

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>Epimedium chlorandrum</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	?	
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.		
<b>Total Score</b>			<b>-2</b>

<b>Outcome</b>	<b>Accept</b>
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<b>section</b>	<b># questions answered</b>	<b>satisfy minimum?</b>
A	9	Yes
B	5	Yes
C	9	Yes
total	23	yes

Data collected 2008

Question number	Reference	Source data
1.01		used horticulturally, but no evidence of significant modification
1.02		
1.03		
2.01	1. PERAL NAPPFAST Global Plant Hardiness ( <a href="http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgn d.tif">http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lgn d.tif</a> ). 2. Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	1. Global plant hardiness zones 5-9. 2. "Distribution: China, Sichuan province".
2.02		
2.03	1. Köppen-Geiger climate map ( <a href="http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf">http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf</a> ). 2. Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	1. May be in three climatic regions, but distribution is uncertain. Most likely only in 2 climatic regions. 2. "Distribution: China, Sichuan province".
2.04	Climate Source ( <a href="http://www.climatesource.com/cn/fact_sheets/chinapt_xl.jpg">http://www.climatesource.com/cn/fact_sheets/chinapt_xl.jpg</a> ).	For Sichuan Province, the average annual precipitation is 19.7 in/yr -- 78.7 in/yr.
2.05		no evidence
3.01		no evidence
3.02		no evidence
3.03		no evidence
3.04		no evidence
3.05		no evidence
4.01	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	no evidence
4.02		
4.03	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	no evidence
4.04		
4.05	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	no evidence

4.06		
4.07	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	no evidence
4.08		
4.09		
4.1	USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources ( <a href="http://soils.usda.gov/use/worldsoils/mapindex/order.html">http://soils.usda.gov/use/worldsoils/mapindex/order.html</a> ).	Entisols are in the distribution range.
4.11	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	"Flowering stem 35-65 cm long, leaning, bearing two leaves".
4.12	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	"Flowering stem 35-65 cm long, leaning, bearing two leaves".
5.01		terrestrial
5.02	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	Berberidaceae
5.03	Stearn, WT (2002) The genus <i>Epimedium</i> and other herbaceous <i>Berberidaceae</i> . Timber Press, Portland, Oregon.	Berberidaceae
5.04	Stearn, WT (1997) Four new Chinese species of <i>Epimedium</i> ( <i>Berberidaceae</i> ). Kew Bulletin 52(3): 659-671.	"Rhizome compact".
6.01		no evidence
6.02		
6.03		
6.04		
6.05		
6.06	Stearn, WT (1997) Four new Chinese species of <i>Epimedium</i> ( <i>Berberidaceae</i> ). Kew Bulletin 52(3): 659-671.	"Rhizome compact".
6.07		
7.01		
7.02		no evidence
7.03		no evidence
7.04	ZipcodeZoo.com ( <a href="http://zipcodezoo.com/Plants/E/Epimedium_chlorand">http://zipcodezoo.com/Plants/E/Epimedium_chlorand</a> )	"Capsule 1-celled, dry, dehiscing by 2, unequal deciduous valves

	rum.asp).	leaving the seeds attached to the placenta; seeds usually several, 2-seriate, with a fleshy or membranous aril" [genus description]. [no evidence of adaptations to wind dispersal]
7.05		
7.06	ZipcodeZoo.com ( <a href="http://zipcodezoo.com/Plants/E/Epimedium_chlorandrum.asp">http://zipcodezoo.com/Plants/E/Epimedium_chlorandrum.asp</a> ).	"Capsule 1-celled, dry, dehiscent by 2, unequal deciduous valves leaving the seeds attached to the placenta; seeds usually several, 2-seriate, with a fleshy or membranous aril" [genus description]. [no evidence of adaptations to external dispersal]
7.07	ZipcodeZoo.com ( <a href="http://zipcodezoo.com/Plants/E/Epimedium_chlorandrum.asp">http://zipcodezoo.com/Plants/E/Epimedium_chlorandrum.asp</a> ).	"Capsule 1-celled, dry, dehiscent by 2, unequal deciduous valves leaving the seeds attached to the placenta; seeds usually several, 2-seriate, with a fleshy or membranous aril" [genus description]. [no evidence of adaptations to external dispersal]
7.08		
8.01		
8.02		
8.03		
8.04		
8.05		