Rhizoecus floridanus* may impact ornamental plants, primarily the flowers. It could also trigger treatments. Therefore, *R. floridanus* 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 *Rhizoecus floridanus*: 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:** *Rhizoecus floridanus* 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: High (14)

## Uncertainty:

There is significant uncertainty with this proposal. Details on impacts caused by *Rhizoecus floridanus* are sparse. This mealybug may not thrive in the relatively drier climates in California, or it may be limited to greenhouses.

## Conclusion and Rating Justification:

*Rhizoecus floridanus* may threaten a wide variety of plants in California, including ornamentals and crops. It is considered a quarantine pest in Mexico. It is not known to be present in California. For these reasons, an “A” rating is justified.

## References:

California Department of Food and Agriculture. Pest and damage record database. Accessed March 17, 2021:
https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx

EPPO global database. Accessed March 18, 2022:
https://gd.eppo.int/taxon/RHIOFL/categorization

Halbert, S. E. 2005. Entomology section. Tri-ology 44:5-11.

Halbert, S. E. 2007. Entomology section. Tri-ology 46:5-10.

Hambleton, E. J. 1976. United States Department of Agriculture Agricultural Research Service Technical Bulletin 1522:1-88.

Hodges, G. 2003. Non-armored scale insects on bromeliads. Accessed March 15, 2022:
https://entnemdept.ufl.edu/frank/bromeliadbiota/scalehodges.htm

## Responsible Party:

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***Comment Period: 04/11/2022 – 05/26/2022**

***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.

## 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.

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**Proposed Pest Rating: A**