

Taxon: <i>Psidium myrtooides</i> O.Berg	Family: Myrtaceae
Common Name(s): purple cherry guava purple guava	Synonym(s): Guajava myrsinoides (O.Berg) Kuntze Guajava myrtooides (O.Berg) Kuntze <i>Psidium myrsinoides</i> O.Berg

Assessor: Chuck Chimera	Status: Assessor Approved	End Date: 11 May 2016
WRA Score: 7.0	Designation: H(HPWRA)	Rating: High Risk

Keywords: Tropical Tree, Edible Fruit, Shade-Tolerant, Bird-Dispersed, Zoochorous

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	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	n=0, y = 1*multiplier (see Appendix 2)	y
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	y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	y

Qsn #	Question	Answer Option	Answer
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	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)	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		
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed		
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
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
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	No evidence

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2016. 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
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"Found mainly in primary formations in the Atlantic and littoral rainforests, preferring higher ground on deep, fertile, well-drained, clayey soils" [S. America - eastern and central Brazil]

202	Quality of climate match data	High
	Source(s)	Notes
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	

203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	Useful Tropical Plants Database. (2016). <i>Psidium myrtoides</i> . http://tropical.theferns.info/viewtropical.php?id=Psidium+myrtoides . [Accessed 11 May 2016]	"Found mainly in primary formations in the Atlantic and littoral rainforests, preferring higher ground on deep, fertile, well-drained, clayey soils[420]"
	Colecionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.colecionandofrutas.org/psidiummyrtoides.htm . [Accessed 11 May 2016]	[Elevation range exceeds 1000 m, demonstrating environmental versatility] "It is easy to grow, it adapts to different types of climate and soil. It can be grown from sea level to 1,500m altitude. Rain rates can vary 1,200 to 2,000 mm annual, with humidity ranging from 45 to 85%." [Translated from Portuguese]

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Lorenzi, H. 2002. Brazilian Trees. Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	"Found mainly in primary formations in the Atlantic and littoral rainforests, preferring higher ground on deep, fertile, well-drained, clayey soils" [S. America - eastern and central Brazil]
205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	No evidence
301	Naturalized beyond native range	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence to date
	Wagner, W.L., Herbst, D.R.& Lorence, D.H. 2016. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/index.htm . [Accessed 11 May 2016]	No evidence to date
302	Garden/amenity/disturbance 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 to date
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 to date
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 to date
305	Congeneric weed	y

Qsn #	Question	Answer
	Source(s)	Notes
	Weber, E. 2003. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	" <i>Psidium cattleianum</i> " ... "Forests and forest openings, mountain slopes. A thicket forming, shade tolerant tree that is able to invade intact and undisturbed rainforest. It is fast growing and produces dense populations of root suckers and seedlings. The dense foliage shades out all other plants. The soil surface is often covered by mats of feeder roots. The tree accumulates a large amount of litter that suppresses the establishment and growth of native tree seedlings"
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	<i>Psidium cattleianum</i> , <i>Psidium friedrichsthalianum</i> , <i>Psidium guajava</i> , <i>Psidium guineense</i> , & <i>Psidium littorale</i> are listed as weeds of some kind

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Kraus, J.E., Hofling, E., Rodrigues, M.T., & Amaral de Sampaio, M.R. 2005. Fauna and flora of the campus of the Cidade Universitária Armando de Salles Oliveira. EdUSP, Sao Paulo, Brazil	"Small trees, 4-8 m tall, with the trunk 20-35 cm in diameter. The bark is fine and peeling. The leaves are 4-8 cm long."

402	Allelopathic	n
	Source(s)	Notes
	Fujii, Y., Parvez, S. S., Parvez, M., Ohmae, Y., & Iida, O. 2003. Screening of 239 medicinal plant species for allelopathic activity using the sandwich method. Weed Biology and Management, 3(4): 233-241	Unknown for <i>Psidium myrtooides</i> . Allelopathic chemicals documented in genus

403	Parasitic	n
	Source(s)	Notes
	Kraus, J.E., Hofling, E., Rodrigues, M.T., & Amaral de Sampaio, M.R. 2005. Fauna and flora of the campus of the Cidade Universitária Armando de Salles Oliveira. EdUSP, Sao Paulo, Brazil	"Small trees, 4-8 m tall, with the trunk 20-35 cm in diameter. The bark is fine and peeling. The leaves are 4-8 cm long." [Myrtaceae. No evidence]

404	Unpalatable to grazing animals	n
	Source(s)	Notes
	Talamoni, S. A., & Assis, M. A. (2009). Feeding habit of the Brazilian tapir, <i>Tapirus terrestris</i> (Perissodactyla: Tapiridae) in a vegetation transition zone in south-eastern Brazil. Zoologia, 26(2), 251-254	[Fruit palatable. Palatability of foliage unknown] "Additionally, <i>Psidium myrtooides</i> O. Berg. clusters found in the study site suggest that the tapirs may be acting as dispersal agents of this species."

405	Toxic to animals	n
	Source(s)	Notes
	Useful Tropical Plants Database. (2016). <i>Psidium myrtooides</i> . http://tropical.theferns.info/viewtropical.php?id=Psidium+myrtooides . [Accessed 11 May 2016]	"Known Hazards None known"

Qsn #	Question	Answer
	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
	Uramoto, K., Martins, D. S., & Zucchi, R. A. (2008). Fruit flies (Diptera, Tephritidae) and their associations with native host plants in a remnant area of the highly endangered Atlantic Rain Forest in the State of Espírito Santo, Brazil. <i>Bulletin of Entomological Research</i> , 98(05), 457-466	[A fruit fly host] "The results presented in this paper refer to a host survey, lasting approximately three and a half years (February 2003–July 2006), undertaken in the Vale do Rio Doce Natural Reserve, a remnant area of the highly endangered Atlantic Rain Forest located in Linhares County, State of Espírito Santo, Brazil. A total of 330 fruit samples were collected from native plants, representing 248 species and 51 plant families. Myrtaceae was the most diverse family with 54 sampled species. Twenty-eight plant species, from ten families, are hosts of ten <i>Anastrepha</i> species and of <i>Ceratitis capitata</i> (Wiedemann). Among 33 associations between host plants and fruit flies, 20 constitute new records, including the records of host plants for <i>A. fumipennis</i> Lima and <i>A. nacementoi</i> Zucchi. The findings were discussed in the light of their implications for rain forest conservation efforts and the study of evolutionary relationships between fruit flies and their hosts."
	Carneiro, R. G., Burckhardt, D., & Isaias, R. M. (2013). Biology and systematics of gall-inducing triozids (Hemiptera: Psylloidea) associated with <i>Psidium</i> spp. (Myrtaceae). <i>Zootaxa</i> , 3620(1), 129-146	[Unknown if alternate hosts can be affected] " <i>Psidium myrtoides</i> (Myrtaceae) shelters the gall inducer <i>Nothotrioza myrtoidis</i> gen. et sp. n. (Hemiptera: Psylloidea) which is described and illustrated here. <i>Nothotrioza</i> belongs to the family Triozidae and is probably most closely related to <i>Neolithus</i> , a monotypic Neotropical genus associated with <i>Sapium</i> (Euphorbiaceae). Three species are recognized within <i>Nothotrioza</i> : the type species <i>N. myrtoidis</i> sp. n. associated with <i>Psidium myrtoides</i> , <i>N. cattleiani</i> sp. n. (misidentified by Butignol & Pedrosa-Macedo as <i>Neotrioza tavaresi</i>) with <i>Psidium cattleianum</i> , and <i>N. tavaresi</i> (Crawford) comb. n. (from <i>Neotrioza</i>) with an unidentified species of Malpighiaceae, respectively. A lectotype is designated here for <i>Neotrioza tavaresi</i> . Also, the diversity of insect galls associated with <i>P. myrtoides</i> and the biology of <i>N. myrtoidis</i> were examined. <i>N. myrtoidis</i> presents five instars and an annual life cycle synchronised with the phenology of <i>P. myrtoides</i> . Gall size was proportional to the insect developmental stages, and rates of parasitism and mortality were 15.7 % and 29.8 %, respectively. The red colour is an important macroscopic diagnostic feature of the gall that could be associated with parasite-free condition of the galling insect. The biological features presented by the system <i>Psidium myrtoides</i> – <i>Nothotrioza myrtoidis</i> are in accordance with other systems involving sucking galling insects, however, it is exceptional by its univoltine life cycle associated with a perennial plant in the Neotropics. The galls induced by the three known <i>Nothotrioza</i> spp. are morphologically similar, i.e. closed, globoid and unilocular, as well as the opening mechanism for releasing the adults."

407	Causes allergies or is otherwise toxic to humans	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Useful Tropical Plants Database. (2016). <i>Psidium myrtoides</i> . http://tropical.theferns.info/viewtropical.php?id=Psidium+myrtoides . [Accessed 11 May 2016]	"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
	Useful Tropical Plants Database. (2016). <i>Psidium myrtoides</i> . http://tropical.theferns.info/viewtropical.php?id=Psidium+myrtoides . [Accessed 4 May 2016]	[Probably no if occurring in rainforests] "Found mainly in primary formations in the Atlantic and littoral rainforests, preferring higher ground on deep, fertile, well-drained, clayey soils"
	Coleccionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.coleccionandofrutas.org/psidiummyrtoides.htm . [Accessed 11 May 2016]	[Unlikely. Occurs in high rainfall areas] "It can be grown from sea level to 1,500m altitude. Rain rates can vary 1,200 to 2,000 mm annual, with humidity ranging from 45 to 85%."

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	"sci-hel" [Tolerates shade & sun. sci sciaphilous, adapted to life in the shade (shade tolerant) hel heliophilous, adapted to life in full sunlight (shade intolerant)]
	Useful Tropical Plants Database. (2016). <i>Psidium myrtoides</i> . http://tropical.theferns.info/viewtropical.php?id=Psidium+myrtoides . [Accessed 11 May 2016]	"Succeeds in full sun and in dappled shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Coleccionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.coleccionandofrutas.org/psidiummyrtoides.htm . [Accessed 11 May 2016]	"It is easy to grow, it adapts to different types of climate and soil." ... "Soils that this species prefers are: cambisols (sandy and rich in organic matter), latosol (red earth and yellow earth) or any land that have the characteristics of being well - drained, deep and with good natural fertility and have pH ranging in 5.5 to 6.2."

Qsn #	Question	Answer
411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Kraus, J.E., Hofling, E., Rodrigues, M.T., & Amaral de Sampaio, M.R. 2005. Fauna and flora of the campus of the Cidade Universitária Armando de Salles Oliveira. EdUSP, Sao Paulo, Brazil	"Small trees, 4-8 m tall"

412	Forms dense thickets	
	Source(s)	Notes
	Menino, G. C. O., Nunes, Y. R. F., Santos, R. M., Fernandes, G. W., & Fernandes, L. A. (2012). Environmental heterogeneity and natural regeneration in riparian vegetation of the Brazilian semi-arid region. <i>Edinburgh Journal of Botany</i> , 69(01), 29-51	[<i>Psidium myrtoides</i> found at densities of 17.143 individuals/ha] "Family and species recorded in the riparian vegetation of the Pandeiros River (Minas Gerais State, Brazil) with respective structure parameters. Abb = abbreviated species name; VN = voucher number; N = number of individuals; AD = absolute density (individuals/ha); AF = absolute frequency (%); ADo = absolute dominance (m2/ha); and IV = importance value (%)."

501	Aquatic	n
	Source(s)	Notes
	Lorenzi, H. 2002. <i>Brazilian Trees</i> . Volume 2. 4th Edition. Instituto Plantarum De Estudos Da Flora; Brazil	[Terrestrial tree] "Found mainly in primary formations in the Atlantic and littoral rainforests, preferring higher ground on deep, fertile, well-drained, clayey soils"

502	Grass	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 10 May 2016]	"Family: Myrtaceae Subfamily: Myrtoideae Tribe: Myrteae"

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 10 May 2016]	"Family: Myrtaceae Subfamily: Myrtoideae Tribe: Myrteae"

Qsn #	Question	Answer
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Kraus, J.E., Hofling, E., Rodrigues, M.T., & Amaral de Sampaio, M.R. 2005. Fauna and flora of the campus of the Cidade Universitária Armando de Salles Oliveira. EdUSP, Sao Paulo, Brazil	"Small trees, 4-8 m tall, with the trunk 20-35 cm in diameter."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Grandtner, M.M. & Chevrette, J. (2012). Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology. Academic Press, New York	No evidence

602	Produces viable seed	y
	Source(s)	Notes
	Useful Tropical Plants Database. (2016). <i>Psidium myrtoides</i> . http://tropical.theferns.info/viewtropical.php?id=Psidium+myrtoides . [Accessed 11 May 2016]	"Seed - best sown as soon as it is ripe in a partially shaded position in a nursery seedbed. A low germination rate can be expected, with the seed sprouting within a few weeks[420]. When the seedlings are 5 - 7cm tall, pot them up into individual containers and they should be ready to plant out 7 - 8 months later[.]".

603	Hybridizes naturally	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. Interspecific hybrids documented in genus

604	Self-compatible or apomictic	
	Source(s)	Notes
	Lughadha, E. N., & Proença, C. (1996). A survey of the reproductive biology of the Myrtoideae (Myrtaceae). <i>Annals of the Missouri Botanical Garden</i> , 83(4): 480-503	[Unknown. Other <i>Psidium</i> species are self-compatible] "Three species, <i>Eugenia dysenterica</i> , <i>Myrcia rhodosepala</i> and <i>Psidium firmum</i> , were completely self-compatible, setting statistically equal numbers of fruits after cross- and self-pollination."

605	Requires specialist pollinators	n
	Source(s)	Notes
	Kraus, J.E., Hofling, E., Rodrigues, M.T., & Amaral de Sampaio, M.R. 2005. Fauna and flora of the campus of the Cidade Universitária Armando de Salles Oliveira. EdUSP, Sao Paulo, Brazil	"Flowers are white, around 1.5 cm in diameter, and they attract bees."

606	Reproduction by vegetative fragmentation	
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Qsn #	Question	Answer
	Source(s)	Notes
	Tng, D. Y., Goosem, M. W., Paz, C. P., Preece, N. D., Goosem, S., Fensham, R. J., & Laurance, S. G. (2015). Characteristics of the <i>Psidium cattleianum</i> invasion of secondary rainforests. <i>Austral Ecology</i> . doi: 10.1111/aec.12319	[Unknown. Other <i>Psidium</i> species capable of vegetative spread] "The probability plant invasiveness increases if a species reproduces vegetatively and has a history of invasion elsewhere (Kolar & Lodge 2001). <i>Psidium cattleianum</i> meets both these criteria – it has the highest number of coppice stems of any woody species examined in the study and has a significant history of invasion in Hawaii and many other tropical regions dating back to the early- to mid-1800s"
607	Minimum generative time (years)	
	Source(s)	Notes
	Useful Tropical Plants Database. (2016). <i>Psidium myrtoides</i> . http://tropical.theferns.info/viewtropical.php?id=Psidium+myrtoides . [Accessed 11 May 2016]	[Unknown] "Growth Rate Slow"
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Coleccionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.coleccionandofrutas.org/psidiummyrtoides.htm . [Accessed 11 May 2016]	[Unlikely. Fruit & seeds lack means of external attachment, although pulp may allow seeds to stick to surfaces] "The fruits are rounded berries 2.5 4,2 cm in diameter with dark red color shell when fully mature. The pulp is reddish, acidic, bitter and slightly involving about 10 seeds color rounded cream."
702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Govardhan Gardens. 2016. Tropical Fruit Seed Sale. http://organicfarm.net/seeds.htm . [Accessed]	Seeds sold online
	Parker, J. 2016. BIISC Early Detection Botanist. Pers. Comm. 10 May	Sold in Hawaii Island nurseries
703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. Information on cultivation lacking
704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Coleccionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.coleccionandofrutas.org/psidiummyrtoides.htm . [Accessed 11 May 2016]	"The fruits are rounded berries 2.5 4,2 cm in diameter with dark red color shell when fully mature. The pulp is reddish, acidic, bitter and slightly involving about 10 seeds color rounded cream."
705	Propagules water dispersed	

Qsn #	Question	Answer
	Source(s)	Notes
	Kurzatkowski, D., Leuschner, C., & Homeier, J. (2015). Effects of flooding on trees in the semi-deciduous transition forests of the Araguaia floodplain, Brazil. <i>Acta Oecologica</i> , 69, 21-30	"Table 1 Tree species recorded in the Araguaia floodplain forest plots with their mean stem densities" [<i>Psidium myrtooides</i> found in floodplains. Buoyancy of fruit unknown]

706	Propagules bird dispersed	y
	Source(s)	Notes
	Grandtner, M.M. & Chevrette, J. (2012). <i>Dictionary of Trees, Volume 2: South America: Nomenclature, Taxonomy and Ecology</i> . Academic Press, New York	"fr (flowers: honeybees; fruits: birds)" [Fruits consumed by birds]
	Kraus, J.E., Hofling, E., Rodrigues, M.T., & Amaral de Sampaio, M.R. 2005. <i>Fauna and flora of the campus of the Cidade Universitária Armando de Salles Oliveira</i> . EdUSP, Sao Paulo, Brazil	"The one-seeded fruits are fleshy, purplish, and around 3 cm in diameter. They mature from May to July, and are eaten by birds."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	Colecionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.colecionandofrutas.org/psidiummyrtooides.htm . [Accessed 11 May 2016]	[Unlikely. Fruit & seeds lack means of external attachment, although pulp may allow seeds to stick to animal fur, feet or hooves] "The fruits are rounded berries 2.5 4,2 cm in diameter with dark red color shell when fully mature. The pulp is reddish, acidic, bitter and slightly involving about 10 seeds color rounded cream."

708	Propagules survive passage through the gut	y
	Source(s)	Notes
	Kraus, J.E., Hofling, E., Rodrigues, M.T., & Amaral de Sampaio, M.R. 2005. <i>Fauna and flora of the campus of the Cidade Universitária Armando de Salles Oliveira</i> . EdUSP, Sao Paulo, Brazil	"The one-seeded fruits are fleshy, purplish, and around 3 cm in diameter. They mature from May to July, and are eaten by birds." [Presumably Yes]
	Talamoni, S. A., & Assis, M. A. (2009). Feeding habit of the Brazilian tapir, <i>Tapirus terrestris</i> (Perissodactyla: Tapiridae) in a vegetation transition zone in south-eastern Brazil. <i>Zoologia</i> , 26(2), 251-254	[Dispersed by tapirs. Feral pigs may serve a similar role in the Hawaiian Islands] "The seeds most frequently found in the fresh samples belonged to the family Rubiaceae (<i>Psychotria</i> sp. and two unidentified species), followed by Fabaceae (<i>Senna</i> sp. and two unidentified species), Myrtaceae (specifically <i>Psidium myrtooides</i> O. Berg.), Solanaceae (one unidentified species), and Annonaceae (<i>Rollinia</i> sp. and <i>Annona</i> sp.)." ... "In our study site, <i>Psidium myrtooides</i> occurs in shrubby formations ("capoeiras") and "rupestre" fields (MORAIS & LOMBARDI 2006). The distribution of this species in the lower stratum and its morphological traits, such as its globe-like (globose) shape, fleshy consistency, and small mean diameter of 13 mm, could benefit its high consumption by the tapirs."

801	Prolific seed production (>1000/m2)	
	Source(s)	Notes

Qsn #	Question	Answer
	Coleccionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.coleccionandofrutas.org/psidiummyrtooides.htm . [Accessed 11 May 2016]	[Densities unknown] "The fruits are rounded berries 2.5 4,2 cm in diameter with dark red color shell when fully mature. The pulp is reddish, acidic, bitter and slightly involving about 10 seeds color rounded cream."

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Coleccionadores de Frutas. 2016. <i>Psidium myrsinoides</i> . http://www.coleccionandofrutas.org/psidiummyrtooides.htm . [Accessed 11 May 2016]	[Unknown in field conditions] "Once clean and dry the seeds can be stored for up to 2 years in dark packaging, maintaining 60% of its germination."

803	Well controlled by herbicides	
	Source(s)	Notes
	Motooka, P., Castro, L., Nelson, D., Nagai, G. & Ching, L. 2003. Weeds of Hawaii's Pastures and Natural Areas: An Identification and Management Guide. CTAHR, UH Manoa, Honolulu, HI	[Herbicides used effectively on <i>Psidium cattleianum</i> might be effective for <i>P. myrtooides</i>] "Strawberry guava is sensitive to foliar, frill and cut-surface applications of triclopyr, dicamba, and 2,4-D, in descending order of efficacy. Glyphosate was ineffective over the long term although early defoliation was severe. Strawberry guava was also sensitive to basal bark applications of 2,4-D, picloram, and triclopyr. Where applications were made during dry days, conventional basal bark applications of triclopyr at 2 % and 2,4-D at 4 % of respective products were effective at Kokee. Thin line applications of triclopyr ester, 20 % product in diesel or crop oil, were effective. Thin line vertical applications to opposite sides of stems to 5 inches diameter was also effective. HAVO staff controlled strawberry guava with triclopyr amine at 50% product in water applied to cut stumps or to frills (Chris Zimmer, HAVO). Responses to soil applications of tebuthiuron and hexazinone were erratic, excellent to poor"

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	CABI, 2016. <i>Psidium cattleianum</i> . In: Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	[Unknown for <i>Psidium myrtooides</i> . Other species tolerate & resprout from cutting] "Mechanical cutting of the stem leads to the development of abundant suckers from the stump and any mechanical control must be associated with chemical control to avoid resprouting."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. Other <i>Psidium</i> species are invasive in the Hawaiian Islands & are not limited by biological control agents

Summary of Risk Traits:

High Risk / Undesirable Traits

- Elevation range exceeds 1000 m, demonstrating environmental versatility
- Grows in tropical climates
- Other *Psidium* species are invasive
- Shade-tolerant
- Tolerates many soil types
- Seeds dispersed by birds, frugivorous mammals & intentionally by people
- Limited 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)
- Non-toxic
- Edible fruit
- Ornamental