

Taxon: Platymiscium pinnatum	Family: Fabaceae
Common Name(s): granadillo hormigo Panama redwood quira roble	Synonym(s): Amerimnon latifolium Willd. Amerimnon pinnatum Jacq. Platymiscium polystachyum Benth.

Assessor: Chuck Chimera	Status: Assessor Approved	End Date: 19 Oct 2015
WRA Score: 0.0	Designation: L	Rating: Low Risk

Keywords: Tropical Tree, Timber Source, Unarmed, Shade-Tolerant, 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	n
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	n
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		
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		
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n

Qsn #	Question	Answer Option	Answer
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)	y=1, n=0	y
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	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	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)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	n
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
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	[No evidence of domestication] "This species is a valued timber tree. It has a fairly hard wood with density of 700-830 kg/cubic m (oven-dried), which is durable and resistant to fungus attack. The wood is reddish-brown with black streaks, and is used mainly for furniture and cabinets. It is also used for violin bows, marimba bars, billiard cues, doors, moulding, and wall panelling. Silvicultural experiments are limited. It is a sun-loving species, although establishment and growth may be difficult in open fields. When young it is able to tolerate some shade. It prefers well-drained soils, although it tolerates seasonally waterlogged soils. Planted trees grow rather slowly. It is a nitrogen fixing tree, which has been integrated in agroforestry systems, and as part of forest enrichment in some areas. This species provides forage for bees, and is also used as a medicine for skin ailments in Bolivia."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2015. 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
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	"It is found growing naturally in tropical moist and tropical wet forests, below 600-800 m of elevation, although growth at higher altitudes may occur at low latitudes. Its distribution range is along the pacific coast from northern Central America to northern Ecuador. It also establishes eastward from Colombia to Guyana on the northern coast of South America, where it grows in dry forests in Venezuela."

202	Quality of climate match data	High
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	

203	Broad climate suitability (environmental versatility)	n
-----	---	---

Qsn #	Question	Answer
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	"- Altitude range: 0 - 800 m - Mean annual rainfall: 1000 - 3000 mm - Rainfall regime: summer; bimodal; uniform - Dry season duration: 0 - 5 months - Mean annual temperature: 20 - 35°C - Mean maximum temperature of hottest month: 30 - 40°C - Mean minimum temperature of coldest month: 15 - 30°C - Absolute minimum temperature: > 15°C"

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	"It is found growing naturally in tropical moist and tropical wet forests, below 600-800 m of elevation, although growth at higher altitudes may occur at low latitudes. Its distribution range is along the pacific coast from northern Central America to northern Ecuador. It also establishes eastward from Colombia to Guyana on the northern coast of South America, where it grows in dry forests in Venezuela."

205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	Notes
	Imada, C.T., Staples, G.W. & Herbst, D.R. 2005. Annotated Checklist of Cultivated Plants of Hawai'i. http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/ . [Accessed 18 Oct 2015]	"Locations: Harold L. Lyon Arboretum Lili'uokalani Garden Wahiawa Botanical Garden"
	Glen, H.F. 2002. Cultivated Plants of Southern Africa: Botanical Names, Common Names, Origins, Literature. Jacana, Johannesburg, South Africa	Cultivated in Southern Africa
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	No evidence of widespread cultivation outside native range

301	Naturalized beyond native range	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R. & Lorence, D.H. 2015. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/index.htm . [Accessed]	No current evidence of naturalization in the Hawaiian Islands
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

302	Garden/amenity/disturbance weed	n
-----	---------------------------------	---

Qsn #	Question	Answer
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

305	Congeneric weed	
	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	"Platymiscium stipulare" ... "...a single specimen grew on the Foster Estate (later to become Foster Botanical Garden) ... " ... "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."
	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 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 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 Hawai'i, this plant has been cited as a potential serious invasive for the islands (Staples et al. 2000)." ... "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."
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	Platymiscium stipulare - Listed as a cultivation escape and as a potential environmental weed

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

Qsn #	Question	Answer
	<p>Klitgaard, B. B. (2005). <i>Platymiscium</i> (Leguminosae: Dalbergieae): Biogeography Systematics, Morphology, Taxonomy and Uses. <i>Kew Bulletin</i>, 60(3): 321-400</p>	<p>[No evidence] "Tree 10 - 30 m tall, 20 - 40 cm in diameter; bark greybrown, deeply fissured to form rectangular or square blocks, outer bark 5 mm thick, inner bark 5 mm thick, fibrous; slash exudes a cream-coloured sap which oxidises red; wood white when young, rose-brown coloured when mature, very hard; internodes of juvenile branches usually solid. Leaves opposite, (3 -)5 - 7(- 9)-foliolate; vegetative parts glabrous; leaf axis 5 - 14 cm long, including a petiole 2.5 - 6 cm long; stipules broadly to narrowly triangular, 4- 15 x 2 - 4 mm, caducous; stipels intermixed with food bodies sometimes present at petiolule bases, the stipels appear as "miniature stipules" or as small hair tufts; leaflets narrowly to broadly elliptic, distal leaflet often larger than others, 4 - 11(- 25) x 2.5 - 6 (- 10) cm, base rounded, apex acuminate, veinlets in areoles with sharp edges, not intermixed with dots, primary vein flush with to prominent on upper surface, upper surface glossy, dark green, lower surface dull green. Samara elliptic, 5.5 - 9(- 11) x 2.5 - 4.5(- 5) cm, base and apex rounded, glabrous; stipe to 20 mm long; exocarp cream coloured, papery at maturity; seed 2 - 2.5 x 1 - 1.25 cm."</p>

402	Allelopathic	n
	Source(s)	Notes
	<p>CAB International, 2005. <i>Forestry Compendium</i>. CAB International, Wallingford, UK</p>	<p>[No evidence. Used for soil improvement] "It is a nitrogen fixing tree, which has been integrated in agroforestry systems, and as part of forest enrichment in some areas."</p>

403	Parasitic	n
	Source(s)	Notes
	<p>CAB International, 2005. <i>Forestry Compendium</i>. CAB International, Wallingford, UK</p>	<p>"<i>P. pinnatum</i> is a medium to large-sized forest tree, attaining 20-33 m in height, with a d.b.h. of up to 1 m, sometimes with small buttresses."</p>

404	Unpalatable to grazing animals	
	Source(s)	Notes
	<p>Atangana, A., Khasa, D., Chang, S., & Degrande, A. 2013. <i>Tropical Agroforestry</i>. Springer Science & Business Media, Dordrecht</p>	<p>"Table 5.1 Some important fodder trees and shrub species in the tropics" [In contrast to other sources, this book includes <i>Platymiscium pinnatum</i> as a fodder tree, suggesting it may be palatable]</p>
	<p>Garen, E. J., Saltonstall, K., Ashton, M. S., Slusser, J. L., Mathias, S., & Hall, J. S. (2011). The tree planting and protecting culture of cattle ranchers and small-scale agriculturalists in rural Panama: opportunities for reforestation and land restoration. <i>Forest Ecology and Management</i>, 261(10): 1684-1695</p>	<p>[Not listed as food for livestock] "Complete list of species mentioned and uses or values suggested by participant and non participant farmers in Los Santos (LS) and Rio Hato (RH)." [<i>Platymiscium pinnatum</i> - Uses = W, PA, FW, LF W=Wood, FW= Firewood, PA = Physical Attributes, LF = Living Fence Posts]</p>

Qsn #	Question	Answer
	Aroeira, L., Carneiro, J., Paciullo, D., Xavier, D., & Alvim, M. 2001. Chemical composition, in vitro digestibility and nitrogen fractions of some grasses and other non grass plants, potentially ingested by dairy cattle. Pp. 276-279 in International Symposium on Silvopastoral Systems and Second Congress on Agroforestry and Livestock Production in Latin America. San Jose, Costa Rica, April 2-9, 2001. FAO, Rome	[This table lists traits of common trees, including those that are a source of forage for cattle and a source of fruits for cattle. <i>Platymiscium pinnatum</i> is not listed as being used for either of these] "Table 1. Abundance and densities of the most common tree species present in pastures of 10 cattle farms in Boaco, Nicaragua. Tree species are listed in descending order of abundance."

405	Toxic to animals	
	Source(s)	Notes
	Hanelt, P. (ed.). 2001. Mansfeld's Encyclopedia of Agricultural and Horticultural Crops, Volume 2. Springer-Verlag, Berlin, Heidelberg, New York	[Possibly] "It is reported to be cultivated as fish-poison plant by Indian tribes in the Orinoco basin (Venezuela)."
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	Unknown

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	The Wood Database. 2015. Macacauba. http://www.wood-database.com/lumber-identification/hardwoods/macacauba/ . [Accessed 19 Oct 2015]	[No evidence] "Scientific Name: <i>Platymiscium</i> spp. (<i>P. dimorphandrum</i> , <i>P. pinnatum</i> , <i>P. trinitatis</i> , <i>P. ulei</i>)" ... "Allergies/Toxicity: Besides the standard health risks associated with any type of wood dust, no further health reactions have been associated with Macacauba."
	Useful Tropical Plants Database. 2015. <i>Platymiscium pinnatum</i> . http://tropical.theferns.info/viewtropical.php?id=Platymiscium+pinnatum . [Accessed 19 Oct 2015]	[No evidence] "The heartwood is rich red or reddish brown, uniform or sometimes with lighter or darker veining; it is clearly demarcated from the 5 - 10cm wide band of yellowish white sapwood. The texture is medium; the grain straight or interlocked, sometimes wavy. The wood is moderately heavy to heavy; hard to very hard; tough; elastic; durable, being resistant to fungi, dry wood borers and termites. It seasons somewhat slowly, with only a slight risk of checking or distortion; once dry it is stable in service. It works well with ordinary tools; finishes smoothly; takes a high polish; nailing and screwing are good, but require pre-boring; gluing is correct. A beautiful and expensive timber usually reserved for first class end uses, it is used in construction, high class furniture and cabinet making, billiard cues, turnery, sculpture, musical instruments, panelling, flooring veneer etc[46, 331, 848, 904]. In Guatemala it is believed to be the favourite wood for making the keys of marimbas [331]. The wood is used for fuel[904]. The smoke is believed to impart a very pleasant taste to corn tarts that are cooked over the wood[904]."

Qsn #	Question	Answer
	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
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	[No evidence. Grows in moist & wet forests where fire risk would be low] "It is found growing naturally in tropical moist and tropical wet forests, below 600-800 m of elevation, although growth at higher altitudes may occur at low latitudes."

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Davidson, R., Mauffette, Y., & Gagnon, D. (2002). Light requirements of seedlings: a method for selecting tropical trees for plantation forestry. Basic and Applied Ecology, 3 (3): 209-220	"The full light treatment caused photoinhibition, impairing photosynthetic rates, and the full shade treatment was linked to high mortality, indicating that this species could not persist in a forest understory. <i>Platymiscium pinnatum</i> thrived equally well under both shade treatments, and had lower photosynthetic rates under the full light treatment. It was definitely a shade-tolerant species, displaying characteristics of a late successional species."
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	[Some shade] "It is a sun-loving species, although establishment and growth may be difficult in open fields. When young it is able to tolerate some shade."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	"It prefers well-drained soils, although it tolerates seasonally waterlogged soils." "Soil descriptors - Soil texture: light; medium; heavy - Soil drainage: free; seasonally waterlogged - Soil reaction: acid - Special soil tolerances: infertile"
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"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
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	" <i>P. pinnatum</i> is a medium to large-sized forest tree, attaining 20-33 m in height, with a d.b.h. of up to 1 m, sometimes with small buttresses."

412	Forms dense thickets	

Qsn #	Question	Answer
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	[No evidence] "It is found growing naturally in tropical moist and tropical wet forests, below 600-800 m of elevation, although growth at higher altitudes may occur at low latitudes. Its distribution range is along the pacific coast from northern Central America to northern Ecuador. It also establishes eastward from Colombia to Guyana on the northern coast of South America, where it grows in dry forests in Venezuela."

501	Aquatic	n
	Source(s)	Notes
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	[Terrestrial tree] "The species grows primarily on the hills and the mountain slopes with good drainage in the dry, moist, and wet climates of the lowlands."

502	Grass	n
	Source(s)	Notes
	USDA, ARS, National Genetic Resources Program. 2015. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/ . [Accessed 16 Oct 2015]	"Family: Fabaceae (alt. Leguminosae) subfamily: Faboideae tribe: Dalbergieae. Also placed in: Papilionaceae"

503	Nitrogen fixing woody plant	y
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	"It is a nitrogen fixing tree, which has been integrated in agroforestry systems, and as part of forest enrichment in some areas."

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	"P. pinnatum is a medium to large-sized forest tree, attaining 20-33 m in height, with a d.b.h. of up to 1 m, sometimes with small buttresses."

601	Evidence of substantial reproductive failure in native habitat	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	[No evidence. Widely distributed] "Its distribution range is along the pacific coast from northern Central America to northern Ecuador. It also establishes eastward from Colombia to Guyana on the northern coast of South America, where it grows in dry forests in Venezuela."

602	Produces viable seed	y
-----	----------------------	---

Qsn #	Question	Answer
	Source(s)	Notes
	Biodiversity of Costa Rica. 2015. <i>Platymiscium pinnatum</i> . Instituto Nacional de Biodiversidad - Santo Domingo de Heredia, Costa Rica. http://atta2.inbio.ac.cr/neoportal-web/species/platymiscium%20pinnatum . [Accessed 16 Oct 2015]	"Se reproduce por semilla." [It reproduces by seed.]
	Vozzo, J.A. 2002. Tropical Tree Seed Manual. USDA Forest Service, Washington, D.C.	"The pods are flat, rather leathery, and elliptic or nearly oblong. They each contain one seed." ... "Production of this fine timber tree is primarily from natural forests, and information on nursery practices and seedling care is nonexistent. Nevertheless, the seedlings of <i>P. pinnatum</i> that are growing naturally in the forest can be outplanted (personal observation)."

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] "...where <i>P. pinnatum</i> and <i>P. trinitatis</i> occur sympatrically, in the southern part of the Lara State, there is a wide range of overlap in certain features. They also suggest that the two species might hybridise in that area. Additionally, where with <i>P. floribundum</i> in north-east Brazil, and with <i>P. stipulare</i> in the western Amazon basin, some individuals display characters intermediate between the two species involved. This suggests that hybridisation may take place in the transition zones between these species. Further population level studies are, however, needed to test this hypothesis."

604	Self-compatible or apomictic	
	Source(s)	Notes
	Ramírez, N. (2005). Plant sexual systems, dichogamy, and herkogamy in the Venezuelan Central Plain. <i>Flora-Morphology, Distribution, Functional Ecology of Plants</i> , 200(1): 30-48	[Possibly] "Appendix A Sexual system, dichogamy, herkogamy, and dispersal syndrome for 210 plant species in the Venezuelan Central Plain" [<i>Platymiscium pinnatum</i> - Sexual system: H, hermaphrodite; Temporal variation in sex expression: A, adichogamy (= homogamy); Herkogamy: NH, non-herkogamy]

605	Requires specialist pollinators	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	" <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)."
	CAB International, 2005. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"This species provides forage for bees, and is also used as a medicine for skin ailments in Bolivia."

606	Reproduction by vegetative fragmentation	n
	Source(s)	Notes
	Useful Tropical Plants Database. 2015. <i>Platymiscium pinnatum</i> . http://tropical.theferns.info/viewtropical.php?id=Platymiscium+pinnatum . [Accessed 19 Oct 2015]	[No evidence] "Propagation Seed - Cuttings"
	Biodiversity of Costa Rica. 2015. <i>Platymiscium pinnatum</i> . Instituto Nacional de Biodiversidad - Santo Domingo de Heredia, Costa Rica. http://atta2.inbio.ac.cr/neoportal-web/species/platymiscium%20pinnatum . [Accessed 19 Oct 2015]	[No evidence] "Se reproduce por semilla." [It reproduces by seed.]

607	Minimum generative time (years)	n
	Source(s)	Notes
	Useful Tropical Plants Database. 2015. <i>Platymiscium pinnatum</i> . http://tropical.theferns.info/viewtropical.php?id=Platymiscium+pinnatum . [Accessed 19 Oct 2015]	"Fairly fast-growing according to one report [307], but slow-growing according to another"

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	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, & no means of external attachment] "The fruits of all species are wind-dispersed, one-seeded samaras with a centrally placed seed"

Qsn #	Question	Answer
702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	rarepalmseeds.com. 2010. <i>Platymiscium pinnatum</i> . http://www.rarepalmseeds.com/pix/PlaPin.shtml . [Accessed 19 Oct 2015]	"Do you want to buy seeds? Small packets: Seeds in small quantities (10 seeds per packet) for enthusiasts and collectors."
	WRA Specialist. 2015. Personal Communication	Seeds may be available for purchase on-line
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 20(- 33) m tall, 28 - 30(- 100) cm in diameter; sometimes with small buttresses; crown spreading to rounded;" ... "Samara broadly to narrowly elliptic, glabrous; exocarp rusty brown at maturity."
704	Propagules adapted to wind dispersal	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	"The fruits of all species are wind-dispersed, one-seeded samaras with a centrally placed seed" ... "Samara broadly to narrowly elliptic, glabrous; exocarp rusty brown at maturity."
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. In Venezuela and Colombia <i>Platymiscium pinnatum</i> subsp. <i>pinnatum</i> var. <i>pinnatum</i> is common in a wide range of habitats: deciduous to evergreen forest, along rivers in arid coastal scrub, and in transitional forest between savanna and tall gallery forest."
706	Propagules bird dispersed	n
	Source(s)	Notes
	Lopez, L., & Terborgh, J. (2007). Seed predation and seedling herbivory as factors in tree recruitment failure on predator-free forested islands. <i>Journal of Tropical Ecology</i> , 23(02): 129-137	[No evidence] "Table 2. Species of seeds used in the experiments, their dimensions and presumed dispersers, ranked by fresh seed mass." [<i>Platymiscium pinnatum</i> - Dispersal mode: W = wind]
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	[Potentially] "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]

Qsn #	Question	Answer
708	Propagules survive passage through the gut	n
	Source(s)	Notes
	Lopez, L., & Terborgh, J. (2007). Seed predation and seedling herbivory as factors in tree recruitment failure on predator-free forested islands. <i>Journal of Tropical Ecology</i> , 23(02): 129-137	[Consumed by seed predators] "Preferences of the five rodent species were quite variable, although most species preferred seeds of Brownea, Gustavia and Duguetia (Table 5). The exception was <i>Zygodontomys brevicauda</i> which preferred seeds of <i>Platymiscium pinnatum</i> and mostly rejected those of <i>Brownea</i> . Contrary to expectation, in captivity none of the species showed a significant preference for larger seeds"

801	Prolific seed production (>1000/m2)	n
	Source(s)	Notes
	Augspurger, C. K., & Franson, S. E. (1988). Input of wind-dispersed seeds into light-gaps and forest sites in a Neotropical forest. <i>Journal of Tropical Ecology</i> , 4(03): 239-252	"Appendix 2. Species of trees and lianas contributing wind-dispersed seeds to the 12-week collection on Barro Colorado Island, Panama" [Platymiscium pinnatum contributed 109 seeds to gap sites & 35 seeds to open sites]
	Martínez-Garza, C., & González-Montagut, R. (1999). Seed rain from forest fragments into tropical pastures in Los Tuxtlas, Mexico. <i>Plant Ecology</i> , 145(2): 255-265	"We placed seven seed traps every 7 m along a transect running perpendicular to the stream from the focal tree to the open pasture" ... "We had a total of 120 m2 of capture area with these traps." ... "Appendix 1. Identified seeds obtained in traps in a riparian system-pasture gradient in Los Tuxtlas, Ver" [Platymiscium pinnatum = 82 seeds collected]
	Vozzo, J.A. 2002. <i>Tropical Tree Seed Manual</i> . USDA Forest Service, Washington, D.C.	[Unlikely. One-seeded pods] "The fruits are indehiscent pods about 7 cm long that mature within 30 days (Allen 1956). The pods are flat, rather leathery, and elliptic or nearly oblong. They each contain one seed."

802	Evidence that a persistent propagule bank is formed (>1 yr)	n
	Source(s)	Notes
	CAB International, 2005. <i>Forestry Compendium</i> . CAB International, Wallingford, UK	"- Seed storage orthodox"
	Salazar, R.; Soihet, C.; & Méndez, J.M. 2000. <i>Platymiscium pinnatum</i> (Jacq.) Dugand. Manejo de semillas de 100 especies forestales de América Latina. Nota Técnica No.60: 119-120	"Almacenadas bajo condiciones ambientales las semillas pierden su viabilidad en menos de 1 mes." [Stored under ambient conditions seeds lose viability in less than 1 month.]

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

Qsn #	Question	Answer
804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	CAB International, 2005. Forestry Compendium. CAB International, Wallingford, UK	Unknown. No information on the ability of this tree to coppice or regrow from cutting or fire

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Grows in tropical climates
- Other species might be invasive
- Shade tolerant
- Tolerates many soil types
- Reproduces by seeds
- Possibly self-compatible
- Seeds dispersed by wind & intentionally planted by people
- Missing ecological information may limit accuracy of risk prediction

Low Risk Traits

- No reports of invasiveness or naturalization, but no evidence of widespread introduction outside native range
- Unarmed (no spines, thorns or burrs)
- Ornamental
- Not reported to spread vegetatively
- Seeds are recalcitrant & not reported to form a persistent seed bank