

California Pest Rating Proposal

Nipaecoccus floridensis Beardsley: a mealybug

Hemiptera: Pseudococcidae

Current Rating: A

Proposed Rating: B

Comment Period: **10/18/2023 – 12/02/2023**

Initiating Event:

Nipaecoccus floridensis is currently A-rated. In August 2023, it was found at a residence in Chino, San Bernardino County. It is considered to be established. Therefore, a revised pest rating proposal is needed.

History & Status:

Background: *Nipaecoccus floridensis* is a small (approximately 1.4 mm long) mealybug that occurs on palms. It was described recently and is very similar to *N. nipae* (Beardsley, 2001). *Nipaecoccus nipae* is present in California (Alameda, Kern, Los Angeles, Riverside, San Bernardino, San Diego, San Luis Obispo, San Francisco, and Ventura counties). *Nipaecoccus floridensis* has been reported on palms *Acoelorrhapha wrightii*, *Washingtonia robusta*, and guava (*Psidium guajava*) in Florida (Beardsley, 2001; Florida Department of Agriculture and Consumer Services, 2005; Novoa et al., 2010). In California, this species was found as early as 1995 in nurseries, where it has been found on a variety of palms (von Ellenrieder et al., 2018).

Worldwide Distribution: *Nipaecoccus floridensis* is reported from Cuba and the United States (Florida and now California) (California Department of Food and Agriculture, 2023; Florida

Department of Agriculture and Consumer Services, 2005; Novoa et al., 2015). It is likely of neotropical origin (von Ellenrieder et al., 2018).

Official Control: *Nipaecoccus floridensis* is apparently not under official control anywhere.

California Distribution: *Nipaecoccus floridensis* was found in Chino, San Bernardino County, in August 2023 (California Department of Food and Agriculture, 2023).

California Interceptions: *Nipaecoccus floridensis* has been found numerous times on palms at nurseries in Los Angeles, Orange, San Bernardino, San Diego, and Ventura counties (California Department of Food and Agriculture, 2023) starting in 1995. It has been intercepted on plant material, including fruit, from Florida.

The risk *Nipaecoccus floridensis* poses to California is evaluated below.

Consequences of Introduction:

- 1) **Climate/Host Interaction:** *Nipaecoccus floridensis* is primarily found in tropical and subtropical areas, but it is now considered to be established in San Bernardino County, California. It is possible that it could spread to much of southern California and it may be more widespread in the state than currently known. 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:** *Nipaecoccus floridensis* has been reported from a few species of palms and from guava. It was intercepted on *Annona squamosa* fruit. 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:** Mealybugs can be dispersed passively in the first instar (“crawler”) stage by wind (CABI, 2017). Based on the numerous detections on palms at nurseries, *Nipaecoccus floridensis* is evidently being dispersed artificially via transport of infested plants. In addition, some *Nipaecoccus* ssp. are capable of producing over 1000 offspring per female (Bartlett, 1978). 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:** *Nipaecoccus floridensis* feeds on palms. Ornamental palms are a \$70 million industry in California (Hoddle, 2017). This mealybug could become a more significant pest in nurseries and increase the cost of palm production. 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:** Palms are popular landscape plants in California. *Nipaecoccus floridensis* could trigger treatments if ornamental palms become infested. The only native California palm species, *Washingtonia filifera*, occurs in the desert, and *N. floridensis* is unlikely to thrive in such an environment. Therefore, *N. floridensis* receives a **Medium (2)** in this category.

Environmental Impact: D

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: Medium (2)

– 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 *Nipaecoccus floridensis*: Medium (10)

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:** *Nipaecoccus floridensis* is established in San Bernardino 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 the introduction score minus the post-entry distribution and survey information score: Medium (9)

Uncertainty:

This mealybug is likely more widely established in California since it has been regularly found in nurseries in the state since 1995.

Conclusion and Rating Justification:

Nipaecoccus floridensis is a pest of palm trees and it has potential to impact palm plantings and nurseries in California. However, it is established, it is widespread in the nursery trade, and eradication does not appear feasible. For these reasons, a B rating is justified.

References:

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<https://doi.org/10.11646/zootaxa.4444.2.5>

Responsible Party:

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***Comment Period: 10/18/2023 – 12/02/2023**

*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](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