

Taxon: Trembleya phlogiformis DC.

Family: Melastomataceae

Common Name(s): island glorybush

Synonym(s): NA

Assessor: No Assessor

Status: Assessor Approved

End Date: 10 Jul 2018

WRA Score: 5.0

Designation: EVALUATE

Rating: Evaluate

Keywords: Tropical, Subshrub, Dye, Shade-Tolerant, Small-Seeded

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	n
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed		
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed	n=0, y = 1*multiplier (see Appendix 2)	n
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems		
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	y
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		

Qsn #	Question	Answer Option	Answer
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets		
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation		
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
702	Propagules dispersed intentionally by people		
703	Propagules likely to disperse as a produce contaminant		
704	Propagules adapted to wind dispersal		
705	Propagules water dispersed		
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m ²)		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[No evidence of domestication] "Native to southern Brazil (Sao Paulo to Minas Gerais);"

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	NA

201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Native to southern Brazil (Sao Paulo to Minas Gerais)"

202	Quality of climate match data	High
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	

203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	Faria, C. A. (2008). Melastomataceae Juss. no Parque Nacional de Brasília, Distrito Federal, Brasil. MSc. Thesis. Universidade de Brasília, Brasília, DF	[Translation from Portuguese] "In Brazil the species occurs in the states of Minas Gerais São Paulo, Goiás (Cogniaux 1885, Martins 1991, Martins 1997) and in the Federal District." ... "in altitudes between 1020 and 1250m."
	Tropicos.org. 2018. Missouri Botanical Garden. http://www.tropicos.org/ . [Accessed 10 Jul 2018]	Collected from 730-1800 m elevation, demonstrating some environmental versatility

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Native to southern Brazil (Sao Paulo to Minas Gerais); in Hawai'i known from a single collection (St. John & Cowan s.n., BISH) made in 1947 in a grassy pasture along Waipahe'e trail, Kamalomalo'o, Kaua'i."
205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[No evidence] "in Hawai'i known from a single collection (St. John & Cowan s.n., BISH) made in 1947 in a grassy pasture along Waipahe'e trail, Kamalomalo'o, Kaua'i."
301	Naturalized beyond native range	y
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Reported as naturalized. Current status unknown. Conservatively answering yes] "in Hawai'i known from a single collection (St. John & Cowan s.n., BISH) made in 1947 in a grassy pasture along Waipahe'e trail, Kamalomalo'o, Kaua'i."
302	Garden/amenity/disturbance weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence to date
303	Agricultural/forestry/horticultural weed	
	Source(s)	Notes
	Fosberg, F.R. 1974. Specimen Details for <i>Trembleya phlogiformis</i> DC. ID Number 413566. Collection Number sn - 29 Dec 1947. Bishop Museum, Honolulu, HI. http://nsdb.bishopmuseum.org/ . [Accessed]	"Weed in grassy pasture" [Impacts unspecified]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence to date
304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence to date
305	Congeneric weed	n

Qsn #	Question	Answer
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence to date

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[No evidence] "Subshrubs up to 1 m tall; young branches quadrate, ridged or narrowly winged on angles, densely covered with spreading, gland-tipped hairs. Leaves ovate to oblong-ovate, 1-2(-7) cm long, 0.4-2.5 cm wide, (3-)5-nerved, both surfaces sparsely to moderately glandular hirtellous, margins serrulate, apex acute, base rounded, sessile or subsessile."

402	Allelopathic	n
	Source(s)	Notes
	Borghetti, F., Lima, E. C. D., & Silva, L. D. C. R. (2013). A simple procedure for the purification of active fractions in aqueous extracts of plants with allelopathic properties. Acta Botanica Brasilica, 27(1), 50-53	[Unknown. Allelopathy documented in genus] "Aqueous extracts prepared from plant parts of many Brazilian species, including Andira humilis Mart. ex Benth. (Periotto et al. 2004), Aristolochia esperanzae O. Kuntze (Gatti et al. 2004), Campomanesia adamantium Cambess., Qualea parviflora Mart., Trembleya parviflora (D. Don) Cogn. (Borghetti et al. 2005), Solanum lycocarpum St. Hil. (Oliveira et al. 2004), Eugenia dysenterica DC. (Pina et al. 2009) and Sapindus saponaria (Grisi et al. 2012) have been shown to have a strong inhibitory effect on the growth of target species such as Lactuca sativa (lettuce), Raphanus sativus (radish) and Sesamum indicum L. (sesame) (Periotto et al. 2004; Pina et al. 2009)."

403	Parasitic	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Subshrubs up to 1 m tall" [Melastomataceae. No evidence]

404	Unpalatable to grazing animals	n
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

405	Toxic to animals	n
	Source(s)	Notes
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence in genus

Qsn #	Question	Answer
406	Host for recognized pests and pathogens	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence in genus

408	Creates a fire hazard in natural ecosystems	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Martins, E. (1997). Revisão taxonômica do gênero <i>Trembleya</i> DC. (Melastomataceae). PhD Dissertation. Universidade Estadual de Campinas, SP	[Translated from Portuguese. Plants can tolerate shade, but also occur in high light environments] " <i>Trembleya phlogiformis</i> is a taxon that presents great morphological variation" ... "At the extreme end of the variation we can see very delicate sub-bushes, about 15 cm, which are more like herbs, whose leaves, sometimes oval-lanceolate, mostly exceed 1 x 0.5 cm; have white or slightly pink flowers. These individuals occupy rather humid and shaded environments, between the greenery next to trails to small stretches of forest edge in rocky fields"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Subshrubs up to 1 m tall"

412	Forms dense thickets	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

Qsn #	Question	Answer
501	Aquatic	n
	Source(s)	Notes
	Jardim Botânico do Rio de Janeiro. 2018. Trembleya in Flora do Brasil 2020 under construction. http://www.reflora.jbrj.gov.br/reflora/floradobrasil/FB9985 . [Accessed 10 Jul 2018]	"Vegetation Type High Altitude Grassland, Grassland, Cerrado (lato sensu), Riverine Forest and/or Gallery Forest"
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Terrestrial] "Subshrubs up to 1 m tall" ... "in Hawai'i known from a single collection (St. John & Cowan s.n., BISH) made in 1947 in a grassy pasture along Waipahe'e trail, Kamalomalo'o, Kaua'i."

502	Grass	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Subshrubs up to 1 m tall" [Melastomataceae]

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Subshrubs up to 1 m tall" [Melastomataceae]

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Subshrubs up to 1 m tall"

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Fidanza, K., Martins, A. B., & Almeda, F. (2013). Four new species of Trembleya (Melastomataceae: Microlicieae) from Serra do Cabral, Minas Gerais, Brazil. <i>Brittonia</i> , 65(3), 280-291	"Only Trembleya parviflora (D. Don) Cogn. and Trembleya phlogiformis DC., are geographically widespread."

Qsn #	Question	Answer
602	Produces viable seed	y
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Fruiting hypanthium 5- 6 mm long including the constricted distal neck, 3.5-5 mm wide. Seeds ca. 0.5 mm long." [Seeds produced in plants collected in the Hawaiian Islands]
	Fernandes, S. R. et al. (2017). Chemical composition and seasonal variation of the volatile oils from <i>Trembleya phlogiformis</i> leaves. <i>Revista Brasileira de Farmacognosia</i> , 27(4), 419-425	"Small seeds numerous, brown-clear, elongated and stooped, 1 mm long, 0.2–0.3 mm wide."

Qsn #	Question	Answer
603	Hybridizes naturally	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown. No evidence found

Qsn #	Question	Answer
604	Self-compatible or apomictic	
	Source(s)	Notes
	Renner, S. (1989). A Survey of Reproductive Biology in Neotropical Melastomataceae and Memecylaceae. <i>Annals of the Missouri Botanical Garden</i> , 76(2), 496-518	[Unknown for <i>Trembleya phlogiformis</i>] "Genetic self-incompatibility has been found in 22 Melastomataceae species, self-compatibility in 25 species."
	Maia, F. R., Varassin, I. G., & Goldenberg, R. (2016). Apomixis does not affect visitation to flowers of Melastomataceae, but pollen sterility does. <i>Plant Biology</i> , 18(1), 132-138	[Unknown. Congener is self-compatible] "The other seven species were sexual: <i>Chaetostoma armatum</i> , <i>Lavoisiera imbricata</i> , <i>Leandra microphylla</i> , <i>Miconia sellowiana</i> , <i>M. theaezans</i> , <i>Tibouchina hatschbachii</i> and <i>Trembleya parviflora</i> (Table 1). All seven were self-compatible"
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Unknown] "Flowers solitary, axillary, occasionally in simple cymes, bracts absent; hypanthium covered with spreading, simple, gland-tipped hairs; calyx lobes subulate, 3-4 mm long, ca. 1 mm wide at base; petals pink, 7-8 mm long, 3-5 mm wide; 66. MELIACEAE stamens dimorphic; larger anthers pink to purplish, 2-2.5 mm long, connective prolonged 2-3 mm, appendage 1-1.5 mm long, smaller anthers yellow, 1.5 mm long, connective prolonged ca. 1 mm, appendage 0.25-0.5 mm long."

Qsn #	Question	Answer
605	Requires specialist pollinators	n
	Source(s)	Notes
	Freitas, L., & Sazima, M. (2006). Pollination biology in a tropical high-altitude grassland in Brazil: interactions at the community level. <i>Annals of the Missouri Botanical Garden</i> , 93(3): 465-516	"Table 2. ... <i>Trembleya phlogiformis</i> ... Pollination system = bee pollen-flower" ... "Figure 1. ... <i>Bornbus atratus</i> collecting pollen by vibration in <i>Trembleya phlogiformis</i> , which is mainly pollinated by this bee." ... "Large bees were also the pollinators of <i>Tibouchina minor</i> (Fig. 1F), <i>Trembleya phlogiformis</i> ..."
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Flowers not specialized] "Flowers solitary, axillary, occasionally in simple cymes, bracts absent; hypanthium covered with spreading, simple, gland-tipped hairs; calyx lobes subulate, 3-4 mm long, ca. 1 mm wide at base; petals pink, 7-8 mm long, 3-5 mm wide; stamens dimorphic; larger anthers pink to purplish, 2-2.5 mm long, connective prolonged 2-3 mm, appendage 1-1.5 mm long, smaller anthers yellow, 1.5 mm long, connective prolonged ca. 1 mm, appendage 0.25-0.5 mm long."

606	Reproduction by vegetative fragmentation	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Unknown] "Subshrubs up to 1 m tall"

607	Minimum generative time (years)	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Capsules enclosed by the hypanthium." ... "Fruiting hypanthium 5- 6 mm long including the constricted distal neck, 3.5-5 mm wide. Seeds ca. 0.5 mm long." [Unknown. Small size may facilitate attachment in soil stuck to footwear, clothing, or vehicles]

702	Propagules dispersed intentionally by people	
	Source(s)	Notes
	Fernandes, S. R. et al. (2017). Chemical composition and seasonal variation of the volatile oils from <i>Trembleya phlogiformis</i> leaves. <i>Revista Brasileira de Farmacognosia</i> , 27(4), 419-425	" <i>Trembleya phlogiformis</i> DC., popularly known as "quaresminha-do-campo", is a shrub whose leaves are used in communities as a natural dye to wool and cotton (Sá et al., 2007)."
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Mode of introduction unknown. Currently no evidence of intentional introduction] "in Hawai'i known from a single collection (St. John & Cowan s.n., BISH) made in 1947 in a grassy pasture along Waipahe'e trail, Kamalomalo'o, Kaua'i."

Qsn #	Question	Answer
703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

704	Propagules adapted to wind dispersal	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Capsules enclosed by the hypanthium." ... "Fruiting hypanthium 5-6 mm long including the constricted distal neck, 3.5-5 mm wide. Seeds ca. 0.5 mm long." [Unknown. Small size may allow for dispersal by wind]

705	Propagules water dispersed	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Capsules enclosed by the hypanthium." ... "Fruiting hypanthium 5-6 mm long including the constricted distal neck, 3.5-5 mm wide. Seeds ca. 0.5 mm long." [Unknown. Small size may facilitate movement by water]

706	Propagules bird dispersed	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Capsules enclosed by the hypanthium." ... "Fruiting hypanthium 5-6 mm long including the constricted distal neck, 3.5-5 mm wide. Seeds ca. 0.5 mm long." [Not fleshy-fruited]

707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Capsules enclosed by the hypanthium." ... "Fruiting hypanthium 5-6 mm long including the constricted distal neck, 3.5-5 mm wide. Seeds ca. 0.5 mm long." [Unknown. Small seeds may adhere to animals in soil stuck to fur, legs, or hooves]

708	Propagules survive passage through the gut	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

Qsn #	Question	Answer
801	Prolific seed production (>1000/m²)	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Fruiting hypanthium 5- 6 mm long including the constricted distal neck, 3.5-5 mm wide. Seeds ca. 0.5 mm long." [Densities unknown]
	Fernandes, S. R. et al. (2017). Chemical composition and seasonal variation of the volatile oils from <i>Trembleya phlogiformis</i> leaves. <i>Revista Brasileira de Farmacognosia</i> , 27(4), 419-425	"Small seeds numerous, brown-clear, elongated and stooped, 1 mm long, 0.2–0.3 mm wide." [Densities unspecified]
802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Silveira, F. A., Fernandes, G. W., & Lemos-Filho, J. P. (2013) Seed and seedling ecophysiology of neotropical Melastomataceae: implications for conservation and restoration of savannas and rainforests. <i>Annals of the Missouri Botanical Garden</i> , 99(1): 82-99	"Table 1. <i>Trembleya laniflora</i> ... Dormancy type - ND - seed nondormancy]
803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species
804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Elevation range exceeds 1000 m, demonstrating environmental versatility
- Thrives in tropical climates
- Collected and reported as naturalized on Kauai (Hawaiian Islands); current status unknown
- Shade-tolerant
- Reproduces by seeds
- Small seeds may facilitate dispersal
- Gaps in biological & ecological information limit accuracy or risk prediction

Low Risk Traits

- No reports of invasiveness, but no evidence of widespread introduction outside native range
- Unarmed (no spines, thorns, or burrs)
- No evidence of cultivation or sale in horticultural industry (may limit risk of accidental spread)

Second Screening Results for Tree/tree-like shrubs

(A) Shade tolerant or known to form dense stands?> Yes. Variable species with some forms shade tolerant. Unknown if able to form dense stands

(B) Bird or clearly Wind-dispersed?> Unknown

(C) Life cycle <4 years? Unknown

Outcome = Evaluate further