

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>Colubrina asiatica (Asiatic colubrina)</i>			
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)	y	1
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	y	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	n?	0
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	y	1

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	y	1
6.07	Minimum generative time (years)	1	1
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	y	1
7.06	Propagules bird dispersed	?	
7.07	Propagules dispersed by other animals (externally)	n	-1
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)	y	1
8.03	Well controlled by herbicides	y	-1
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in Florida, or east of the continental divide		
Total Score			19

Outcome	Reject*
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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	7	yes
B	10	yes
C	14	yes
total	31	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		cultivated as an ornamental, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01		
2.02		
2.03	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	Native from eastern Africa to India, southeast Asia, tropical Australia, and the Pacific Islands.
2.04		
2.05	1. Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf). 2. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 3. Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	1. Native from eastern Africa to India, southeast Asia, tropical Australia, and the Pacific Islands. Introduced into Jamaica in the mid-19th century, from where it spread to other Caribbean islands and Mexico. 2, 3. Also used as an ornamental.
3.01	1. Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu. 2. Kairo, Ali, Cheesman, Haysom, and Murphy (2003) Invasive Species Threats in the Caribbean Region. Report to the Nature Conservancy.	1. Naturalized in the West Indies. 2. Naturalized in the Bahamas.
3.02		no evidence
3.03	Holm (1979) A Geographical Atlas of World Weeds. John Wiley and Sons.	Present as an agricultural weed in western Polynesia.
3.04	Kairo, Ali, Cheesman, Haysom, and Murphy (2003) Invasive Species Threats in the Caribbean Region. Report to the Nature Conservancy.	Considered naturalized and invasive in the Bahamas.
3.05	Holm (1979) A Geographical Atlas of World Weeds. John Wiley and Sons.	<i>C. texensis</i> present as a weed of agriculture in the U.S.
4.01	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	no description of these traits
4.02		no evidence
4.03	Jones (2005) Asiatic colubrina. PCA Alien Plant	no description of this

	Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	
4.04		
4.05		no evidence
4.06		
4.07		no evidence
4.08		no evidence
4.09	1. Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf). 2. Schultz (1992) Element Stewardship Abstract for <i>Colubrina asiatica</i> . The Nature Conservancy, Arlington, VA.	1. "Plants require considerable light" 2. "Plants grow rapidly in full sun"
4.1	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"Natural habitats of this fast growing plant include coastal sand dunes and littoral scrub."
4.11	1. 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. 2. Weber (2003) Invasive Plant Species of the World. CABI Publishing.	1. growth habit: tree/shrub/vine 2. "A climbing or sprawling shrub or small tree"; climbs over shrubs and small trees, smothering them and impeding their growth.
4.12	1. Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf). 2. Schultz (1992) Element Stewardship Abstract for <i>Colubrina asiatica</i> . The Nature Conservancy, Arlington, VA.	1. "Asiatic colubrina produces a thick mat of tangled stems that can be several feet thick" 2. "dense walls of <i>C. asiatica</i> stems can be virtually impenetrable"
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.	Rhamnaceae
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.	Rhamnaceae
5.04		
6.01		
6.02	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	"Asiatic colubrina reproduces sexually and vegetatively."
6.03		
6.04		
6.05		
6.06	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	"Asiatic colubrina reproduces sexually and vegetatively." Produces adventitious roots where branches come into contact with the soil.
6.07	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	"It has been reported that plants can flower and fruit within the first year of growth."

7.01		
7.02	1. Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf). 2. Weber (2003) Invasive Plant Species of the World. CABI Publishing. 3. Parsons and Cuthbertson (2001) Noxious Weeds of Australia. CSIRO Publishing.	1. Introduced intentionally into Jamaica in the mid-19th century. 2, 3. Used as an ornamental.
7.03		no evidence
7.04	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"The fruit is a globose, reddish-brown and dehiscent capsule of c. 10 mm diameter, breaking into three parts." [no evidence of adaptations for wind dispersal]
7.05	1. Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf). 2. Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	1. "Asiatic colubrina's buoyant and salt-tolerant seeds and fruits are dispersed by ocean currents." 2. "...the seeds of this species are highly dispersible via flotation. The seeds remain viable for many months floating in saltwater."
7.06	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	"it has been suggested that [the seeds] may be used as crop stones by seed-eating birds, which may disperse them long distances" [speculative]
7.07	Weber (2003) Invasive Plant Species of the World. CABI Publishing.	"The fruit is a globose, reddish-brown and dehiscent capsule of c. 10 mm diameter, breaking into three parts." [no evidence of any means of attachment]
7.08		
8.01	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	3 small seeds per fruit
8.02	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	"Seeds are believed to retain their viability in the soil for at least several (3-5) years."
8.03	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	"The application of a 10% solution of triclopyr (e.g., Garlon 4) in a band around the base of the trunk (basal bark method) or application of a 50% solution of the same (e.g., Garlon 3A) on a freshly cut trunk (cut stump method) are the most effective ways to kill adult plants."
8.04	Jones (2005) Asiatic colubrina. PCA Alien Plant Working Group (http://www.nps.gov/plants/alien/fact/pdf/coas1.pdf).	vigorously resprouts from cut or injured stems
8.05		