



California Pest Rating Proposal for

Euphorbia cyathophora (Murray), dwarf poinsettia, wild poinsettia, painted spurge, fire-on-the-mountain

Family: Euphorbiaceae

Current Pest Rating: Q, Z

Proposed Pest Rating: C

Synonyms:

Euphorbia barbellata Engelm.

Euphorbia graminifolia Michx.

Euphorbia havanensis Willd. ex Boiss.

Euphorbia heterophylla L. var. *barbellata* (Engelm.) Holz.

Euphorbia heterophylla L. var. *cyathophora* (Murray) Griseb.

Euphorbia heterophylla L. var. *graminifolia* (Michx.) Engelm.

Poinsettia barbellata (Engelm.) Small

Poinsettia cyathophora (Murray) Klotzsch & Garcke

Poinsettia cyathophora (Murray) Klotzsch & Garcke var. *graminifolia* (Michx.) Mohlenbr.

Poinsettia graminifolia (Michx.) Millsp.

Poinsettia havanensis (Willd. ex Boiss.) Small

Comment Period: 3/16/2020 through 4/30/2020

Initiating Event:

Euphorbia cyathophora has been assigned a Q- and a Z-rating by the California Department of Food and Agriculture, Plant Health and Pest Prevention Services.

History & Status:

Background:

Euphorbia cyathophora is an annual, herbaceous plant related to the poinsettia (*Euphorbia pulcherrima*). It grows to 3-8 decimeters (approximately 1-2 ½ feet) in height and has erect stems, spreading taproots, and alternate, bright green, mostly lanceolate or oblong leaves (Keil et al., 2013; FNA, 1993). Leaves have a prominent mid-rib. Leaves on individual plants can vary in shape from linear to oblong, ovate, or pandurate (somewhat fiddle-shaped), and leaf margins can vary from entire to serrate to lobed. Like all spurge, plants have a milky latex sap.

Reduced, unisexual flowers are clustered in cup-shaped bracts (cyathia) borne on branch tips. Cyathia have yellow petal-like appendages; leafy bracts just beneath the inflorescences turn bright red. Fruits are three-lobed capsules with each lobe producing a single, black, hard, rough-coated seed.

Several sources note that *Euphorbia cyathophora* can be confused with and incorrectly identified as *Euphorbia heterophylla* L. (Keil et al., 2013; Tropicos, 2020). However, the lack of red subtending bracts is useful in distinguishing this *E. heterophylla* (Keil et al., 2013; CABI, 2020).

Worldwide Distribution: *Euphorbia cyathophora* is native to the midwestern and southeastern United States, Mexico, the West Indies, northern South America (FNA, 1993), and Central America (Keil et al., 2013). In North America, it is confirmed from Alaska, Arkansas, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Nebraska, New Mexico, North Carolina, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, and Wisconsin (FNA). It has been introduced in Eurasia, Africa, Indian Ocean Islands, Pacific Islands, and Australia (FNA). It can become naturalized in low elevation fields and hedges in tropical areas of Africa, Asia, and Europe (Tropicos, 2020).

Official Control: *Euphorbia cyathophora* is considered an invasive plant of urban and disturbed sites by the Australian Government (Batianoff and Butler, 2002) and it is listed as a regulated host of *Bemisia argentifolii* (silverleaf whitefly) by the Government of Western Australia (WA, 2020).

Euphorbia cyathophora does not appear on the United States Department of Agriculture Federal Noxious Weed list, nor is it listed as a regulated or noxious weed in any U.S. state, including California (NPB, 2019), or in Europe (EPPO, 2019). However, this plant does appear on the list of Weeds of the United States and Canada produced by the Southern Weed Science Society (SWSS, 2020).

California Distribution: *Euphorbia cyathophora* is considered a waif in California (FNA, 2010), defined by the USDA Natural Resource Conservation Service as a plant that is periodically introduced to a particular area but does not persist and become naturalized. It occurs in disturbed sites near human habitation (Keil et al., 2013). It has been collected from Fresno, Santa Barbara, Ventura, Orange, and San Diego counties (USDA, NRCS, 2020; CalFlora, 2020).

California Interceptions: *Euphorbia cyathophora* has been collected numerous times at several different nurseries in Los Angeles County between 2017-2019 and submitted to the California Department of Food and Agriculture, Plant Pest Diagnostics Branch, for identification (CDFA/PDR Database, 2020).

Consequences of Introduction

1) Climate/Host Interaction: Score is **Medium (2)**

Euphorbia cyathophora inhabits roadsides, fields, and disturbed areas near cultivation at elevations below 1,800 meters. It can tolerate full sun to partial shade and grows in moist to dry soil and will tolerate sand (Tropicos, 2020). It does not seem to be well adapted to the California Floristic Province. It may prove somewhat invasive in disturbed desert environments.

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

- 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: Score is Medium (2)

Euphorbia cyathophora can occur wherever conditions exist that are conducive to its survival.

- 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: Score is Medium (2)

Euphorbia cyathophora reproduces via seed. Seed capsules open explosively when mature, expelling the seeds short distances. Seeds are likely to be unintentionally transported by humans (HEAR, PEIR, WRA, 2020).

Evaluate the natural and artificial dispersal potential of the pest.

- 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

3) Economic Impact: Score is Low (1)

Euphorbia cyathophora is not known to cause any of the economic impacts listed below.

- 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:

- **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

4) Environmental Impact: Score is Low (1)

Euphorbia cyathophora is included on a list of invasive plants in the United States territory of Guam, but the author notes that it may not be presently causing serious damage to wildland ecosystems (Reddy, 2011). *Euphorbia cyathophora* is not known to cause any of the environmental impacts listed 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.

Environmental Impact:

- **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 *Euphorbia cyathophora*: **Low (8)**

Low = 5-8 points

Medium = 9-12 points

High = 13-15 points

5) Post Entry Distribution and Survey Information: Score is Low (1)

- 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.

7) Final Score: Medium (8) 8-1=7

Conclusion and Rating Justification: Due to the medium score of this analysis, a C-rating is recommended for *Euphorbia cyathophora*.

References:

Batianoff, G.N. and Butler, D.W., 2002. Assessment of invasive naturalized plants in south-east Queensland. Plant Protection Quarterly, 17(1), pp.27-34.

Calflora Database. 2020. <https://www.calflora.org/> Accessed January 6, 2020

California Department of Food and Agriculture (CDFA), Plant Pest Diagnostics Branch, Pest and Damage Record (PDR) Database. Accessed January 6, 2020.

Centre for Agriculture and Bioscience International (CABI), 2020. *Euphorbia heterophylla*. Invasive Species Compendium. Wallingford, United Kingdom: CAB International. www.cabi.org/isc.

European and Mediterranean Plant Protection Organization (EPPO), Lists of Invasive Alien Plants, https://www.eppo.int/ACTIVITIES/invasive_alien_plants/iap_lists
Accessed January 6, 2020.

Flora of North America (FNA) Editorial Committee, 1993. Flora of North America North of Mexico. Volume 3. New York and Oxford.
http://efloras.org/florataxon.aspx?flora_id=1&taxon_id=242321403 Accessed January 7, 2020.

Gleason, H. and Cronquist, A. 1991. Manual of vascular plants of northeastern United States and adjacent Canada. SEINet Portal Network Data Portal.
<http://swbiodiversity.org/seinet/taxa/index.php?taxon=Euphorbia+cyathophora&formsubmit=Search+Terms>. Accessed January 6, 2020.

Government of Western Australia (WA), Department of Primary Industries and Regional Development, Quarantine WA Import Requirements, Silverleaf Whitefly (SLWF) Host Plant List.
[https://www.agric.wa.gov.au/qtime/regulations.asp?txtcommodity=84&optformat=1&optstate=NSW&optregid=52#Silverleaf%20whitefly%20\(SLWF\)%20hostplant%20list](https://www.agric.wa.gov.au/qtime/regulations.asp?txtcommodity=84&optformat=1&optstate=NSW&optregid=52#Silverleaf%20whitefly%20(SLWF)%20hostplant%20list). Accessed January 7, 2020.

Hawaiian Ecosystems at Risk (HEAR) Project, Pacific Island Ecosystems at Risk (PEIR), Weed Risk Assessment (WRA), *Euphorbia cyathophora*.
http://www.hear.org/pier/wra/pacific/euphorbia_cyathophora_htmlwra.htm. Accessed January 7, 2020.

Keil, D., Rosatti, T., Mayfield, M., Koutnik, D. 2013. *Euphorbia cyathophora*, in Jepson Flora Project. Jepson eFlora, Revision 1. http://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=25537.
Accessed January 06, 2020.

Reddy, G. 2011. Survey of invasive plants on Guam and identification of the 20 most widespread. *Micronesica* 41(2):263–274, 2011.

Tropicos.org. Missouri Botanical Garden. <http://www.tropicos.org/Name/12802074>. Accessed January 6, 2010.

United States Department of Agriculture (USDA), Agricultural Research Service (ARS), National Plant Germplasm System. 2019. Germplasm Resources Information Network (GRIN-Taxonomy).
<https://npgsweb.ars-grin.gov/> Accessed December 10, 2019.

United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2020. The PLANTS Database <https://plants.usda.gov/core/profile?symbol=EUCY>. Accessed January 6, 2020.

United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). Weeds of the United States and Canada. Southern Weed Science Society (SWSS), Champaign, Illinois. <https://plants.usda.gov/java/invasiveOne?pubID=SWSS>. Accessed January 7, 2020.

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***Comment Period: 3/16/2020 through 4/30/2020**

***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.
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Proposed Pest Rating: [C]
