

California Pest Rating Proposal

Phyllanthus tenellus Roxb.: Mascarene Island leafflower

Family: Phyllanthaceae

Rating: C

Comment Period: **CLOSED**

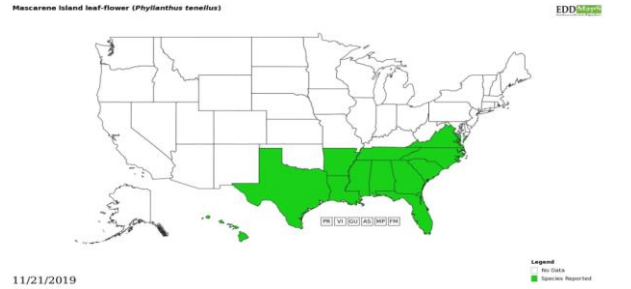
Initiating Event:

Phyllanthus tenellus is currently Q-rated and was intercepted 13 times in 2019. A pest rating proposal is required to support an official pest rating.

History & Status:

Background: *Phyllanthus tenellus*, known as Mascarene Island leafflower, is an erect, many-branched, annual or short-lived perennial, broad-leaved, glabrous or glabrescent herb that grows up to 2 m high (Zare et al., 2015; Levin, 2016; PlantNet). The leaves are elliptic to obovate, 6–25 mm long, and 2–10 mm wide. The small monoecious flowers are borne in small cymules of 3 to 5 flowers or solitary. The smooth capsule fruits are approximately 1.5-2 mm in diameter and are pendent from flexuous pedicels 2 to 8 mm in length. The minutely papillate seeds are brown and approximately 0.8-0.9 mm long. *Phyllanthus tenellus* is a common weed in humid environments in tropical and sub-tropical regions. It is found in cultivated areas and other disturbed places in much of the tropics.

Worldwide Distribution: *Phyllanthus tenellus* is native to Madagascar and Mauritius and perhaps to tropical East Africa and parts of the Arabian Peninsula (Levin, 2016). It has been introduced to many other tropical and subtropical countries and in some of them it is very invasive. It is naturalized in the southeastern United States and the Hawaiian Islands (EDD maps 2019).



Official Control: *Phyllanthus tenellus* is listed as a noxious weed in Alabama (USDA- APHIS- PCIT).

California Distribution: *Phyllanthus tenellus* is not documented as a naturalized in California (CalFlora, 2019; Consortium of California Herbaria).

California Interceptions: There were 13 interceptions of this plant reported in 2019 and a few between 2000 and 2017 (PHPPS- PDR Database). Most of the interceptions have been associated with nursery stock entering California from Florida.

The risk *Phyllanthus tenellus* (Mascarene Island leaf-flower) would pose to California is evaluated below.

Consequences of Introduction:

- 1) **Climate/Host Interaction:** *Phyllanthus tenellus* can grow in nurseries, wasteland, and wet fields in the tropics and subtropics. In California, it may be able to establish in warmer areas that have abundant water, especially in greenhouse nurseries. Therefore, it receives a **low (1)** in this category.

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

Score: 1

- **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:** *Phyllanthus tenellus* does not require any one host but grows wherever ecological conditions are favorable. It receives a **High (3)** in this category.

Evaluate the host range of the pest.

Score: 3

- 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:** *Phyllanthus tenellus* produce prolific seeds that are most likely to be dispersed locally near the parent plant. It receives a **Medium (2)** in this category

Evaluate the natural and artificial dispersal potential of the pest.

Score: 2

- 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:** *Phyllanthus tenellus* grows best in areas with high humidity, so it could be a problematic weed in greenhouses and irrigated warmer winter areas in California. Therefore, it could negatively change normal cultural practices. It receives a **Low (1)** in this category.

Economic Impact: D

- 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: 1

- **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** *Phyllanthus tenellus* could be expected to invade flood plains or other disturbed areas in warmer winter areas in California. If it becomes established here in California, it could trigger additional private treatment programs. It 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: 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 *Phyllanthus tenellus* (Carry me seed): Medium (9)

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:** No official records indicating this species is established in the environment of California have been found, so 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:

The final score is the consequences of introduction score minus the post entry distribution and survey information score: **Medium (9)**

Uncertainty:

This plant is not known to be established in California. Its previous history indicates that it is limited to high humid environment. Therefore, it is unlikely to be a problematic weed in the vast drier areas of California. There is low uncertainty.

Conclusion and Rating Justification:

Phyllanthus tenellus is a weed of the tropic and subtropics that appears to be best adapted to areas such as the southeastern United States with significant summer rainfall. It is not currently known from California outside of transient introductions to greenhouse settings but could establish in disturbed areas in a limited part of the state, so a “C” rating is justified.

References:

Calflora. 2019. Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals. Accessed: November 27, 2019.

<https://www.calflora.org//>

Consortium of California Herbaria (CCH). 2019. Regents of the University of California 2019. Accessed: November 27, 2019.

<http://ucieps.berkeley.edu/consortium/>

EDD maps. Accessed November 21, 2019.

<http://www.eddmaps.org/distribution/usstate.cfm?sub=10104>

Levin, G. 2015. *Phyllanthus* Linnaeus. Pp. 335-345 in Flora North America Editorial Committee (eds.), Flora of North America North of Mexico, Vol. 12: Magnoliophyta: Vitaceae to Garryaceae. Oxford University Press, New York, NY.

PlantNet. New South Wales Flora online. Accessed November 21, 2019.

<http://plantnet.rbg Syd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Phyllanthus~tenellus>

Pest and Damage Record Database, California Department of Food and Agriculture, Plant Health and Pest Prevention Services. Accessed November 21, 2019. <http://phpps.cdfa.ca.gov/user/frmLogon2.asp>

USDA Phytosanitary Certificate Issuance & Tracking System (PCIT) Phytosanitary Export Database (PEXD). Accessed November 21, 2019. <https://pcit.aphis.usda.gov/pcit/>

Zare, H., T. Amini and M. Zare. 2015. *Phyllanthus tenellus* (Euphorbiaceae), a new record and naturalized species in Mazandaran. Accessed November 21, 2019.

<https://pdfs.semanticscholar.org/a64f/de1136e892a2aafce1de1ffd3723eb80f86.pdf>

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***Comment Period: CLOSED**

***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 [plant.health\[@\]cdfa.ca.gov](mailto:plant.health[@]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.

Pest Rating: C