

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>Gynura aurantiaca (purple velvet plant)</i>			
Question number	Question	Answer	Score
1.01	Is the species highly domesticated?	?	
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)	n	0
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	n	-2
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	n	0
3.04	Environmental weed	n	0
3.05	Congeneric weed	?	
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)	n	0
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	?	
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic		
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative fragmentation	y	1
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	y	1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed	n	-1
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	n	-1
8.01	Prolific seed production	n	-1
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		
Total Score			-4

Outcome	Accept*
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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	5	yes
B	9	yes
C	13	yes
total	27	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		
1.02		
1.03		
2.01		
2.02		
2.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	native to Java [and not naturalized elsewhere]
2.04		
2.05	1. Hortocopia 4.0 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1, 2. used ornamentally as a ground cover or a container plant
3.01	1. Villaseñor and Espinosa-Garcia (2004) The alien flowering plants of Mexico. Diversity and Distributions 10: 113-123. 2. Adams (1972) Flowering Plants of Jamaica. University of the West Indies, Mona, Jamaica.	1. present in 1 Mexican state (considered casual alien, not naturalized) 2. escapes cultivation in Jamaica, but no evidence of naturalization
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	Holm (1979) A Geographical Atlas of World Weeds. John Wiley and Sons.	<i>G. crepidioides</i> considered a principal weed of agriculture in the Philippines (but is considered a synonym of <i>Crassocephalum crepidioides</i>).
4.01	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	no description of these traits
4.02		no evidence
4.03	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	no description of this
4.04		
4.05		no evidence
4.06		
4.07	Rocky Mountain Poison and Drug Center, Plant Guide (http://www.rmpdc.org/media/Plant_guide_9-1-05-	listed as a non-toxic plant; also no mention of toxicity

	Colorado.pdf)	in horticultural or toxicity references
4.08		no evidence
4.09	Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	partial shade
4.1	1. Hortocopia 4.0 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1. "Suitable soil is well-drained/loamy." [does not mention sandy] 2. moist, fertile soil
4.11	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	growth habit: vine, forb/herb
4.12		no evidence
5.01		terrestrial
5.02	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Asteraceae
5.03	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Asteraceae
5.04		
6.01		
6.02		no mention of reproduction by seed in cultivation
6.03	University of Connecticut, EEB Plant Growth Facilities (http://florawww.eeb.uconn.edu/acc_num/198500674.html)	"Plant used for demonstration of hybridization. <i>Gynura auriantica</i> x <i>Gynura bicolor</i> = <i>Gynura x sarmentosa</i> " [unclear whether this occurs naturally or not]
6.04		
6.05	Mani and Saravanan (1999) Pollination Ecology and Evolution in Compositae (Asteraceae). Science Publishers, Inc.	<i>Gynura</i> spp. are pollinated by butterflies and have a nectary.
6.06	Hortocopia 4.0	"This plant grows from a rhizome."
6.07		
7.01		
7.02	1. Hortocopia 4.0 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1, 2. used ornamentally as a ground cover or a container plant
7.03		no evidence
7.04	Mani and Saravanan (1999) Pollination Ecology and Evolution in Compositae (Asteraceae). Science Publishers, Inc.	"Though the pappus seems to have evolved independently as an organ of wind dispersal, it is greatly influenced by the size, shape, and weight of

		the achene. The achene is...reduced above and obtuse or truncated at the base and also slightly compressed (e.g. <i>Gynura</i>), so as to increase the air resistance in free fall, while favouring rapid lift in an updraft."
7.05		no evidence
7.06		wind dispersed
7.07		no evidence of any means of attachment
7.08		wind dispersed
8.01		no mention of reproduction by seed in cultivation
8.02		
8.03		
8.04		
8.05		