

Taxon: Platymiscium stipulare Benth.

Family: Fabaceae

Common Name(s): platymiscium

Synonym(s):

Assessor: Chuck Chimera

Status: Assessor Approved

End Date: 30 Apr 2019

WRA Score: 6.0

Designation: EVALUATE

Rating: Evaluate

Keywords: Tropical Tree, Naturalized, Shade-Tolerant, N-Fixing, Wind-Dispersed

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	n
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)	y
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
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	y=1, n=0	n
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	y=1, n=0	n
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	y
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		
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic	y=1, n=-1	y
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	y
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	y=1, n=-1	n
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
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[No evidence of domestication] "In Ecuador the species is considered a valuable timber."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2019). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2019). 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
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"This species occurs in Amazonian Ecuador in the Provinces Morona Santiago, Pastaza, Napo, and Sucumbios; in Amazonian Peru in the Departments Huanuco, Madre de Dios, Loreto, Amazonas, and San Martin; in Beni, Bolivia, and in Acre, Brazil."

202	Quality of climate match data	High
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	

203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"Primary or secondary rain forest on terre firme or along rivers, from sea level to 750 m."

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"This species occurs in Amazonian Ecuador in the Provinces Morona Santiago, Pastaza, Napo, and Sucumbios; in Amazonian Peru in the Departments Huanuco, Madre de Dios, Loreto, Amazonas, and San Martin; in Beni, Bolivia, and in Acre, Brazil."

205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	Notes
	Skolmen, R.G. 1980. Plantings on the forest reserves of Hawaii: 1910–1960. Institute of Pacific Islands Forestry, Pacific Southwest Forest & Range Experiment Station, US Forest Service, Honolulu, HI	A total of 5,577 <i>Platymiscium stipulare</i> were planted between the years of 1937 through 1959 on the islands of Oahu (4,417 total), Molokai (361 total), and Maui (799 total).
	WRA Specialist. (2019). Personal Communication	Other than the Hawaiian Islands, there were no records of introduction found for this tree

301	Naturalized beyond native range	y
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2008. New plant records from O'ahu for 2007. <i>Bishop Museum Occasional Papers</i> 100: 3-12	" <i>Platymiscium stipulare</i> Benth. New naturalized record. First planted in Hawai'i by Dr. William Hillebrand and sometimes used as a street and shade species, this tree produces many wind-dispersed seeds that germinate readily. J.F. Rock, in his book <i>Leguminous Plants of Hawaii</i> , notes that hundreds of seedlings were spread throughout the Foster Estate, where the first individual was located (Staples & Herbst 2005). Because of its behavior in Hawai'i, this plant has been cited as a potential serious invasive for the islands (Staples et al. 2000). <i>Platymiscium stipulare</i> can reach up to 21 m in height. Leaf petioles are 3.8–7.6 cm long, with usually 5 ovate or elliptic glossy, leathery leaflets. Inflorescences are axillary and have 1 raceme per leaf axil, with paired yellow flowers about 1.25 cm long. Fruit is ellipsoid-oblong, 1.9–2.5 x 1.25–1.70 cm, and greenish (Staples & Herbst 2005). Material examined. O'AHU: Kānewai Park (UTM 2355089, 623261), behind swimming pool in dry, barren walkway, single plant growing 30 m from nearest mature trees, growing against fence and adventive <i>Tabebuia</i> , small tree ca 4 m tall, no flowers or fruit seen, 16 Aug 2007, D. Frohlich & A. Lau 2007081607."
	Wagner, W.L., Herbst, D.R., Khan, N. & Flynn, T. 2012. <i>Hawaiian Vascular Plant Updates: A Supplement to the Manual of the Flowering Plants of Hawai'i & Hawai'i's Ferns & Fern Allies</i> . Smithsonian Institution and NTBG, Washington, DC & Lihue, HI	"reported as newly naturalized on O'ahu, but appears to be only adventive"
	Skolmen, R.G. 1980. Plantings on the forest reserves of Hawaii: 1910–1960. Institute of Pacific Islands Forestry, Pacific Southwest Forest & Range Experiment Station, US Forest Service, Honolulu, HI	A total of 5,577 <i>Platymiscium stipulare</i> were planted between the years of 1937 through 1959 on the islands of Oahu (4,417 total), Molokai (361 total), and Maui (799 total). Reported as adventive, and potentially naturalized (Frohlich and Lau 2008).

Qsn #	Question	Answer
	WRA Specialist. (2019). Personal Communication	Although there is a disagreement as to whether this species is adventive (Wagner et al. 2012) or naturalized (Frolich and Lau 2008), for the purposes of this assessment, the tree is regarded as naturalized due to its ability to reproduce unassisted in the Hawaiian Islands.

302	Garden/amenity/disturbance weed	y
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Cited as invasive and a problem for gardeners due to tendency to spread. "The winged seeds are easily wind-dispersed and readily germinated. Rock noted that hundreds of seedlings were scattered throughout the estate. Although this tendency makes propagation easy, it presents problems for gardeners in controlling undesired spread of this invasive plant."
	DOFAW Oahu Native Ecosystems Protection and Management. (2015). Report to the Hawaii Invasive Species Council. https://dlnr.hawaii.gov/hisc . [Accessed 30 Apr 2019]	[Controlled as a potential weed of natural areas. Impacts to native ecosystems, as of yet, unspecified. May be classified as an environmental weed at a future date] "Platymiscium stipulare: Oahu Early Detection program discovered this species on a road survey in 2012. P. stipulare is a member of the fabaceae family which contains many notoriously invasive species to Hawaii. Currently, this site is the only known location on Oahu, and is located directly off the Mokuleia trail head access road (in adjacent Mokuleia Forest Reserve). A total of seven mature and hundreds of immature plants have been controlled since October 2012. Staff will continue checks twice per year to control seedlings and will conduct literature searches on seed bank longevity. A pre-emergent may be considered at this site to aid in seed bank suppression. FY15 update: Platymiscium stipulare was monitored twice in August 2014 and February 2015. A total of 27 and 14 immature plants were treated respectively. Numbers are decreasing and staff will continue efforts in order to deplete the seed bank. More research is needed to assess seedbank longevity for this species."

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

304	Environmental weed	n
	Source(s)	Notes
	Staples, G.W., Herbst, D.R & Imada, C.T. 2000. Survey of invasive or potentially invasive cultivated plants in Hawai'i. Bishop Museum Occasional Papers 65: 1-35	"Table 2. Annotated checklist of invasive or potentially invasive cultivated plants in Hawai'i with dispersal syndrome" [Includes Platymiscium stipulare, which was planted in the Hawaiian Islands in the 1950s. To date, this tree has not been recorded as naturalized, or invasive, in the Hawaiian Islands]

Qsn #	Question	Answer
	DOFAW Oahu Native Ecosystems Protection and Management. (2015). Report to the Hawaii Invasive Species Council. https://dlnr.hawaii.gov/hisc . [Accessed 30 Apr 2019]	[Controlled as a potential weed of natural areas. Impacts to native ecosystems, as of yet, unspecified. May be classified as an environmental weed at a future date] " <i>Platymiscium stipulare</i> : Oahu Early Detection program discovered this species on a road survey in 2012. <i>P. stipulare</i> is a member of the fabaceae family which contains many notoriously invasive species to Hawaii. Currently, this site is the only known location on Oahu, and is located directly off the Mokuleia trail head access road (in adjacent Mokuleia Forest Reserve). A total of seven mature and hundreds of immature plants have been controlled since October 2012. Staff will continue checks twice per year to control seedlings and will conduct literature searches on seed bank longevity. A pre-emergent may be considered at this site to aid in seed bank suppression. FY15 update: <i>Platymiscium stipulare</i> was monitored twice in August 2014 and February 2015. A total of 27 and 14 immature plants were treated respectively. Numbers are decreasing and staff will continue efforts in order to deplete the seed bank. More research is needed to assess seedbank longevity for this species."
	Frohlich, D. & Lau, A. 2008. New plant records from O'ahu for 2007. Bishop Museum Occasional Papers 100: 3-12	[Potentially invasive. No impacts documented] "First planted in Hawaii by Dr. William Hillebrand and sometimes used as a street and shade species, this tree produces many wind-dispersed seeds that germinate readily. J.F. Rock, in his book Leguminous Plants of Hawaii, notes that hundreds of seedlings were spread throughout the Foster Estate, where the first individual was located (Staples & Herbst 2005). Because of its behavior in Hawaii, this plant has been cited as a potential serious invasive for the islands (Staples et al. 2000)." ... "Material examined. OAHU: Kānewai Park (UTM 2355089, 623261), behind swimming pool in dry, barren walkway, single plant growing 30 m from nearest mature trees, growing against fence and adventive <i>Tabebuia</i> , small tree ca 4 m tall, no flowers or fruit seen, 16 Aug 2007, D. Frohlich & A. Lau 2007081607."
	Skolmen, R.G. 1980. Plantings on the forest reserves of Hawaii: 1910–1960. Institute of Pacific Islands Forestry, Pacific Southwest Forest & Range Experiment Station, US Forest Service, Honolulu, HI	A total of 5,577 <i>Platymiscium stipulare</i> were planted between the years of 1937 through 1959 on the islands of Oahu (4,417 total), Molokai (361 total), and Maui (799 total). Reported as adventive, and potentially naturalized (Frohlich and Lau 2008).

305	Congeneric weed	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	<i>Platymiscium pinnatum</i> listed as naturalized in the Eastern Caribbean, but not cited as a weed.

401	Produces spines, thorns or burrs	n
	Source(s)	Notes

Qsn #	Question	Answer
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[No evidence] "Tree to 30 m tall, 30 - 50 cm in diameter; crown open; bark smooth to slightly furrowed, bright grey; wood heavy, hard, sapwood cream, heartwood brown; internodes of juvenile branchlets usually hollow. Leaves opposite or 3-verticillate, (3 -)5 (-7)-foliolate; vegetative parts glabrous; leaf axis (5 -) 11 - 21 cm long, rachis more than one time as long as petiole; stipules narrowly triangular, 10 - 25 mm long, caducous; leaflets broadly elliptic to elliptic or broadly ovate to ovate (leaflets larger on saplings than on mature trees) 7.5 - 20 x 5 - 12 cm, base rounded, apex acuminate, veinlets in areoles with sharp edges, not intermixed with dots, primary vein flush with upper surface, upper surface waxy, slightly coriaceous, glossy, dark green, lower surface dull, dark green."

402	Allelopathic	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"Allen & Allen (1981) observed nitrogen-fixing root nodules on a cultivated specimen in Hawaii." [No evidence. Related species used for soil improvement due to ability to fix nitrogen]

403	Parasitic	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"Tree to 30 m tall, 30 - 50 cm in diameter" [Fabaceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	Atangana, A., Khasa, D., Chang, S., & Degrande, A. 2013. <i>Tropical Agroforestry</i> . Springer Science & Business Media, Dordrecht	"Table 5.1 Some important fodder trees and shrub species in the tropics" [Unknown. In contrast to other sources, this book includes the related species, <i>Platymiscium pinnatum</i> as a fodder tree, suggesting it may be palatable]

405	Toxic to animals	n
	Source(s)	Notes
	Hanelt, P. (ed.). 2001. <i>Mansfeld's Encyclopedia of Agricultural and Horticultural Crops</i> , Volume 2. Springer-Verlag, Berlin, Heidelberg, New York	"It is reported to be cultivated as fish-poison plant by Indian tribes in the Orinoco basin (Venezuela)." [<i>Platymiscium pinnatum</i> may have toxic properties to fish]
	Quattrocchi, U. 2012. <i>CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology</i> . CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. 2008. <i>International poisonous plants checklist: an evidence-based reference</i> . CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	

Qsn #	Question	Answer
	Source(s)	Notes
	WRA Specialist. (2019). Personal Communication	Unknown

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Tropical Plants Database, Ken Fern. (2019). <i>Platymiscium stipulare</i> . http://tropical.theferns.info . [Accessed 30 Apr 2019]	"Known Hazards: None known
	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
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. Kew Bulletin, 60(3): 321-400	"Primary or secondary rain forest on terre firme or along rivers, from sea level to 750 m." [No evidence. Grows in moist & wet forests where fire risk would be low]

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Uquillas, J., Ramirez, A., & Sere, C. (1992). Are modern agroforestry practices economically viable? a case study in the Ecuadorian Amazon. Pp. 273-292 in Sullivan, G. M., Huke, S. M. and Fox, J. M. (eds). 1992. Financial and Economic Analyses of Agroforestry Systems. Nitrogen Fixing Tree Association, Paia, Hawaii	"...Myroxylon balsamum, <i>Platymiscium stipulare</i> , and <i>Tabebuia chysantha</i> , which tend to grow under shade in primary forests..."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"It is cultivated like <i>Pterocarpus</i> and requires no special care if grown in a well-watered site on average garden soil."
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	[Soil preferences unknown. A related species, <i>Platymiscium pinnatum</i> , grows on many soil types] "The tree grows in different types of soils and is adapted to a wide range of rainfall (1500 to 3000 mm per year), an annual average temperature of 23 to 26 °C, and elevations from sea level to 600 m."

411	Climbing or smothering growth habit	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"Tree to 30 m tall, 30 - 50 cm in diameter"

412	Forms dense thickets	
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[Unknown. No evidence] "Primary or secondary rain forest on terre firme or along rivers, from sea level to 750 m."
	DOFAW Oahu Native Ecosystems Protection and Management. (2015). Report to the Hawaii Invasive Species Council. https://dlnr.hawaii.gov/hisc . [Accessed 30 Apr 2019]	[Unknown. Reproducing prolifically] " <i>Platymiscium stipulare</i> : Oahu Early Detection program discovered this species on a road survey in 2012. <i>P. stipulare</i> is a member of the fabaceae family which contains many notoriously invasive species to Hawaii. Currently, this site is the only known location on Oahu, and is located directly off the Mokuleia trail head access road (in adjacent Mokuleia Forest Reserve). A total of seven mature and hundreds of immature plants have been controlled since October 2012."

501	Aquatic	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"Primary or secondary rain forest on terre firme or along rivers, from sea level to 750 m."

502	Grass	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2019. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 30 Apr 2019]	Family: Fabaceae (alt.Leguminosae) Subfamily: Faboideae Tribe: Dalbergieae

503	Nitrogen fixing woody plant	y
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"Allen & Allen (1981) observed nitrogen-fixing root nodules on a cultivated specimen in Hawaii."
	USDA, ARS, Germplasm Resources Information Network. 2019. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 30 Apr 2019]	Family: Fabaceae (alt.Leguminosae) Subfamily: Faboideae Tribe: Dalbergieae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"Tree to 30 m tall, 30 - 50 cm in diameter; crown open; bark smooth to slightly furrowed, bright grey; wood heavy, hard, sapwood cream, heartwood brown; internodes of juvenile branchlets usually hollow."

601	Evidence of substantial reproductive failure in native habitat	
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"vulnerable because of a population size reduction of $\geq 30\%$ over the next 10 years due to a decline in area of occupancy, extent of occurrence and/ or quality of habitat, and due to actual and potential levels of exploitation." [Possibly suffering reproductive failure due to over-exploitation]

602	Produces viable seed	y
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. 2005. <i>A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places</i> . Bishop Museum Press, Honolulu, HI	"Frt ellipsoid-oblong, 3.25-4" long, 1.25-1.4" wide, brownish tan, thickly papery. Seed ellipsoid-oblong, 0.75-1" x 0.5-0.66", greenish." ... "The winged seeds are easily wind-dispersed and readily germinated. Rock noted that hundreds of seedlings were scattered throughout the estate. Although this tendency makes propagation easy, it presents problems for gardeners in controlling undesired spread of this invasive plant."

603	Hybridizes naturally	
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[Hybridization suspected] "Its closest relative appears to be <i>P. trinitatis</i> . In Peru, where the two species grow sympatrically, individuals having an intermediate range of character states occur (e. g. Klug 3832). This suggests that hybridisation may occur."

604	Self-compatible or apomictic	y
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	" <i>Platymiscium</i> flowers conform with the bee flower syndrome described by Faegri & van der Pijl (1979), and with the pollination mechanisms of many other Papilionoids described by Arroyo (1981). The flowers are hermaphrodite and zygomorphic (papilionoid), with diurnal anthesis and a strong scent."

Qsn #	Question	Answer
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Presumably self-compatible. A single tree was able to produce hundreds of seedlings] "J. F. Rock took up the name <i>P. stipulare</i> for this attractive tree in his classic Leguminous Plants of Hawaii. 1249 At that time a single specimen grew on the Foster Estate (later to become Foster Botanical Garden), which Rock states was planted by Dr. William Hillebrand, the German physician and botanist who authored the first flora of the Hawaiian Islands. Though short-lived, the yellow flowers are attractive and fragrant with the scent of violets. The winged seeds are easily wind-dispersed and readily germinated; Rock noted that hundreds of seedlings were scattered throughout the estate."

605	Requires specialist pollinators	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	" <i>Platymiscium</i> flowers conform with the bee flower syndrome described by Faegri & van der Pijl (1979), and with the pollination mechanisms of many other Papilionoids described by Arroyo (1981). The flowers are hermaphrodite and zygomorphic (papilionoid), with diurnal anthesis and a strong scent. They produce nectar from the hypanthium wall. A nectar guide is present on the standard, and the wing petals are sculptured on the outer surface as described by Stirton (1981) (e.g., <i>P. parviflorum</i> as illustrated in Fig. 17H). No studies on breeding systems of <i>Platymiscium</i> exist, but there are several reports of different species being attractive to large numbers of bees of different genera (including <i>Bombus</i> , <i>Centris</i> and <i>Xylocopa</i>). The author observed honey bees (<i>Apis mellifera</i>) foraging at the flowers of <i>P. pubescens</i> subsp. <i>pubescens</i> in the Brazilian State of Minas Gerais (Figs. 2A, 4D)."

606	Reproduction by vegetative fragmentation	n
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"The winged seeds are easily wind-dispersed and readily germinated; Rock noted that hundreds of seedlings were scattered throughout the estate. Although this tendency makes propagation easy, it presents problems for gardeners in controlling undesired spread of this invasive plant."

607	Minimum generative time (years)	n
	Source(s)	Notes
	Nelson, R. E. (1965). A Record of Forest Plantings in Hawaii. Pacific Southwest Forest and Range Experiment Station, USDA Forest Service. Berkeley, California	[Unknown. Moderate to slow growth rate reported] "Adaptability of roble to Hawaii sites varied. Where survival was relatively high, growth had been moderate or slow and the form of the tree for timber was generally inferior. The largest trees measured were 29 years old, 60 to 80 feet (18 to 24 m) tall and 12 to 15 inches (30 to 38 cm) d.bJh."

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n

Qsn #	Question	Answer
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[No evidence, & no means of external attachment] "The fruits of all species are wind-dispersed, one-seeded samaras with a centrally placed seed"

702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Nelson, R. E. (1965). A Record of Forest Plantings in Hawaii. Pacific Southwest Forest and Range Experiment Station, USDA Forest Service. Berkeley, California	"Nineteen plantings are recorded between 1937 and 1959-on Oahu, Molokai, and Maui-totaling 5600 seedlings. More than half of these were planted in the Waianae Mountains, island of Oahu, in 1937. Four plantings were examined."

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[No evidence. Unlikely] "Tree to 30 m tall, 30 - 50 cm in diameter ... Samara elliptic, 6.5 - 7 x 3.5 - 4 cm"

704	Propagules adapted to wind dispersal	y
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"Frt ellipsoid-oblong, 3.25-4" long, 1.25-1.4" wide, brownish tan, thickly papery. Seed ellipsoid-oblong, 0.75-1" x 0.5-0.66", greenish." ... "The winged seeds are easily wind-dispersed and readily germinated"

705	Propagules water dispersed	
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[Wind-dispersed. Possibly secondarily dispersed by water when occurring along rivers] "HABITAT. Primary or secondary rain forest on terre firme or along rivers, from sea level to 750 m."

706	Propagules bird dispersed	n
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	[No evidence] "The fruits of all species are wind-dispersed, one-seeded samaras with a centrally placed seed (Figs. 4G, H, 6A, 15) . The exocarp varies from papery and dull to hard and glossy."

Qsn #	Question	Answer
707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	Jansen, P. A., & Zuidema, P. A. (2001). Logging, seed dispersal by vertebrates, and natural regeneration of tropical timber trees. Pp. 35-60 in <i>The Cutting Edge: Conserving Wildlife in Logged Tropical Forests</i> . Columbia University Press, New York	[Unknown. Related species may be secondarily dispersed by vertebrate animals] "TABLE 3-2 Role of Vertebrates in Seed Dispersal of the Most Important Timber Species for Three Tropical Regions in Terms of Volumes Exported by ITTO-Member Countries During 1994-1996 [<i>Platymiscium pinnatum</i> - Role of animals - S = only (potential) secondary dispersal by vertebrates]

708	Propagules survive passage through the gut	n
	Source(s)	Notes
	WRA Specialist. (2019). Personal Communication	Unlikely. Seeds wind-dispersed. Any seeds that are consumed are probably destroyed by seed predators, although some could possibly be carried and escape predation

801	Prolific seed production (>1000/m ²)	
	Source(s)	Notes
	Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i> , 60(3): 321-400	"All <i>Platymiscium</i> species usually flower towards the end of the dry season. Individual trees flower for 10 to 15 days (Enrech & Agostini 1987). Trees have often been reported to "flower prolifically" and "to be a beautiful sight, when seen from a distance" (notes on collection labels)."
	Staples, G.W. & Herbst, D.R. 2005. <i>A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places</i> . Bishop Museum Press, Honolulu, HI	[Densities unspecified] "The winged seeds are easily wind-dispersed and readily germinated; Rock noted that hundreds of seedlings were scattered throughout the estate. Although this tendency makes propagation easy, it presents problems for gardeners in controlling undesired spread of this invasive plant."

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	WRA Specialist. (2019). Personal Communication	Unknown. Some <i>Platymiscium</i> species reported to possess orthodox seeds. Others reported to have recalcitrant seeds

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. (2019). 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. (2019). Personal Communication	Unknown. No information on the ability of this tree to coppice or regrow from cutting or fire

Qsn #	Question	Answer
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. (2019). Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Thrives in tropical climates
- Naturalized on Oahu (Hawaiian Islands)
- Classified as a potential environmental weed, and controlled by the Department of Forestry and Wildlife as a possible threat to natural areas
- Shade tolerant
- Nitrogen fixing (may alter soil chemistry)
- Reproduces by seeds
- Self-fertile (based on observations of a single tree to produce seedlings)
- Seeds dispersed by wind, possibly water, and intentionally by people
- Gaps in biological and ecological information may reduce accuracy of risk prediction

Low Risk Traits

- Although documented as invasive, impacts and threats to native ecosystems are unclear
- Unarmed (no spines, thorns, or burrs)
- Not reported to spread vegetatively

Second Screening Results for Tree/tree-like shrubs

- (A) Shade tolerant or known to form dense stands?> Yes. Grows in forest understory and is presumably shade tolerant.
(B) Bird or clearly wind-dispersed?> Yes. Wind-dispersed
(C) Life cycle <4 years? Time to maturity unknown
Outcome = Evaluate