CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Proposal

***Androthrips ramachandrai* Karny: a thrips**

Thysanoptera: Phlaeothripidae

Current Rating: Q

Proposed Rating: C

Comment Period: 09/14/2021 – 10/29/2021

Initiating Event:

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

History & Status:

Background: *Androthrips ramachandrai* is a predaceous thrips that lives inside plant galls formed by other thrips. Reported prey thrips include *Gigantothrips elegans* and *Gynaikothrips* spp. (including *G. ficorum* and *G. uzeli*) (De Melo et al., 2013; Saengyot, 2016; Varatharajan et al.; 2018). Ananthakrishnan (1978) suggested it is predaceous on *Ocnothrips indicus* in galls on *Calycopteris floribundus*.

Plants that Androthrips ramachandrai has been found on include *Artocarpus heterophyllus* (Moraceae), *Calycopteris floribundus* (Combretaceae), *Ficus* spp. (Moraceae), *Malvaviscus penduliflorus* (Malvaceae), *Scheflera actinophylla* (Araliaceae), and *Tabebuia heterophylla* (Bignoniaceae) (Ananthakrishnan, 1978; Boyd and Held, 2006).

Worldwide Distribution: *Androthrips ramachandrai* is reported to be native to Asia. It is present in: Asia: India, Taiwan, Thailand; Caribbean: Puerto Rico; Central America: Costa Rica; North America:

Mexico, United States (Florida, Hawaii, and Texas); Oceania: Australia; South America: Argentina, Brazil (Cabrera-Asencio and Vélez, 2009; Boyd and Held, 2006; Cambero-Campos et al., 2010; de Borbón and Agostini, 2011; De Melo et al., 2013; Mound and Matsunaga, 2017; Saengyot, 2016). Specimen records suggest it may be established in California as well (M. Forthman, pers. comm.).

Official Control: *Androthrips ramachandrai* is not known to be regulated anywhere.

California Distribution: *Androthrips ramachandrai* is not known to be established in California (but see Uncertainty, below) (California Department of Food and Agriculture).

California Interceptions: *Androthrips ramachandrai* has been intercepted on basil from Hawaii and on *Ficus* plants from Thailand and possibly elsewhere (California Department of Food and Agriculture).

The risk *Androthrips ramachandrai* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** Most of the known distribution of *Androthrips ramachandrai* has a tropical or subtropical climate. One prey thrips species, *Gynaikothrips uzeli*, is established in southern California, and the host of that thrips, *Ficus benjamina*, is apparently mostly limited to coastal southern California. It appears likely that climatic and host requirements would limit *A. ramachandrai* to southern coastal California. Therefore, it receives a **Low (1)** 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:** The host range of *A*. *ramachandrai* appears to be limited to the family Phlaeothripidae. Therefore, it receives a **Low (1)** 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:** *Androthrips ramachandrai* has wings and can presumably fly. It could also be moved with plant material that has galls. 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**. *Androthrips ramachandrai* is not known to have any negative economic impacts. It may help to control the currently B-rated pest thrips *Gynaikothrips uzeli*, which is present in southern California and is a prey of *A. ramachandrai*. Therefore, it receives a **Low (1)** in this category.

Economic Impact:

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**. *Androthrips ramachandrai* is not reported to have any environmental impacts. The reported prey thrips genera are not known to include native California species. However, *A. ramachandrai* may attack native thrips. Therefore, *A. ramachandrai* receives a **Medium (2)** in this category.

Environmental Impact: A

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 *Androthrips ramachandrai*: Low (7)

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:** *Androthrips ramachandrai* 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: Low (7)

Uncertainty:

Specimen records in the CDFA collection suggest *A. ramachandrai* may already be established in California in Riverside and Orange counties. There is some uncertainty regarding the potential of *A. ramachandrai* to feed on native California thrips, although *A. ramachandrai* appears to have a strong association with gall-forming thrips and is only known to feed on three thrips genera, none of which is known to contain native California species.

Conclusion and Rating Justification:

Androthrips ramachandrai is a thrips that feeds on gall-forming thrips. It appears to pose no risk to California agriculture and little risk to the environment, although it is possible it could attack native

California thrips. If it becomes established in California, it is likely to be limited to the coastal southern portion of the state. For these reasons, a "C" rating is justified.

References:

Ananthakrishnan, T. N. 1978. Thrips galls and gall thrips. Zoological Survey of India Technical Monograph 1:1-69.

Boyd, D. W. and Held, D. W. 2006. *Androthrips ramachandrai* (Thysanoptera: Phlaeothripidae): An introduced thrips in the United States. Florida Entomologist 89:455-458.

Cabrera-Asencio, I., and Vélez, A. L. 2009. *Androthrips ramachandrai* Karny (Thysanoptera: Phlaeothripidae): Un nuevo record para Puerto Rico. The Journal of Agriculture of the University of Puerto Rico 93:259-261.

California Department of Food and Agriculture. Pest and damage record database. Accessed June 7, 2021:
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Responsible Party:

Kyle Beucke, 2800 Gateway Oaks Drive, Suite #200, Sacramento, CA, 95833,
916-698-3034, permits[@]cdfa.ca.gov

***Comment Period: 09/14/2021 – 10/29/2021**

***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.

Proposed Pest Rating: C