Family: ***Primulaceae***

Taxon: ***ardisia polysticta***

Synonym: *Ardisia virens Kurz* ***Common Name:*** niu zi guo

Questionaire : current 20090513 **Assessor:** Patti Clifford **Designation:** H(HPWRA)

Status: Assessor Approved **Data Entry Person:** Patti Clifford **WRA Score 8**

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**	**y**
204	**Native or naturalized in regions with tropical or subtropical climates**	**y=1, n=0**	**y**
205	**Does the species have a history of repeated introductions outside its natural range?**	**y=-2, ?=-1, n=0**	**n**
301	**Naturalized beyond native range**	**y = 1*multiplier (see Appendix 2), n= question 205**	**y**
302	**Garden/amenity/disturbance weed**	**n=0, y = 1*multiplier (see Appendix 2)**	**n**
303	**Agricultural/forestry/horticultural weed**	**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**	
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**	
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**	**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**	**n**
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**	
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**	**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**	**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: H(HPWRA) **WRA Score** **8**

Supporting Data:

101	2010. WRA Specialist. Personal Communication.	No evidence of domestication.
102	2010. WRA Specialist. Personal Communication.	N/A
103	2010. WRA Specialist. Personal Communication.	N/A
201	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native range: China - Guangxi, Guizhou, Hainan, Yunnan; Taiwan; India - Assam; Laos; Myanmar; Thailand; Vietnam; Indonesia.
202	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native range: China - Guangxi, Guizhou, Hainan, Yunnan; Taiwan; India - Assam; Laos; Myanmar; Thailand; Vietnam; Indonesia.
203	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	"Dense evergreen broad-leaved forests, hillsides, dark damp places, valleys, humus-rich soils; 300-2700 m. Guangxi, Guizhou, Hainan, Taiwan, Yunnan [India, Indonesia, Myanmar, Thailand, Vietnam]"
204	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native range: China - Guangxi, Guizhou, Hainan, Yunnan; Taiwan; India - Assam; Laos; Myanmar; Thailand; Vietnam; Indonesia.
205	2010. WRA Specialist. Personal Communication.	No evidence of repeated introductions outside of its natural range.
301	2006. Daehler, C. C./Baker, R. F.. New Records of Naturalized and Naturalizing Plants Around Lyon Arboretum, Mānoa Valley, O'ahu. Bishop Museum Occasional Papers. 87: 3-18.	"Material examined: O'AHU: Mature plants ca. 3 m tall with dozens of seedlings in the vicinity, Haukulu, Lyon Arboretum; 24 May 2005, C. Daehler 1205 (BISH); Lyon Arboretum (cultivated), 22 Oct 1980, K. Nagata 2199 (HLA)."
302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	No evidence of being a garden/amenity/disturbance weed.
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	No evidence of being an agricultural/forestry/horticultural weed.
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	No evidence of being an environmental weed.
305	2007. Center for Aquatic & Invasive Plants University of Florida. Florida invasive plant education initiative in the parks Ardisia crenata. Center for Aquatic & Invasive Plants University of Florida, http://plants.ifas.ufl.edu/parks/	"Coral ardisia has naturalized in many natural areas across Florida, such as hardwood hammocks, becoming a significant pest. The Florida Exotic Pest Plant Council lists Coral ardisia as a category I species because of its invasive nature and ability to disrupt native plant communities."
401	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	No spines, thorns, burrs.
402	2010. WRA Specialist. Personal Communication.	Unknown.
403	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Not parasitic.
404	2010. WRA Specialist. Personal Communication.	Unknown.
405	2010. WRA Specialist. Personal Communication.	Unknown.

406	2010. WRA Specialist. Personal Communication.	Unknown.
407	2000. Chuakul, W.. Medicinal plants in Khao Kho District, Phetchabun Province, Thailand. Pharmaceutical Biology. 38: 61-67.	The Thai people at Khao Kho District, Petchabun Province use Ardisia virens (polysticta) as a medicinal. The whole plant is boiled and used as a bath.
407	2003. Dixit, A. K./Chen, J.J./Ishikawa, T./Tsai, I.L./Chen, I.S.. Alkyl phenols from the leaves of Formosan Arsisa virens. The Chinese Pharmaceutical Journal. 55: 273-278.	The root bark of A. virens has been used as a folk medicine for anti-vomiting and anit-diarrhea and the root has also been used for rheumatic therapy in China.
408	2010. WRA Specialist. Personal Communication.	Unknown.
409	2001. Atlas of Seed Plants of Cuc Phuong National Park. Atlas of Seed Plants of Cuc Phuong National Park Ardisia virens. PCRPS, College of Pharmacy, University of Illinois, http://fm2.fieldmuseum.org/plantatlas/source.asp?plantID=4034	Collected in the deep shade at Cuc Phuong National Park, Vietnam.
410	2001. Atlas of Seed Plants of Cuc Phuong National Park. Atlas of Seed Plants of Cuc Phuong National Park Ardisia virens. PCRPS, College of Pharmacy, University of Illinois, http://fm2.fieldmuseum.org/plantatlas/source.asp?plantID=4034	"Cuc Phuong National Park is a 20,480-hectare (Vo et al., 1996) forest-covered hilly limestone formation located about 100 km southwest of Hanoi, Vietnam. " Ardisia virens was collected in the park.
411	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Shrubs or small trees, 1-3 m tall.
412	2010. WRA Specialist. Personal Communication.	Unknown.
501	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Shrubs or small trees, 1-3 m tall.
502	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Also put in the Myrsinaceae.
502	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Primulaceae.
503	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Primulaceae.
504	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Shrubs or small trees, 1-3 m tall.
601	2010. WRA Specialist. Personal Communication.	No evidence.
602	2006. Daehler, C. C./Baker, R. F.. New Records of Naturalized and Naturalizing Plants Around Lyon Arboretum, Mānoa Valley, Oʻahu. Bishop Museum Occasional Papers. 87: 3-18.	"Seedlings are easily distinguished from those of Ardisia eliptica by their glaucous leaves and crenate leaf margins"
603	2010. WRA Specialist. Personal Communication.	Unknown.
604	2010. WRA Specialist. Personal Communication.	Unknown.

605	2010. WRA Specialist. Personal Communication.	Unknown.
605	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	"Inflorescences terminal compound umbels, glabrous, on specialized lateral branches (15-)30-50 cm. Flowers papery, white or pink, 7-8 mm. Pedicel 1.5-3 cm, sparsely glandular papillate in bud, early glabrescent. Sepals ovate to elliptic, subrounded, 2.5-3.5 mm, together with petals densely black punctate, glabrous abaxially, sparsely glandular granulose adaxially at base. Petals nearly free, ovate or broadly ovate, apex acute. Stamens subequalling petals; filaments shorter than anthers; anthers lanceolate or subovate, longitudinally dehiscent, punctate dorsally, apex apiculate. Pistil subequalling petals."
606	2007. Center for Aquatic & Invasive Plants University of Florida. Florida invasive plant education initiative in the parks Ardisia crenata. Center for Aquatic & Invasive Plants University of Florida, http://plants.ifas.ufl.edu/parks/	Ardisia crenata is capable of resprouting after cutting back or after a fire. [same genus]
606	2010. WRA Specialist. Personal Communication.	Unknown
701	2010. WRA Specialist. Personal Communication.	No evidence of unintentional dispersal.
702	2010. WRA Specialist. Personal Communication.	Limited introductions in Hawaii.
702	2011. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database Index]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Considered naturalized in India and Hawaii.
703	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Fruit red or blackish red, globose, 7-9(-10) mm in diam., densely black punctate. Fl. May-Jul, fr. Oct-Mar. [no evidence of produce contamination]
704	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Fruit red or blackish red, globose, 7-9(-10) mm in diam., densely black punctate. Fl. May-Jul, fr. Oct-Mar. [no adaptation for wind dispersal]
705	2010. WRA Specialist. Personal Communication.	Unknown.
706	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Fruit red or blackish red, globose, 7-9(-10) mm in diam., densely black punctate. Fl. May-Jul, fr. Oct-Mar. [bird-dispersed syndrome}
707	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Fruit red or blackish red, globose, 7-9(-10) mm in diam., densely black punctate. Fl. May-Jul, fr. Oct-Mar. [no means of external attachment]
708	2011. Chen, J./Pipoly, J.J.. Flora of China Vol. 15 Myrsinaceae (Ardisia virens). http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200016817	Fruit red or blackish red, globose, 7-9(-10) mm in diam., densely black punctate. Fl. May-Jul, fr. Oct-Mar. [bird-dispersed syndrome}
801	2007. Center for Aquatic & Invasive Plants University of Florida. Florida invasive plant education initiative in the parks Ardisia crenata. Center for Aquatic & Invasive Plants University of Florida, http://plants.ifas.ufl.edu/parks/	Ardisia crenata is a prolific seed producer. [same genus]
801	2010. WRA Specialist. Personal Communication.	Unknown.
802	2010. WRA Specialist. Personal Communication.	Unknown.
803	2010. WRA Specialist. Personal Communication.	Unknown.

804	2007. Center for Aquatic & Invasive Plants University of Florida. Florida invasive plant education initiative in the parks Ardisia crenata. Center for Aquatic & Invasive Plants University of Florida, http://plants.ifas.ufl.edu/parks/	Ardisia is capable of resprouting after cutting back or after a fire. [same genus]
804	2010. WRA Specialist. Personal Communication.	Unknown.
805	2010. WRA Specialist. Personal Communication.	Unknown.