

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>Mapania baldwinii</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)	1	
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 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	y	1
4.11	Climbing or smothering growth habit	n	0
4.12	Forms dense thickets		

5.01	Aquatic	n	0
5.02	Grass	y	1
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	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	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	10	Yes
total	25	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%20lgnd.tif). 2. Nelmes, E and Baldwin, JT (1952) Cyperaceae in Liberia. American Journal of Botany 39(6): 368-393. 3. Aluka (http://www.aluka.org/action/showMetadata?doi=10.5555/AL.AP.FLORA.FWTA8777&pgs=). 4. Nelmes, E (1952) Notes on Cyperaceae, XXVII. Kew Bulletin 1951(3): 419-422. 5. Simpson, DA (1992) A revision of the genus Mapania (Cyperaceae). Royal Botanic Gardens Kew, London.	1. Global hardiness zones 12-13. 2. Species found in Sanokwele District, Liberia. 3. Distribution: Ghana, Liberia, Côte d'Ivoire. 4. "Ivory Coast: Bas Comoe; Malamalasso...Liberia: Central Province; Sanokwele District". 5. "Distribution: Western Africa: Liberia, Ivory Coast, Ghana".
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. Nelmes, E and Baldwin, JT (1952) Cyperaceae in Liberia. American Journal of Botany 39(6): 368-393. 3. Aluka (http://www.aluka.org/action/showMetadata?doi=10.5555/AL.AP.FLORA.FWTA8777&pgs=). 4. Nelmes, E (1952) Notes on Cyperaceae, XXVII.	1. Only one climatic region. 2. Species found in Sanokwele District, Liberia. 3. Distribution: Ghana, Liberia, Côte d'Ivoire. 4. "Ivory Coast: Bas Comoe; Malamalasso...Liberia: Central Province; Sanokwele District". 5. "Distribution: Western Africa: Liberia, Ivory Coast, Ghana".

	Kew Bulletin 1951(3): 419-422. 5. Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	
2.04	1. International Small-hydro Atlas (http://www.small-hydro.com/index.cfm?Fuseaction=countries.country&Country_ID=33). 2. Atlapedia Online (http://www.atlapedia.com/online/countries/liberia.htm). 3. Food and Agriculture Organization of the United Nations, Aquastat Global Information System on Water and Agriculture (http://www.fao.org/nr/water/aquastat/data/factsheets/aquastat_fact_sheet_civ.pdf).	1. For Ghana: The average annual precipitation is 2500 mm (98.4 inches). 2. For Liberia: Liberia has a tropical climate with two wet seasons in the southeast and one wet season from May to October for the rest of the country. Average annual precipitation in Monrovia is 4,150 mm (163 inches). 3. For Côte d'Ivoire: Long-term average annual precipitation is 1348 mm/year (53.1 in./year).
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	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	no description of these traits
4.02		
4.03	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	no description of parasitism
4.04		
4.05	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	no evidence
4.06		
4.07	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	no evidence
4.08		

4.09	Nelmes, E (1952) Notes on Cyperaceae, XXVII. Kew Bulletin 1951(3): 419-422.	"Dans la forêt epaisse" [in thick forest].
4.1	USDA, National Resources Conservation Services (NRCS), Soil Survey Division, World Soil Resources (http://soils.usda.gov/use/worldsoils/mapindex/order.html).	Liberia: primarily oxisols with some ultisols; Côte d'Ivoire: primarily ultisols with a small amount of alfisols and very small amounts of inceptisols and gelisols (and also a very small amount of oxisols); Ghana: primarily alfisols with some ultisols and small amounts of gelisols and inceptisols (and also a small amount of oxisols).
4.11	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	"Culms several, erect, lateral, 11.2-24 cm x 1.3-1.8 mm, terete to obscurely trigonous".
4.12		
5.01		terrestrial
5.02		Cyperaceae
5.03		Cyperaceae
5.04	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	"Robust, rhizomatous; rhizome up to 20 mm diam."
6.01		no evidence
6.02		
6.03		
6.04		
6.05	Lorougnon, G (1973) Le vecteur pollinique chez les <i>Mapania</i> et les <i>Hypolytrum</i> , Cypéracées du sous-bois des forêts tropicales ombrophiles. Bulletin du Jardin Botanique National de Belgique Bulletin van de Nationale Plantentuin van België 43: 33-36.	"En fleurs, ces <i>Mapania</i> et ces <i>Hypolytrum</i> sont constamment visités par des animaux appartenant à des groupes systématiques très éloignés les uns des autres: Mollusques, Coléoptères et Hyménoptères [In flowers, <i>Mapania</i> and <i>Hypolytrum</i> are constantly visited by animals that are grouped distantly from each other systematically: Mollusks, Coleoptera (beetles) and Hymenoptera (bees)]"; "Animaux vecteurs de pollen: <i>Vaginula</i> sp. (Limacidés) [Mollusk], <i>Elasmocelis trimaculatus</i> Stal. (Lophyridés) [bee], <i>Polyrhachis militaris</i> Fabr. (Formicidés) [bee]".
6.06	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	"Robust, rhizomatous; rhizome up to 20 mm diam."
6.07		
7.01		

7.02		no evidence
7.03		no evidence
7.04	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	"Fruit subglobose to globose, 0.9-1.5 × 0.9-1.4 mm, apex rounded, shortly apiculate, base shortly stipitate; exocarp hard, thin, strongly tuberculate, green at first, becoming black" [species description]; "Fruit globose, obovoid to subpyriform, rarely conical or lageniform, sometimes with a prominent conical spongy apical portion, exocarp hard to succulent, rarely drupaceous, thick or thin, the succulent type disintegrating and often detaching with age, smooth to papillose, rugose or tuberculate" [genus description]. [no evidence of adaptations to wind dispersal]
7.05		
7.06	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	"Fruit subglobose to globose, 0.9-1.5 × 0.9-1.4 mm, apex rounded, shortly apiculate, base shortly stipitate; exocarp hard, thin, strongly tuberculate, green at first, becoming black" [species description]; "Fruit globose, obovoid to subpyriform, rarely conical or lageniform, sometimes with a prominent conical spongy apical portion, exocarp hard to succulent, rarely drupaceous, thick or thin, the succulent type disintegrating and often detaching with age, smooth to papillose, rugose or tuberculate" [genus description].
7.07	Simpson, DA (1992) A revision of the genus <i>Mapania</i> (Cyperaceae). Royal Botanic Gardens Kew, London.	"Fruit subglobose to globose, 0.9-1.5 × 0.9-1.4 mm, apex rounded, shortly apiculate, base shortly stipitate; exocarp hard, thin, strongly tuberculate, green at first, becoming black" [species description]; "Fruit globose, obovoid to subpyriform, rarely conical or lageniform, sometimes with a prominent conical spongy apical portion, exocarp hard to succulent, rarely drupaceous, thick or thin, the succulent type disintegrating and often detaching with age, smooth to papillose, rugose or tuberculate" [genus description]. [no evidence of adaptations to external dispersal]
7.08		
8.01		
8.02		
8.03		
8.04		
8.05		