

Australia/New Zealand Weed Risk Assessment adapted for United States.

Data used for analysis published in: Gordon, D.R. and C.A. Gantz. 2008. Potential impacts on the horticultural industry of screening new plants for invasiveness. Conservation Letters 1: 227-235. Available at: <http://www3.interscience.wiley.com/cgi-bin/fulltext/121448369/PDFSTART>

<i>Pyrgophyllum yunnanensis</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 U.S. climates (USDA hardiness 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 regions with an average of 11-60 inches of annual precipitation	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	?	
3.01	Naturalized beyond native range	n	-1
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	n	0
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic		
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		
4.09	Is a shade tolerant plant at some stage of its life cycle	?	
4.1	Grows on one or more of the following soil types: alfisols, entisols, or mollisols	y	1
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets		

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	n	0
6.02	Produces viable seed		
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)		
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	n	-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		
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)		
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in U.S.		
Total Score			-2

Outcome	Accept
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section	# questions answered	satisfy minimum?
A	9	Yes
B	6	Yes
C	9	Yes
total	24	yes

Data collected 2008

Question number	Reference	Source data
1.01		
1.02		
1.03		
2.01	<p>1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20Igd.tif). 2. Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China. 3. Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).</p>	<p>1. Global hardiness zones 3-9. 2. "Sichuan and Yunnan provinces". 3. "Sichuan, Yunnan".</p>
2.02		
2.03	<p>1. Köppen-Geiger climate map (http://www.hydro-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf). 2. Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China. 3. Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).</p>	<p>1. Distribution range is uncertain -- possibly 2-3 climatic regions. 2. "Sichuan and Yunnan provinces". 3. "Sichuan, Yunnan".</p>
2.04	<p>Climate Source (http://www.climatesource.com/cn/fact_sheets/chinappt_xl.jpg).</p>	<p>For Yunnan Province, the average annual precipitation is 23.6 in/yr -- 196.9 in/yr.</p>
2.05		no evidence
3.01		no evidence
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05	<p>Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China.</p>	<p>"Monotypic".</p>
4.01	<p>Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science</p>	<p>no description of these traits</p>

	Press, Beijing, China.	
4.02		
4.03	Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China.	no description of parasitism
4.04		
4.05	Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China.	no evidence
4.06		
4.07	Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China.	no evidence
4.08		
4.09	Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).	"Dense forests in mountains".
4.1	USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources (http://soils.usda.gov/use/worldsoils/mapindex/order.html).	Sichuan: entisols, inceptisols, ultisols, and rocky land; Yunnan: entisols, inceptisols, and ultisols.
4.11	1. Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China. 2. Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).	1. "Perennial herbs. Stems erect; base inflated, globose." 2. "Pseudostems 25-55 cm, base globose, with 1 or 2 bladeless leaves" [species description]; "pseudostems erect" [genus description].
4.12		
5.01		terrestrial
5.02		Zingiberaceae
5.03		Zingiberaceae
5.04	Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).	"Rhizomes globose; roots thick" [genus description].
6.01		no evidence
6.02		
6.03		
6.04		
6.05		

6.06	Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).	"Rhizomes globose" [genus description].
6.07		
7.01		
7.02		no evidence
7.03		no evidence
7.04	1. Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China. 2. Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).	1. "Capsule subglobose; seeds ovoid". 2. "Capsule ca. 1 cm in diam." [species description]; "capsule subglobose. Seeds ovoid." [genus description]. [no evidence of adaptations to wind dispersal]
7.05		
7.06		
7.07	1. Ying, T, Zhang, Y, and Boufford, DE (1993) The Endemic Genera of Seed Plants of China. Science Press, Beijing, China. 2. Wu, Z and Raven, PH (editors). Flora of China. Vol. 24. p. 370. Science Press (Beijing) and Missouri Botanical Garden (St. Louis).	1. "Capsule subglobose; seeds ovoid". 2. "Capsule ca. 1 cm in diam." [species description]; "capsule subglobose. Seeds ovoid." [genus description]. [no evidence of adaptations to external dispersal]
7.08		
8.01		
8.02		
8.03		
8.04		
8.05		