

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>Cicerbita prenanthoides</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)	1	
2.03	Broad climate suitability (environmental versatility)	n	0
2.04	Native or naturalized in regions with an average of 11-60 inches of annual precipitation	?	
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	?	
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	?	
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	y	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			-3

Outcome	Accept
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section	# questions answered	satisfy minimum?
A	9	Yes
B	5	Yes
C	8	Yes
total	22	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 (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20Ign.d.tif). 2. Czerepanov, SK (1995) Vascular Plants of Russia and Adjacent States (the former USSR). Cambridge University Press, Cambridge and New York. 3. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	1. Global plant hardiness zones 4-6. 2. Native to the Caucasus. 3. Caucasus: Ciscaucasia, Eastern and Western Transcaucasia
2.02		
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf). 2. Czerepanov, SK (1995) Vascular Plants of Russia and Adjacent States (the former USSR). Cambridge University Press, Cambridge and New York. 3. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	1. Only two climatic regions. 2. Native to the Caucasus. 3. Caucasus: Ciscaucasia, Eastern and Western Transcaucasia
2.04		Region is not well-defined enough to give an accurate estimate of precipitation.
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	Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	no description of these traits
4.02		
4.03	Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae.	no description of parasitism

	Science Publishers, Inc, USA.	
4.04		
4.05	Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	no evidence
4.06		
4.07	Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	no evidence
4.08		
4.09		
4.1	USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources (http://soils.usda.gov/use/worldsoils/mapindex/order.html).	Mollisols and alfisols occur in the region of origin, but since it is not well-defined, there are potentially large regions of the "rocky land" soil order type which may accommodate the species.
4.11	1. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA. 2. Walters, SM <i>et al</i> (1984) The European Garden Flora. Volume VI. P. 538. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	1. "Perennial...Stem 80-120(200) cm high". 2. "Perennial rhizomatous or tap-rooted herbs"; "Stems usually solitary, branched" [genus description].
4.12	1. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA. 2. Walters, SM <i>et al</i> (1984) The European Garden Flora. Volume VI. P. 538. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	1. "Perennial...Stem 80-120(200) cm high". 2. "Perennial rhizomatous or tap-rooted herbs"; "Stems usually solitary, branched" [genus description].
5.01	Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	terrestrial
5.02	Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	Asteraceae
5.03	Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA.	Asteraceae
5.04	1. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA. 2. Walters, SM <i>et al</i>	1. "Rhizome?". 2. "Perennial rhizomatous or tap-rooted herbs" [genus description].

	(1984) The European Garden Flora. Volume VI. P. 538. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	
6.01		no evidence
6.02		
6.03		
6.04		
6.05		
6.06	1. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA. 2. Walters, SM et al (1984) The European Garden Flora. Volume VI. P. 538. Cambridge University Press, Cambridge (Cambridgeshire) and New York.	1. "Rhizome?" 2. "Perennial rhizomatous or tap-rooted herbs" [genus description].
6.07		
7.01		
7.02		no evidence
7.03		no evidence
7.04	1. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA. 2. Walters, SM et al (1984) The European Garden Flora. Volume VI. P. 538. Cambridge University Press, Cambridge (Cambridgeshi	1. "Fruits 10-11(13) mm long"; "Achenes 4-5 mm long and about 1 mm wide, linear-ellipsoid or lanceolate, slightly narrowed toward both ends, somewhat flat or flat-triangular...pappus two-rowed". 2. "Fruits flattened, not beaked, all with pappus of 2 rows of simple hairs, the outer shorter than the inner" [genus description].
7.05		
7.06		
7.07	1. Bobrov, EG and Tzvelev, NN (1997) Flora of the USSR. Volume XXIX. Compositae. Tribe Cichorieae. Science Publishers, Inc, USA. 2. Walters, SM et al (1984) The European Garden Flora. Volume VI. P. 538. Cambridge University Press, Cambridge (Cambridgeshi	1. "Fruits 10-11(13) mm long"; "Achenes 4-5 mm long and about 1 mm wide, linear-ellipsoid or lanceolate, slightly narrowed toward both ends, somewhat flat or flat-triangular". 2. "Fruits flattened, not beaked, all with pappus of 2 rows of simple hairs, the outer shorter than the inner" [genus description]. [no evidence of adaptations to external dispersal].
7.08		
8.01		
8.02		

8.03		
8.04		
8.05		