

California Pest Rating

Gynaikothrips uzeli (Zimmermann): Weeping Ficus Thrips

Thysanoptera: Phlaeothripidae

Pest Rating: B

Initiating Event:

On February 5, 2014 Dr. Gillian Watson confirmed the identification of a sample of thrips collected in Torrance, Los Angeles County as *Gynaikothrips uzeli*. This is a new state and county record and the species is in need of a pest rating.

History & Status:

Background: *Gynaikothrips uzeli* is a largely monophagous leaf-gall-forming thrips that feeds and reproduces on *Ficus benjamina*. The thrips forms galls on new growth¹. The thrips has also been found on *Ficus obtusa*, *F. pilosa*, *F. microcarpa*, and *Macaranga* sp.; however, it is not known to reproduce on these alternative hosts⁴. The primary pathway for the spread of *Gynaikothrips uzeli* is likely *F. benjamina* nursery stock. Many of the records from the southeastern states are on nursery stock and the thrips has been intercepted on nursery stock from Florida eight times.

Worldwide Distribution: *Gynaikothrips uzeli* is native to Southeast Asia including China and India¹. Over the last decade it has been invading North America. The thrips was first reported from North America in Florida in 2003¹ and has since been found in Mississippi, Alabama, Tennessee, and Louisiana¹. It has also recently been reported from Hawaii², Trinidad², Costa Rica², Belize³, Puerto Rico³, and Mexico³.

Official Control: *Gynaikothrips uzeli* is not known to be under official control in any states or nations⁵.

California Distribution: *Gynaikothrips uzeli* has only been officially collected in the cities of Torrance and Carson in Los Angeles County.

California Interceptions: *Gynaikothrips uzeli* has been intercepted 8 times since 2003 on nursery shipments of *Ficus benjamina* from Florida.

The risk *Gynaikothrips uzeli* (Weeping Ficus Thrips) would pose to California is evaluated below.

Consequences of Introduction:

1) Climate/Host Interaction: *Ficus benjamina* is a common landscape plant in California. *Gynaikothrips uzeli* is likely able to establish everywhere that these plants are grown. The thrips receives a **High (3)** in this category.

Evaluate if the pest would have suitable hosts and climate to establish in California. Score:

- **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: *Gynaikothrips uzeli* is only known to complete its life cycle on *Ficus benjamina*. The thrips receives a **Low (1)** in this category.

Evaluate the host range of the pest. Score:

- **Low (1)** has a very limited host range.
- **Medium (2)** has a moderate host range.
- **High (3)** has a wide host range.

3) Pest Dispersal Potential: Thrips are capable of rapid reproduction. *Gynaikothrips uzeli* has demonstrated its ability to move long distances on nursery stock. The thrips receives a **High (3)** in this category.

Evaluate the natural and artificial dispersal potential of the pest. Score:

- **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: *Gynaikothrips uzeli* may lower the nursery value of *Ficus benjamina* plants by disfiguring them with its leaf-galls and triggering chemical treatments. The thrips receives a **Low (1)** in this category.

Evaluate the economic impact of the pest to California using the criteria below. Score:

- 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.

- **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: The establishment of *Gynaikothrips uzeli* in California is expected to trigger additional chemical treatments in the nursery industry. The thrips may also have significant cultural impacts as *Ficus benjamina* is a common landscape plant. Residents are likely to treat plants, increase pruning⁴, and replace heavily infested *F. benjamina* with alternative plants. The thrips receives a **High (3)** in this category.

Evaluate the environmental impact of the pest on California using the criteria below.

- 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.**

Score the pest for Environmental Impact. Score:

- **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 *Gynaikothrips uzeli*: 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: *Gynaikothrips uzeli* is only known from the cities of Torrance and Carson in Los Angeles County. The thrips receives a **Low (-1)** in this category.

Evaluate the known distribution in California. Only official records identified by a taxonomic expert and supported by voucher specimens deposited in natural history collections should be considered. Pest incursions that have been eradicated, are under eradication, or have been delimited with no further detections should not be included.

- **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:

The final score is the consequences of introduction score minus the post entry distribution and survey information score: **Medium (10)**

Uncertainty:

Significant pests that are not widespread in California have been observed inside the galls produced by *Gynaikothrips uzeli*. For example, pink hibiscus mealybug (*Maconellicoccus hirsutus*) has been found living hidden inside these galls¹. It is possible that high risk exotic invasive species could travel into and spread within California inside the galls formed by *G. uzeli*.

There have been no surveys for *Gynaikothrips uzeli* within California, so it could be more widely distributed.

Conclusion and Rating Justification:

Although impacts of *Gynaikothrips uzeli* are expected to be limited to *Ficus benjamina*, this is a common landscape plant in California. Chemical treatments of hosts and changes to cultural practices as residents adapt to this pest are expected to have significant environmental impacts. Furthermore, there is the possibility that other invasive species may spread into and within California inside the galls produced by the thrips. A B-rating is justified.

References:

¹Held, D.W., D. Boyd, T. Lockley, G.B. Edwards. 2005. Gynaikothrips uzeli (Thysanoptera: Phlaeothripidae) in the southeastern United States: Distribution and review of biology. Florida Entomologist 88(4): 538-540. <http://www.fcla.edu/FlaEnt/fe88p538.pdf>

²Held, D.W. and D.W. Boyd, Jr. 2007. Evaluation of sticky traps and insecticides to prevent gall induction by Gynaikothrips uzeli Zimmerman (Thysanoptera: Phlaeothripidae) on Ficus benjamina. Pest Management Science. 64(2): 133-140. <http://www.ncbi.nlm.nih.gov/pubmed/18069654>

³Camero-Campos, Jhonathan, Rita Valenzuela-García, Carlos Carvajal-Cazola, Claudio Rios-Velasco, and Oswaldo García-Martínez. 2010. New records for Mexico: Gynaikothrips uzeli, Androthrips ramachandrai (Thysanoptera: Phlaeothripidae) and Montanadoniola confusa (Hemiptera: Anthocoridae). Florida Entomologist 93(3): 470-472. <http://www.bioone.org/doi/full/10.1653/024.093.0328>

⁴ University of Florida Extension <http://trec.ifas.ufl.edu/mannion/pdfs/WeepingFigThrips.pdf>

⁵ USDA Phytosanitary Certificate Issuance & Tracking System (PCIT) Phytosanitary Export Database (PEXD). <https://pcit.aphis.usda.gov/pcit/>

Responsible Party:

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Comment Period:

The 45-day comment period was opened on Monday, March 16, 2015 and closed on Thursday, April 30, 2015.