CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Proposal

***Thrips orientalis* (Bagnall): a thrips**

Thysanoptera: Thripidae

Current Rating: Q

Proposed Rating: A

Comment Period: 02/23/2022 – 04/09/2022

Initiating Event:

Thrips orientalis is occasionally intercepted on cut flowers from Hawaii. It has not been rated. A pest rating proposal is needed.

History & Status:

Background: Hosts are reported to include plants in nine families: **Apocynaceae:** *Carissa* spp., *Kopsia fruticosa*, *Plumeria* sp.; **Cucurbitaceae:** *Cucumis melo*; **Oleaceae:** *Jasminum* species (apparently the most common host); **Fabaceae:** *Dichrostachys cinerea*; **Lamiaceae:** *Vitex negundo*; **Orchidaceae:** *Arundina graminifolia*; **Phyllanthaceae:** *Phyllanthus emblica*; **Rubianceae:** *Canthium* sp., *Gardenia* sp., *Morinda tinctoria*, *Ixora finlaysahlana*; **Solanaceae:** *Capsicum annuum* (Azidah, 2011; Nakahara, 1994; Reyes, 2020; Tillekaratne et al., 2011). This species appears to live primarily on flowers. Although it is referred to as a pest in the literature, no reports were found of *T. orientalis* having any impacts on plants.

Worldwide Distribution: **Africa:** Egypt, Tanzania; **Asia:** China, India, Indonesia, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand; **Caribbean:** St. Croix, St. Thomas; **North America:** United States (Florida); **Oceania:** Australia, Guam, Hawaii (Amal et al., 2019; Azidah, 2011; Mound et al, 2022; Mound and Masumoto, 2005; Nakahara, 1994; Tillekaratne et al., 2011).

Official Control: *Thrips orientalis* is considered reportable by the USDA.

California Distribution: *Thrips orientalis* is not known to be established in California.

California Interceptions: *Thrips orientalis* is occasionally intercepted on cut flowers of *Jasminum sambac* and *Plumeria* sp. from Hawaii (California Department of Food and Agriculture).

The risk *Thrips orientalis* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** *Thrips orientalis* is only reported from areas with a subtropical or tropical climate. Literature suggests it is moderately polyphagous, and its preferred host, *Jasminum* spp., is grown in southern California. Climate would likely limit the distribution of this species to southern and coastal areas. 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:** Literature suggests that *T. orientalis* feeds on plants in nine 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:** *Thrips orientalis* 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**. *Thrips orientalis* is not reported to cause damage to plants or to have any economic impacts. It is considered reportable by the United States Department of Agriculture, and its presence in California could trigger loss of domestic markets (U.S. regulated plant pest table). Therefore, *T. orientalis* receives a **Low (1)** in this category.

Economic Impact: 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: 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**. *Thrips orientalis* is not reported to damage plants. Infestations of ornamental plants in California could be considered undesirable and may trigger treatments. Therefore, *T. orientalis* 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 *Thrips orientalis*: 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:** *Thrips orientalis* 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: Medium (10)

Uncertainty:

There are no ongoing surveys for *T. orientalis,* so it is possible that this thrips is already established in California. There is uncertainty regarding the potential for this thrips to have impacts in California.

Conclusion and Rating Justification:

Although it appears to be relatively low-risk compared to many other potential pests that have been assessed for California (for example, impacts on plants have not been reported), *Thrips orientalis* is a thrips that could threaten domestic trade between this and other states. It could potentially trigger treatments in ornamental plantings. It is not known to be established in California. For these reasons, an “A” rating is justified.

References:

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Azidah, A. A. 2011. Thripidae (Thysanoptera) species collected from common plants and crops in peninsular Malaysia. Scientific Research and Essays 6:5107-5113.

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Mound, L. A. and Masumoto, M. 2005. The genus *Thrips* (Thysanoptera, Thripidae) in Australia, New Caledonia and New Zealand. Zootaxa 1020:1-64.

Mound, L. A., Wang, Z., Lima, E. F. B., and Marullo, R. 2022. Problems with the concept of "pest" among the diversity of pestiferous thrips. Insects doi.org/10.3390/insects13010061

Nakahara, S. 1994. The genus Thrips Linnaeus (Thysanoptera: Thripidae) of the New World. United States Department of Agriculture Agricultural Research Service Technical Bulletin 1822:1-183.

Reyes, C. P. 2020. Inventory of Philippine thrips (Insecta: Order Thysanoptera). Philippine Journal of Science 150:181-213.

Tillekaratne, K., Edirisinghe, J. P., Gunatilleke, C. V. S., and Karunaratne, W. A. I. P. 2011. Survey of thrips in Sri Lanka: A checklist of thrips species, their distribution and host plants. Ceylon Journal of Science 40:89-108.

U.S. regulated plant pest table. Accessed February 4, 2021: https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/rppl/rppl-table

Responsible Party:

Kyle Beucke, 1220 N Street, Sacramento, CA 95814, 916-698-3034, permits[@]cdfa.ca.gov

***Comment Period: 02/23/2022 – 04/09/2022**

***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.

Proposed Pest Rating: A