

Taxon: *Globba winitii*

Family: Zingiberaceae

Common Name(s): dancing girls ginger
dancing ladies ginger
jungle jewels ginger

Synonym(s):

Assessor: Chuck Chimera

Status: Assessor Approved

End Date: 22 Dec 2015

WRA Score: 2.0

Designation: L

Rating: Low Risk

Keywords: Herbaceous, Rhizomatous, Shade-Tolerant, Ornamental, Ground Cover

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	n
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	n
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed		
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens	y=1, n=0	n
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems	y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	y

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets		
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y=-1, n=0	y
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant		
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed		
706	Propagules bird dispersed		
707	Propagules dispersed by other animals (externally)	y=1, n=-1	y
708	Propagules survive passage through the gut		
801	Prolific seed production (>1000/m ²)		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Lekawatana, S., & Pituck, O. 1998. New floricultural crops in Thailand. <i>Acta Horticulturae</i> 454: 59-64	"Many cultivars have already been collected from the wild and cultivated for export of rhizomes. These include pink, lavender, white, white dragon, compact white, purple leaf, yellow, Chonburi yellow and violet compacta. Because of its long lasting inflorescence and light weight, globba is another promising crop for both cut flower and rhizome export." [Assessment of wild type. Unknown if any cultivars have been domesticated]
102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	NA
103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	NA
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"Native: Thailand"
202	Quality of climate match data	High
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	

Qsn #	Question	Answer
203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Floridata. 2015. <i>Globba winitii</i> . http://www.floridata.com/Plants/Zingiberaceae/Globba%20winitii/620 . [Accessed 22 Dec 2015]	"Hardiness: USDA Zones 8 - 11"
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"Has a wide elevation range occurring from 420 up to 1,250 m asl."

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"Native: Thailand"

Qsn #	Question	Answer
205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"A popular cut flower and garden plant. There is probably small-scale wild collecting for the local market and selection of particular phenotypes for plant breeding. Most of the plants in international commercial trade are produced from cultivated sources."
	McCormack, G. 2007. Cook Islands Biodiversity Database, Version 2007.2. Cook Islands Natural Heritage Trust, Rarotonga. http://cookislands.bishopmuseum.org . [Accessed 22 Dec 2015]	"COOK ISLANDS STATUS: Introduced - Recent, Not naturalised; Land, lowlands, gardens"
	Chong, K.Y., Tan, H.T.W. & Corlett, R.T. 2009. A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalized and Cultivated Species. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore	" <i>Globba winitii</i> C.H. Wright; Zingiberaceae; cultivated only"
	Imada, C.T., Staples, G.W. & Herbst, D.R. 2005. Annotated Checklist of Cultivated Plants of Hawai'i. http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/ . [Accessed 22 Dec 2015]	"Locations: Harold L. Lyon Arboretum Wahiawa Botanical Garden Waimea Arboretum & Botanical Garden"

Qsn #	Question	Answer
301	Naturalized beyond native range	n
	Source(s)	Notes

Qsn #	Question	Answer
	McCormack, G. 2007. Cook Islands Biodiversity Database, Version 2007.2. Cook Islands Natural Heritage Trust, Rarotonga. http://cookislands.bishopmuseum.org . [Accessed 21 Dec 2015]	"COOK ISLANDS STATUS: Introduced - Recent, Not naturalised; Land, lowlands, gardens"
	Chong, K.Y., Tan, H.T.W. & Corlett, R.T. 2009. A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalized and Cultivated Species. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore	" <i>Globba winitii</i> C.H. Wright; Zingiberaceae; cultivated only"
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
	Wagner, W.L., Herbst, D.R. & Lorence, D.H. 2015. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/index.htm . [Accessed 22 Dec 2015]	No evidence

302	Garden/amenity/disturbance weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

Qsn #	Question	Answer
305	Congeneric weed	
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Two species are listed as weeds, but impacts are unspecified] "Globba fasciata Ridl. Zingiberaceae 1211-A Globba parviflora Presl Zingiberaceae Cultivated 87-W"

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Tenenbaum, F. 2003. Taylor's Encyclopedia of Garden Plants. Houghton Mifflin Harcourt, New York, NY	"A 2- 3-foot-tall species native to Thailand that spreads by fleshy rhizomes to 2 feet or more. Leaves are 8 inches long and lance shaped with heart-shaped bases. Bears pendent 6-inch-long racemes of yellow flowers with mauve-pink or purple-pink bracts."

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown

403	Parasitic	n
	Source(s)	Notes
	Wu, Z. Y. & Raven, P. H. (eds.). 2000. Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Rhizomes creeping, slender. Pseudostems erect, usually to 1.5 m, leafy. Leaves sessile or very shortly petiolate; ligule entire; leaf blade oblong, elliptic, or lanceolate." [Zingiberaceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown

405	Toxic to animals	n
	Source(s)	Notes
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence
	Specialized Information Services, U.S. National Library of Medicine. 2015. TOXNET toxicology data network [online database]. http://toxnet.nlm.nih.gov/ . [Accessed 22 Dec 2015]	No evidence

406	Host for recognized pests and pathogens	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Floridata. 2015. <i>Globba winitii</i> . http://www.floridata.com/Plants/Zingiberaceae/Globba%20winitii/620 . [Accessed 22 Dec 2015]	"These plants are virtually pest free and very easy to grow if given suitable conditions."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence
	Specialized Information Services, U.S. National Library of Medicine. 2015. TOXNET toxicology data network [online database]. http://toxnet.nlm.nih.gov/ . [Accessed 22 Dec 2015]	No evidence

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Learn 2 Grow. 2015. <i>Globba winitii</i> . http://www.learn2grow.com/plants/globba-winitii/ . [Accessed 22 Dec 2015]	[No evidence] "Mauve dancing ladies gingers are tender perennials native to warm, humid Thailand. The lush, herbaceous plants grow reed-like stalks from fleshy, underground stems (rhizomes)."

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Coile, N. C. 1995. Botany Section. Tri-ology 34(5)	"Grown as ornamentals in tropical and subtropical climates under shady conditions."
	Dave's Garden. 2015. Dancing Ladies Ginger, Dancing Girls Ginger 'Pink' <i>Globba winitii</i> . http://davesgarden.com/guides/pf/go/90874/ . [Accessed 21 Dec 2015]	"Sun Exposure: Partial to Full Shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Floridata. 2015. <i>Globba winitii</i> . http://www.floridata.com/Plants/Zingiberaceae/Globba%20winitii/620 . [Accessed 22 Dec 2015]	"Plant dancing ladies in fertile, organic, well-drained soil. They will go dormant in winter, so be sure to mark their spots, as they are among the last of the plants to reappear in spring."
	Learn 2 Grow. 2015. <i>Globba winitii</i> . http://www.learn2grow.com/plants/globba-winitii/ . [Accessed 22 Dec 2015]	"Soil pH Neutral, Alkaline Soil Drainage Well Drained Soil type Loam, Sand"

411	Climbing or smothering growth habit	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Tenenbaum, F. 2003. Taylor's Encyclopedia of Garden Plants. Houghton Mifflin Harcourt, New York, NY	"A 2- 3-foot-tall species native to Thailand that spreads by fleshy rhizomes to 2 feet or more. Leaves are 8 inches long and lance shaped with heart-shaped bases. Bears pendent 6-inch-long racemes of yellow flowers with mauve-pink or purple-pink bracts."

412	Forms dense thickets	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown

501	Aquatic	n
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"Systems: Terrestrial"

502	Grass	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2015. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 21 Dec 2015]	"Family: Zingiberaceae Subfamily: Zingiberoideae Tribe: Globbeae"

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2015. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 21 Dec 2015]	"Family: Zingiberaceae"

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Tenenbaum, F. 2003. Taylor's Encyclopedia of Garden Plants. Houghton Mifflin Harcourt, New York, NY	".....spreads by fleshy rhizomes to 2 feet or more."
	Gordon, D. R., Mitterdorfer, B., Pheloung, P. C., Ansari, S., Buddenhagen, C., Chimera, C., ... & Williams, P. A. 2010). Guidance for addressing the Australian Weed Risk Assessment questions. <i>Plant Protection Quarterly</i> , 25(2): 56-74	"This question is specifically to deal with plants that have specialized organs and should not include plants merely with rhizomes/ stolons"

Qsn #	Question	Answer
601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"Although this species has a restricted range, all the subpopulations are in protected areas. There are some threats - increased occurrence of fire during the rainy season and some collection, neither of these are severe enough to warrant any concern. Hence the species is listed as Least Concern. Surveys are required to determine if the species occurs in Lao PDR and Myanmar."

602	Produces viable seed	y
	Source(s)	Notes
	Floridata. 2015. <i>Globba winitii</i> . http://www.floridata.com/Plants/Zingiberaceae/Globba%20winitii/620 . [Accessed 22 Dec 2015]	"Propagation: Dancing ladies ginger is propagated by division of clumps during growing season or by cutting pieces of dormant rhizome."
	Lemke, C. 1999. Cal's Plant of the Week - <i>Globba winitii</i> http://www.plantoftheweek.org/week040.shtml . [Accessed 22 Dec 2015]	"Propagation: <i>Globba winitii</i> is propagated by division or by seed in the spring. Start seed in a mixture of 1 part peat moss to 1 part sand, seeds germinate readily at temperatures of 65 to 72 degrees in about 21 days."
	Dave's Garden. 2015. Dancing Ladies Ginger, Dancing Girls Ginger 'Pink' <i>Globba winitii</i> . http://davesgarden.com/guides/pf/go/90874/ . [Accessed 21 Dec 2015]	"Seed Collecting: N/A: plant does not set seed, flowers are sterile, or plants will not come true from seed"
	Learn 2 Grow. 2015. <i>Globba winitii</i> . http://www.learn2grow.com/plants/globba-winitii/ . [Accessed 22 Dec 2015]	"The fruit is a capsule which splits to show seeds with thick, fleshy coats." ... "Propagate by division of the clumps or by seeds."

603	Hybridizes naturally	
	Source(s)	Notes
	Nontaswatsri, C., & Suksathan, P. (2012). Interspecific Hybridization in the Genus <i>Globba</i> Using In Vitro Embryo Culture. In International Symposium on Orchids and Ornamental Plants 1025 (pp. 31-36)	[Unknown. Artificial hybridization possible] "An interspecific hybridization had been carried out among four species of <i>Globba</i> , <i>G. schomburgkii</i> , <i>G. magnifica</i> , <i>G. rosea</i> and <i>G. globulifera</i> . Direct and reciprocal crosses were made. Two crosses, <i>G. rosea</i> × <i>G. globulifera</i> and <i>G. rosea</i> × <i>G. magnifica</i> , produced fruits in both direct and reciprocal crosses, whereas the other crosses produced fruits only in the direct crosses. An embryo rescue technique was used to obtain interspecific hybrids. Twenty days after pollination (DAP), embryos showed high percentage of germination for all crosses. A total of 71 interspecific hybrid plants were produced in 12 combinations. All hybrid seedlings obtained were successfully transplanted to soil and these seedlings grew normally. Interspecific hybrids showed distinct developmental potentials and characteristics."

604	Self-compatible or apomictic	
	Source(s)	Notes

Qsn #	Question	Answer
	Liu, Z., Chen, J., & Bai, Z. (2004). Reproductive characteristics of <i>Globba lancangensis</i> and their evolutionary implications. <i>Chinese Journal of Plant Ecology</i> , 28(1): 1-8	[Unknown. Self-incompatibility documented in genus] "In contrast to previous reports that butterflies were visitors for <i>Globba</i> , two species of bees, <i>Megapis dorstata</i> and <i>Nomia strigata</i> , are the main visitors for <i>G. lancangensis</i> , while the former is the effective pollinator. <i>G. lancangensis</i> may encourage out-crossing by means of both andromonoecy and self-incompatibility."

605	Requires specialist pollinators	y
	Source(s)	Notes
	Box, M. S., & Rudall, P. J. (2006). Floral structure and ontogeny in <i>Globba</i> (Zingiberaceae). <i>Plant Systematics and Evolution</i> , 258(1-2): 107-122	"Flower biology. Pollination biology is poorly known in <i>Globba</i> and other Zingiberaceae (Endress 1994, Ippolito and Armstrong 1993). However, the highly specialised morphology and long narrow floral tube of <i>Globba</i> suggest that the pollinator is a lepidopteran (Muller 1931). The nectar source is located at the very base of the long and narrow floral tube, which would necessitate a relatively long and slender proboscis. Other Zingiberaceae have avian, hymenopteran and lepidopteran pollinators such as hummingbirds and euglossine bees, but these are unlikely pollinators for <i>Globba</i> due to the very small size of the flower and the location of the nectar source at the very base of the floral tube. The characteristic anther wings are believed to function as levers, which allow the anther to be oriented into a favourable position for the transfer of pollen; their lateral position may orient the anther correctly if the flower is approached laterally by the pollinator (Endress 1994)."
	Williams, K. J., Kress, W. J., & Manos, P. S. (2004). The phylogeny, evolution, and classification of the genus <i>Globba</i> and tribe Globbeae (Zingiberaceae): appendages do matter. <i>American Journal of Botany</i> , 91(1), 100-114	"Flowers in the Globbeae (Figs. 1–6), like all Zingiberaceae, are among the most highly derived in angiosperms (Endress, 1994; Kress et al., 2002)."
	Kato, M., Kosaka, Y., Kawakita, A., Okuyama, Y., Kobayashi, C., Phimminith, T., & Thongphan, D. (2008). Plant–pollinator interactions in tropical monsoon forests in Southeast Asia. <i>American Journal of Botany</i> , 95(11), 1375-1394	"Table 2 . A list of plant species observed in Laos, with their ecological properties, recorded flower visitors (from most abundant to least), numbers of observed visits of flower visitors sorted by functional group, and estimated pollinator type." ... [<i>Globba winitii</i> - Pollinator type = <i>Amegilla</i> . <i>Amegilla</i> is a large genus of bees in the tribe Anthophorini. Several species have blue metallic bands on the abdomen, and are referred to as "blue-banded bees".] " <i>Globba winitii</i> visited by a pierid butterfly"

606	Reproduction by vegetative fragmentation	y
	Source(s)	Notes
	Tenenbaum, F. 2003. <i>Taylor's Encyclopedia of Garden Plants</i> . Houghton Mifflin Harcourt, New York, NY	".....spreads by fleshy rhizomes to 2 feet or more."
	Williams, K. J., Kress, W. J., & Manos, P. S. (2004). The phylogeny, evolution, and classification of the genus <i>Globba</i> and tribe Globbeae (Zingiberaceae): appendages do matter. <i>American Journal of Botany</i> , 91(1), 100-114	"Many tuberous roots from a central rhizome"

607	Minimum generative time (years)	

Qsn #	Question	Answer
	Source(s)	Notes
	Learn 2 Grow. 2015. <i>Globba winitii</i> . http://www.learn2grow.com/plants/globba-winitii/ . [Accessed 22 Dec 2015]	"Growth Rate Fast"
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Wu, Z. Y. & Raven, P. H. (eds.). 2000. Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Capsule globose or ellipsoid, apex irregularly dehiscent. Seeds small; aril white, lacerate." [Genus description. Seeds, if produced, lack seeds of external attachment]
702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"A popular cut flower and garden plant. There is probably small-scale wild collecting for the local market and selection of particular phenotypes for plant breeding. Most of the plants in international commercial trade are produced from cultivated sources."
703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	Learn 2 Grow. 2015. <i>Globba winitii</i> . http://www.learn2grow.com/plants/globba-winitii/ . [Accessed 22 Dec 2015]	"Use dancing lady ginger as a groundcover or accent plant in shady, tropical gardens and for the flirty, long-lasting cut flowers." [Unknown. If able to produce seeds & grown with other ornamentals, it might be possible that seeds are dispersed unintentionally]
704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Wu, Z. Y. & Raven, P. H. (eds.). 2000. Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Capsule globose or ellipsoid, apex irregularly dehiscent. Seeds small; aril white, lacerate." [Fruits & seeds not adapted for wind dispersal]
705	Propagules water dispersed	
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"Occurs in lowland and montane deciduous forest." [Unknown if it occurs in riparian areas]
706	Propagules bird dispersed	

Qsn #	Question	Answer
	Source(s)	Notes
	MalaysiaFlora.com. 2015. The Gingers of Malaysia and Borneo. http://www.malaysiaflora.com . [Accessed 22 Dec 2015]	"Myrmecochory, seed dispersal by ants, has been found in several species of <i>Globba</i> that occur in Borneo. <i>Globba</i> species are typical of the Zingiberaceae in reference to the aril, a fleshy appendage that partially encloses the seed. The cells in the aril are usually rich in lipids and also contain proteins and some starch. The aril in <i>Globba</i> species functions as an elaiosome (ant fruit) that the ants can use as a handle to carry the seed and as a source of food. After the aril is eaten by the ants, the seed is discarded intact having been dispersed by the ants."

707	Propagules dispersed by other animals (externally)	y
	Source(s)	Notes
	Wu, Z. Y. & Raven, P. H. (eds.). 2000. Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Capsule globose or ellipsoid, apex irregularly dehiscent. Seeds small; aril white, lacerate." [Genus description. Likely ant-dispersed]
	Pfeiffer, M., Nais, J., & Linsenmair, K. E. (2004). Myrmecochory in the Zingiberaceae: seed removal of <i>Globba franciscii</i> and <i>G. propinqua</i> by ants (Hymenoptera–Formicidae) in rain forests on Borneo. <i>Journal of Tropical Ecology</i> , 20(06), 705-708	" <i>Globba</i> have an aril, a fleshy appendage that partially encloses the seed and attaches to the seed coat at the micropylar region (Liao & Wu 2000). Aril cells are usually rich in lipids and also contain proteins, starch grains and other polysaccharides (Liao & Wu 2000)." ... "In both <i>Globba</i> species examined the fleshy aril formed a large elaiosome (ant fruit) that served as food for ants and allowed them to handle the seed easily."

708	Propagules survive passage through the gut	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown

801	Prolific seed production (>1000/m ²)	
	Source(s)	Notes
	Wu, Z. Y. & Raven, P. H. (eds.). 2000. Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Capsule globose or ellipsoid, apex irregularly dehiscent. Seeds small; aril white, lacerate." [Genus description. Numbers unknown]

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

Qsn #	Question	Answer
804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	Leong-Skornickova, J., Tran, H.D., Newman, M., Lamxay, V. & Bouamanivong, S. 2012. <i>Globba winitii</i> . The IUCN Red List of Threatened Species 2012: e.T201907A2727242. http://dx.doi.org/10.2305/IUCN.UK.2012-1.RLTS.T201907A2727242.en . [Accessed 22 Dec 2015]	"Major Threat(s): Excessive fire in the early rainy season and over-collection are the main threats. " [May not tolerate fire]
	Learn 2 Grow. 2015. <i>Globba winitii</i> . http://www.learn2grow.com/plants/globba-winitii/ . [Accessed 22 Dec 2015]	[Ability to propagate by division may enable plants to resprout after cutting or damage to rhizomes] "Dancing ladies gingers spread slowly to form loose clumps. Propagate by division of the clumps or by seeds."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2015. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Thrives in tropical climates
- Other *Globba* species may be weeds
- Shade-tolerant
- Tolerates many soil types
- Reproduces by seeds & vegetatively by rhizomes
- Seeds, if produced, dispersed by ants & intentionally by people
- Limited ecological information reduces accuracy of risk prediction

Low Risk Traits

- No reports of invasiveness or naturalization or invasiveness
- Unarmed (no spines, thorns or burrs)
- Non-toxic
- Ornamental
- May require specialized pollinators to produce seeds

Second Screening Results for herbs or low stature shrubby life forms

(A) Reported as a weed of cultivated lands?> No

Outcome = Accept (Low Risk)