

Family: *Melastomataceae*

Taxon: *Medinilla miniata*

Synonym: NA

Common Name: crimson medinilla

Questionnaire :	current 20090513	Assessor:	Assessor	Designation:	EVALUATE
Status:	Assessor Approved	Data Entry Person:	Assessor	WRA Score	6
101	Is the species highly domesticated?		y=-3, n=0		n
102	Has the species become naturalized where grown?		y=1, n=-1		
103	Does the species have weedy races?		y=1, n=-1		
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		n=0, y = 1*multiplier (see Appendix 2)		y
401	Produces spines, thorns or burrs		y=1, n=0		n
402	Allelopathic		y=1, n=0		
403	Parasitic		y=1, n=0		n
404	Unpalatable to grazing animals		y=1, n=-1		
405	Toxic to animals		y=1, n=0		n
406	Host for recognized pests and pathogens		y=1, n=0		
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		
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		y=1, n=0		n
411	Climbing or smothering growth habit		y=1, n=0		y

412	Forms dense thickets	y=1, n=0	
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	
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	
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/m2)	y=1, n=-1	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: EVALUATE

WRA Score 6

Supporting Data:

101	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Is the species highly domesticated? No evidence] "A species manifestly allied to <i>Medinilla magnifica</i> Lindl., but with smaller, much denser panicles, smaller bracts, and larger flowers. From the allied <i>M. teysmannii</i> Miq., it differs in its large persistent bracts and much smaller panicles."
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Species suited to tropical or subtropical climate(s) 2-High] "LEYTE, Buenavista, near Jaro, C. A. Wenzel 653, May 12, 1914, in forests, altitude about 500 m, May 12, 1914."
202	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Quality of climate match data 2High]
203	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Broad climate suitability (environmental versatility)? No] "LEYTE, Buenavista, near Jaro, C. A. Wenzel 653, May 12, 1914, in forests, altitude about 500 m, May 12, 1914."
203	2013. Dave's Garden. PlantFiles: Crimson <i>Medinilla miniata</i> . http://davesgarden.com/guides/pf/go/118558/ [Accessed 13 Nov 2013]	Hardiness: [Broad climate suitability (environmental versatility)? No] "USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"
203	2013. Hawaii Picture of the Day. Crimson <i>Medinilla</i> . http://www.hawaiipictureoftheday.com/crimson-medinilla-2/ [Accessed 13 Nov 2013]	[Broad climate suitability (environmental versatility)? No] "Originating in the Philippines, the Crimson <i>Medinilla miniata</i> , is a bright addition to landscapes in Hawaii. On the islands the <i>medinilla</i> are found mostly on the windward side, growing best in the tropical rain forest settings. It is said that this plant doesn't tolerate temperatures below 64 degrees. In that way, we feel that the plant is a good representation of island residents who don't sweaters and hoodies in the morning or at elevations greater than a couple thousand feet."
204	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "LEYTE, Buenavista, near Jaro, C. A. Wenzel 653, May 12, 1914, in forests, altitude about 500 m, May 12, 1914."
204	1923. Merrill, E.D.. An Enumeration of Philippine Flowering Plants. Volume 3. Dept. of Agriculture and Natural Resources Bureau of Science, Manila, Philippines	[Native or naturalized in regions with tropical or subtropical climates? Yes] "In primary forests, altitude about 500 m ; closely allied to <i>M. magnifica</i> Lindl. Endemic."
205	2012. Blanchett, S.. Growing your <i>Medinilla miniata</i> plant. http://www.members.westnet.com.au/wackos/PDFs/Growing%20your%20medinilla%20miniata.pdf .	[Does the species have a history of repeated introductions outside its natural range? No] " <i>Medinilla miniata</i> is a very recent introduction to Australia."
205	2013. Dave's Garden. PlantFiles: Crimson <i>Medinilla miniata</i> . http://davesgarden.com/guides/pf/go/118558/ [Accessed 13 Nov 2013]	[Does the species have a history of repeated introductions outside its natural range? No] "This plant has been said to grow in the following regions: Honolulu, Hawaii"
301	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Naturalized beyond native range? No evidence to date]
301	2013. WRA Specialist. Personal Communication.	[Naturalized beyond native range? No evidence to date, Relatively new to cultivation]
302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? No evidence to date]
302	2013. WRA Specialist. Personal Communication.	[Garden/amenity/disturbance weed? No evidence to date.. Relatively new to cultivation]
303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No evidence to date]
303	2013. WRA Specialist. Personal Communication.	[Agricultural/forestry/horticultural weed? No evidence to date. Relatively new to cultivation]
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence to date]

304	2013. WRA Specialist. Personal Communication.	[Environmental weed? No evidence to date. Relatively new to cultivation]
305	2013. USDA Natural Resources Conservation Service. Hawaii State-listed Noxious Weeds. http://plants.usda.gov/java/noxious?rptType=State&statefips=15	[Congeneric weed? Yes] <i>Medinilla venosa</i> is listed as a noxious weed in the state of Hawaii
401	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Produces spines, thorns or burrs? No] " <i>Frutex epiphyticus</i> circiter 2 m altus, glaber, ramulis crassis, 4-alatis, nodis dense setosis; foliis oppositis, sessilibus, coriaceis, oblongo-ovatis ad obovato-subellipticis, usque ad 33 cm longis, abrupte acuminatis, basi angustatis, 13 plinerviis, nervis prominentibus, arcuato-adscendentibus, reticulis obsolete vel subobsolete;" [Translation from Latin: Epiphytic bush about 2 m high, glabrous, the branchlets thick, 4-winged, densely silky tail nodes: leaves opposite, sessile, leathery, oblong-ovate to obovate-subelliptic, up to 33 cm long, abruptly acuminate, narrowed at the base, 13 plinerviis, with prominent nerves.]
402	2013. WRA Specialist. Personal Communication.	[Allelopathic? Unknown. No reports of allelopathy from genus]
403	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Parasitic? No] " <i>Frutex epiphyticus</i> circiter 2 m altus, glaber" [Translation from Latin: Epiphytic bush about 2 m high]
404	2013. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	1898. Botanic Gardens Department. Poisonous Plants of the Malay Peninsula. Agricultural Bulletin of the Malay Peninsula. 8: 199-218.	[Toxic to animals? No evidence] "Some of the <i>Medinilla</i> s are acid, and allied plants often astringent, but I know of none with poisonous qualities."
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No evidence]
406	2012. Blanchett, S.. Growing your <i>Medinilla miniata</i> plant. http://www.members.westnet.com.au/wackos/PDFs/Growing%20your%20medinilla%20miniata.pdf .	[Host for recognized pests and pathogens?] "The only major pests of this plant are chewing insects such as Grasshoppers and Caterpillars, these can simply be crushed or sprayed with the insecticide Carbaryl."
407	1898. Botanic Gardens Department. Poisonous Plants of the Malay Peninsula. Agricultural Bulletin of the Malay Peninsula. 8: 199-218.	[Causes allergies or is otherwise toxic to humans? No evidence] "Some of the <i>Medinilla</i> s are acid, and allied plants often astringent, but I know of none with poisonous qualities."
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No evidence]
408	2012. Blanchett, S.. Growing your <i>Medinilla miniata</i> plant. http://www.members.westnet.com.au/wackos/PDFs/Growing%20your%20medinilla%20miniata.pdf .	[Creates a fire hazard in natural ecosystems? No evidence. Succulent plants unlikely to burn] " <i>Medinilla miniata</i> is a very recent introduction to Australia. It is a medium shrub, growing to around 2 metres. The large, almost succulent leaves are heavily veined and make an attractive contrast in the garden, they can grow as long as 60cm!!!"
409	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Is a shade tolerant plant at some stage of its life cycle? Unknown, As an epiphyte, may require higher light levels] " <i>Frutex epiphyticus</i> circiter 2 m altus, glaber" [Translation from Latin: Epiphytic bush about 2 m high]
409	2012. Blanchett, S.. Growing your <i>Medinilla miniata</i> plant. http://www.members.westnet.com.au/wackos/PDFs/Growing%20your%20medinilla%20miniata.pdf .	[Is a shade tolerant plant at some stage of its life cycle? Unknown] "Keep your plant in bright filtered light for a few weeks. In time it will harden up to some early morning sun but they do not tolerate hot sun."
409	2013. Dave's Garden. PlantFiles: Crimson <i>Medinilla miniata</i> . http://davesgarden.com/guides/pf/go/118558/ [Accessed 13 Nov 2013]	[Is a shade tolerant plant at some stage of its life cycle? Possibly Yes] "Sun Exposure: Light Shade"
410	2004. Tropicsphere. Jungle Forums - <i>Medinilla magnifica</i> / <i>Medinilla miniata</i> . http://www.tropicsphere.com/main/forums/viewtopic.php?t=390 [Accessed 13 Nov 2013]	[Tolerates a wide range of soil conditions ? No] "Do not grow in clay or heavy soil, but a mix that is similar to those used for growing orchids like cymbidiums."
410	2012. Blanchett, S.. Growing your <i>Medinilla miniata</i> plant. http://www.members.westnet.com.au/wackos/PDFs/Growing%20your%20medinilla%20miniata.pdf .	[Tolerates a wide range of soil conditions? No] "This species is epiphytic in its home range, but it is easily grown as a pot specimen. I use an orchid mix, it should have plenty of chunky material in it, like scoria, orchid bark, charcoal etc and also some fine material like river sand, fine scoria, fine diatomite rock etc. The mix needs to hold moisture but be well drained."

410	2013. Top Tropicals. <i>Medinilla miniata</i> . http://toptropicals.com/catalog/uid/medinilla_miniat a.htm [Accessed 13 Nov 2013]	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? No] "Plant in rich, moist, well-drained, humus-rich soil in part-shade."
411	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Climbing or smothering growth habit? Yes. Climbing epiphyte could compete with native epiphytic plants] "Frutex epiphyticus circiter 2 m altus, glaber" [Translation from Latin: Epiphytic bush about 2 m high]
411	2013. Top Tropicals. <i>Medinilla miniata</i> . http://toptropicals.com/catalog/uid/medinilla_miniat a.htm [Accessed 13 Nov 2013]	[Climbing or smothering growth habit? Yes] "Erect shrub, semi-epiphytic in rainforest habitat."
412	2013. WRA Specialist. Personal Communication.	[Forms dense thickets? Unknown]
501	1923. Merrill, E.D.. An Enumeration of Philippine Flowering Plants. Volume 3. Dept. of Agriculture and Natural Resources Bureau of Science, Manila, Philippines	[Aquatic? No] "In primary forests, altitude about 500 m ; closely allied to <i>M. magnifica</i> Lindl. Endemic."
502	2013. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, http://www.tropicos.org/	[Grass? No] Melastomataceae
503	2013. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, http://www.tropicos.org/	[Nitrogen fixing woody plant? No] Melastomataceae
504	1914. Merrill, E.D.. <i>Plantae Wenzeliana</i> , II. The Philippine Journal of Science. 9: 353-390.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Frutex epiphyticus circiter 2 m altus, glaber, ramulis crassis, 4-alatis, nodis dense setosis; foliis oppositis, sessilibus, coriaceis, oblongo-ovatis ad obovato-subellipticis, usque ad 33 cm longis, abrupte acuminatis, basi angustatis, 13 plinerviis, nervis prominentibus, arcuato-adscedentibus, reticulis obsolete subobsoletis;" [Translation from Latin: Epiphytic bush about 2 m high, glabrous, the branchlets thick, 4-winged, densely silky tail nodes: leaves opposite, sessile, leathery, oblong-ovate to obovate-subelliptic, up to 33 cm long, abruptly acuminate, narrowed at the base, 13 plinerviis, with prominent nerves.]
601	2013. WRA Specialist. Personal Communication.	[Evidence of substantial reproductive failure in native habitat? Unknown. Little known about reproductive biology within native habitat]
602	2013. NSE Tropicals. <i>Medinillas for Sale</i> . http://www.tropicos.org/Name/50088239 [Accessed 13 Nov 2013]	[Produces viable seed? Yes] "The plants we have at this time are from seed and are about 8" tall."
602	2013. Top Tropicals. <i>Medinilla miniata</i> . http://toptropicals.com/catalog/uid/medinilla_miniat a.htm [Accessed 13 Nov 2013]	[Produces viable seed? Yes] "Propagate from seed or cuttings."
603	2013. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2013. WRA Specialist. Personal Communication.	[Self-compatible or apomictic? Unknown]
605	2009. Kimura, K./Yumoto, T./Kikuzawa, K./Kitayama, K.. Flowering and fruiting seasonality of eight species of <i>Medinilla</i> (Melastomataceae) in a tropical montane forest of Mount Kinabalu, Borneo. <i>Tropics</i> . 18(1): 35-44.	[Requires specialist pollinators? No evidence] "Medinilla species bear brightly colored flowers and soft reddish- or purple-black berries, which are suggestive of insect pollinated flowers and animal-dispersed seeds."
606	2013. WRA Specialist. Personal Communication.	[Reproduction by vegetative fragmentation? Unknown]
607	2013. WRA Specialist. Personal Communication.	[Minimum generative time (years)? Unknown]
701	2013. WRA Specialist. Personal Communication.	Fruit and seeds lack means of attachment, although small seeds could potentially stick to mud on boots, vehicles or machinery
702	2013. Dave's Garden. PlantFiles: Crimson <i>Medinilla miniata</i> . http://davesgarden.com/guides/pf/go/118558/ [Accessed 13 Nov 2013]	[Propagules dispersed intentionally by people? Yes] "This plant has been said to grow in the following regions: Honolulu, Hawaii"
702	2013. Frohlich, D.. Oahu Early Detection Botanists. Pers. Comm. 12 Nov 2013.	[Propagules dispersed intentionally by people? Yes] "David Duffy spotted it being sold at a local nursery- it was labeled as <i>M. miniata</i> "
703	2013. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? Unknown] Possibly yes, as the seeds could be deposited on tree fern trunks. Other <i>Medinilla</i> have been spread on tree fern logs which are sold for orchid growers.

704	2012. Suarez, W.. Phytolimages. <i>Medinilla miniata</i> Infructescences. http://phytoimages.siu.edu/imgs/psor/Melastomataceae_Medinilla_miniata_45835.html [Accessed 13 Nov 2013]	[Propagules adapted to wind dispersal? Presumably No. Image shows immature and mature fleshy-fruited berries]
705	2013. WRA Specialist. Personal Communication.	[Propagules water dispersed? Unknown] Plant grows in very we rainforest habitats; some movement of berries/seeds with water is possible
706	2011. Michael Kartuz photostream. <i>Medinilla miniata</i> 3 [Taken on August 7, 2011]. http://www.flickr.com/photos/21760108@N06/8343475260/ [Accessed 13 Nov 2013]	[Propagules bird dispersed? Presumably Yes] Image of <i>Medinilla miniata</i> in flower and with purple berries
707	2013. WRA Specialist. Personal Communication.	[Propagules dispersed by other animals (externally)? No evidence] Fruit and seeds lack means of attachment, although small seeds could potentially stick to mud on animals' feet. Nevertheless, as an epiphytic species, this dispersal vector seems unlikely
708	2012. Suarez, W.. Phytolimages. <i>Medinilla miniata</i> Infructescences. http://phytoimages.siu.edu/imgs/psor/Melastomataceae_Medinilla_miniata_45835.html [Accessed 13 Nov 2013]	[Propagules survive passage through the gut? Presumably Yes. Image shows immature and mature fleshy-fruited berries]
801	1985. Smith, A.C.. <i>Flora Vitiensis Nova: A New Flora of Fiji (Spermatophytes Only)</i> . Volume 3. National Tropical Botanical Garden, Lawai, HI	[Prolific seed production (>1000/m ²)? Possibly Yes] "Fruit a subglobose berry, the calyx limbs persistent, the seeds numerous" [Genus description]
802	2013. WRA Specialist. Personal Communication.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]
803	2013. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	2013. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
805	2013. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risk / Undesirable Traits

- Grows in tropical climates
- Other *Medinilla* species have become invasive
- Fleshy fruits presumably dispersed by birds and other frugivorous animals
- Lack of basic biological and ecological information makes accurate risk prediction difficult

Low Risk Traits

- No reports of naturalization or invasiveness to date (possibly due to relative rarity in cultivation)
- Unarmed (no spines, thorns or burrs)
- Non-toxic
- Ornamental with show inflorescence