

Australia/New Zealand Weed Risk Assessment adapted for Florida.

Data used for analysis published in: Gordon, D.R., D.A. Onderdonk, A.M. Fox, R.K. Stocker, and C. Gantz. 2008. Predicting Invasive Plants in Florida using the Australian Weed Risk Assessment. Invasive Plant Science and Management 1: 178-195.

<i>Merremia quinquefolia</i> (rock rosemary)			
Question number	Question	Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high)	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)		
2.04	Native or naturalized in habitats with periodic inundation		
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	0
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	y	0
3.04	Environmental weed	n	0
3.05	Congeneric weed	y	0
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	n	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals		
4.05	Toxic to animals	n	0
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems	n	0
4.09	Is a shade tolerant plant at some stage of its life cycle		
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)		
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	n	0
5.01	Aquatic	n	0

5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte		
6.01	Evidence of substantial reproductive failure in native habitat		
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators		
6.06	Reproduction by vegetative fragmentation		
6.07	Minimum generative time (years)		
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)	?	
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in Florida, or east of the continental divide		
<b>Total Score</b>			<b>8</b>

<b>Outcome</b>	<b>Reject*</b>
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\*Used secondary screen from: Daehler, C. C., J.L. Denslow, S. Ansari, and H. Kuo. 2004. A risk assessment system for screening out harmful invasive pest plants from Hawaii's and other Pacific islands. *Conserv. Biol.* 18: 360-368.

section	# questions answered	satisfy minimum?
A	6	yes
B	8	yes
C	8	yes
total	22	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		minorly cultivated, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01		
2.02		
2.03		
2.04		
2.05	USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?311676">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?311676</a> ).	Native from Mexico through Central America to northern South America. Also in East Africa, northern Australia, and Malaysia.
3.01	USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland ( <a href="http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?311676">http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?311676</a> ).	Native from Mexico through Central America to northern South America. Naturalized in East Africa, northern Australia, and Malaysia.
3.02		no evidence
3.03	Holm (1979) A Geographical Atlas of World Weeds. John Wiley and Sons.	Considered a principal weed of agriculture in Australia.
3.04		no evidence
3.05	Randall and Marinelli, eds. (1996) Weeds of the Global Garden. Brooklyn Botanical Garden.	<i>Merremia tuberosa</i> invades hardwood forests in southern Florida.
4.01	Liogier (1988) Descriptive Flora of Puerto Rico and Adjacent Islands. Vol. 4. Editorial de la Universidad de Puerto Rico.	no description of these traits
4.02		no evidence
4.03	Liogier (1988) Descriptive Flora of Puerto Rico and Adjacent Islands. Vol. 4. Editorial de la Universidad de Puerto Rico.	no description of this
4.04		
4.05	Rand, Dugan, Monteza, and Vianda (1990) The diet of a generalized folivore: <i>Iguana iguana</i> in Panama. Journal of Herpetology 24: 211-214.	Iguanas eat <i>M. quinquefolia</i> in Panama [and no other evidence of toxicity]
4.06		
4.07		no evidence
4.08		no evidence

4.09		
4.1		
4.11	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	growth habit: vine, subshrub, forb/herb
4.12		no evidence
5.01		terrestrial
5.02	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Convolvulaceae
5.03	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 ( <a href="http://plants.usda.gov">http://plants.usda.gov</a> ). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Convolvulaceae
5.04		
6.01		
6.02	PIER, Institute of Pacific Islands Forestry ( <a href="http://www.hear.org/pier/species/merremia_quinquefolia.htm">http://www.hear.org/pier/species/merremia_quinquefolia.htm</a> ).	propagation: seed
6.03		
6.04		
6.05		
6.06		
6.07		
7.01		
7.02	Goncalves (1987) Flora Zambesiaca. Vol. 8, part 1. Convolvulaceae ( <a href="http://www.kew.org/efloras/namedetail.do?flora=fz&amp;taxon=5909&amp;nameid=15017">http://www.kew.org/efloras/namedetail.do?flora=fz&amp;taxon=5909&amp;nameid=15017</a> ).	cultivated in Malaysia
7.03		no evidence
7.04	PIER, Institute of Pacific Islands Forestry ( <a href="http://www.hear.org/pier/species/merremia_quinquefolia.htm">http://www.hear.org/pier/species/merremia_quinquefolia.htm</a> ).	fruit is a globose capsule, about 9 mm long [no evidence of adaptations for wind dispersal]
7.05		no evidence
7.06		
7.07	PIER, Institute of Pacific Islands Forestry ( <a href="http://www.hear.org/pier/species/merremia_quinquefolia.htm">http://www.hear.org/pier/species/merremia_quinquefolia.htm</a> ).	seeds are shortly-curved pilose
7.08		
8.01	Liogier (1988) Descriptive Flora of Puerto Rico and Adjacent Islands. Vol. 4. Editorial de la Universidad de Puerto Rico.	4 seeds per fruit
8.02		
8.03		
8.04		
8.05		