

Taxon: *Neomarica gracilis* (Herb.) Sprague

Family: Iridaceae

Common Name(s): apostle plant
walking iris

Synonym(s): Basionym: *Marica gracilis* Herb.

Assessor: Chuck Chimera

Status: Assessor Approved

End Date: 16 Apr 2018

WRA Score: 4.0

Designation: L

Rating: Low Risk

Keywords: Perennial Herb, Ornamental, Rhizomatous, Spreads Vegetatively, Arillate Seeds

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		
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	y
407	Causes allergies or is otherwise toxic to humans		
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	y=1, n=0	n
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		
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	y=1, n=-1	n
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)		
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)		
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
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. Annals of the Missouri Botanical Garden, 32(1): 1-105	[No evidence of domestication] "Mexico to northern Brazil, in wet lowland forests and savannas."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2018. 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
	USDA, ARS, Germplasm Resources Information Network. 2018. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 16 Apr 2018]	"Native Southern America BRAZIL: Brazil [Espirito Santo, Mato Grosso, Rio de Janeiro, Sao Paulo]"

202	Quality of climate match data	High
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2018. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 16 Apr 2018]	

Qsn #	Question	Answer
203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	"Hardiness: USDA Zone 8a: to -12.2 °C (10 °F) USDA Zone 8b: to -9.4 °C (15 °F) USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"
	Tropicos.org. 2018. Missouri Botanical Garden. http://www.tropicos.org/ . [Accessed 16 Apr 2018]	Collected from 10-1000 m elevation; at latitudes ranging from 09°09'17"N to 23°46'39"S

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2018. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 16 Apr 2018]	"Native Southern America BRAZIL: Brazil [Espirito Santo, Mato Grosso, Rio de Janeiro, Sao Paulo]"

205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	" <i>Neomarica gracilis</i> (Herb.) Sprague Iridaceae Total N° of Refs: 4 Habit: perennial Herb Preferred Climate/s: Subtropical, Tropical Origin: C Am, N Am, S Am Major Pathway/s: Ornamental Dispersed by: Humans, Escapee References: Gal pagos Islands-CN-1157, La Reunion-U-1321, Global-CD-1611, India-W-1977."
	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>Neomarica gracilis</i> (Herb.) Sprague; Iridaceae; cultivated only"
	Guerrero, A. M., Pozo, P., Chamorro, S., Guezou, A., & Buddenhagen, C. E. (2008). Baseline data for identifying potentially invasive plants in Puerto Ayora, Santa Cruz Island, Galapagos. <i>Pacific Conservation Biology</i> , 14(2), 93-107	"Table I. List of introduced plant taxa recorded during the inventory of plants on properties in Puerto Ayora , Galapagos (2002-2004)" [<i>Neomarica gracilis</i> - Status = Cu: Cultivated (introduced, only found in cultivation)]
	Wong, M. 2008. Perennial Bedding Plants for Hawai'i. OF-41. College of Tropical Agriculture and Human Resources, Honolulu, HI	[Cultivated] "Walking iris is a plant that looks like an iris, with white and purple flowers. The plant requires substantial shade. New plants will result where flowers once were."
	Global Register of Introduced and Invasive Species. 2018. <i>Neomarica gracilis</i> . http://griis.org/ . [Accessed 16 Apr 2018]	Present in India. No impacts confirmed

301	Naturalized beyond native range	n
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Qsn #	Question	Answer
	Source(s)	Notes
	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>Neomarica gracilis</i> (Herb.) Sprague; Iridaceae; cultivated only"
	Guerrero, A. M., Pozo, P., Chamorro, S., Guezou, A., & Buddenhagen, C. E. (2008). Baseline data for identifying potentially invasive plants in Puerto Ayora, Santa Cruz Island, Galapagos. <i>Pacific Conservation Biology</i> , 14(2), 93-107	"Table I. List of introduced plant taxa recorded during the inventory of plants on properties in Puerto Ayora , Galapagos (2002-2004)" [<i>Neomarica gracilis</i> - Status = Cu: Cultivated (introduced, only found in cultivation)]
	Randall, R.P. (2017). <i>A Global Compendium of Weeds</i> . 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence
	Wagner, W.L., Herbst, D.R. & Lorence, D.H. 2018. <i>Flora of the Hawaiian Islands</i> . Smithsonian Institution, Washington, D.C. http://botany.si.edu/ . [Accessed 16 Apr 2018]	No evidence to date

302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	[Possible weed in flower beds] "On Jun 18, 2003, whoopinaggie from Richmond, TX wrote: I have the walking iris in complete shade under a tree and it blooms and grows all over the place. I have never fertilized it and have never seen it wilt despite the 95+ humid summers. It is actually starting the take over the flower bed and needs to be "weeded" out fairly often. "
	Weedbusters. 2011. Plant Me Instead! Northland. www.weedbusters.org.nz	<i>Neomarica gracilis</i> recommended as an alternative to <i>Aristea ecklonii</i>
	Randall, R.P. (2017). <i>A Global Compendium of Weeds</i> . 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. (2017). <i>A Global Compendium of Weeds</i> . 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. (2017). <i>A Global Compendium of Weeds</i> . 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

305	Congeneric weed	
	Source(s)	Notes

Qsn #	Question	Answer
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	" <i>Neomarica caerulea</i> (Seub.) Sprague Iridaceae Total N° of Refs: 13 Global Risk Score: 0.48 Rating: Low Habit: perennial Herb Preferred Climate/s: Mediterranean, Tropical Origin: S Am Major Pathway/s: Ornamental Dispersed by: Humans, Escapee References: Guyana-CW-32, South Africa- U-1247, Bermuda-N-1267, French Guiana- N-1346, Cuba-NI-1505, Global-CD-1611, Sao Tome and Principe-N-1805, -I-, South Africa-N-1991, Cuba-N-2024, Cuba- W- 2055, Cuba-W-1977, South Africa-W- 1977, Global--1324."
	WRA Specialist. 2018. Personal Communication	<i>Neomarica caerulea</i> listed as naturalized or a weed in A Global Compendium of Weeds. Unable to verify negative impacts

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. Annals of the Missouri Botanical Garden, 32(1): 1-105	[No evidence] "Plants 6-8 dm. tall; leaves narrowly ensiform, long-acuminate, gradually narrowed to a subpetiolar base, 4-7 dm. long, 1-2 cm. broad, with a single conspicuous midrib and numerous smaller parallel veins; flowering scape 3-5 dm. long, slightly winged below, conspicuously so above; terminal spathe leaf-like, 3-3.5 dm. long, 2-3 cm. broad, with a conspicuous midrib; flowering peduncle 1-3 cm. long, bearing 2-5 pretty white or blue flowers; perianth about 5 cm. in diameter, the spathes 1-3 cm. long; capsule oblong, about 2-3 cm. long."

402	Allelopathic	n
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown. No evidence found.

403	Parasitic	n
	Source(s)	Notes
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. Annals of the Missouri Botanical Garden, 32(1): 1-105	"Rhizomatous Iris-like herbs; leaves ensiform, distichous, flabellate, basal" [Iridaceae. No evidence]

404	Unpalatable to grazing animals	n
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown

405	Toxic to animals	n

Qsn #	Question	Answer
	Source(s)	Notes
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed]	[Reports of toxicity not corroborated in other publications] "Danger: All parts of plant are poisonous if ingested"
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	y
	Source(s)	Notes
	Gilman, E.F. 1999. <i>Neomarica</i> spp. Walking Iris. FPS426. University of Florida IFAS Extension. http://edis.ifas.ufl.edu . [Accessed 16 Apr 2018]	"Pest resistance: long-term health usually not affected by pests" ... "No pests or diseases are of major concern."
	Hara, A. H., Kishimoto, C. M., & Niino-Duponte, R. Y. (2013). Host Range of the Nettle Caterpillar <i>Darna pallivitta</i> (Moore)(Lepidoptera: Limacodidae) in Hawai'i. Pp. 183-191 in Peña, J. E. (ed.). Potential Invasive Pests of Agricultural Crops. CABI, Wallingford, UK	"Table 10.1. Recorded feeding list of <i>Darna pallivitta</i> (alphabetical by family) in Hawai'i" [Includes <i>Neomarica gracilis</i>]

407	Causes allergies or is otherwise toxic to humans	
	Source(s)	Notes
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	"Danger: All parts of plant are poisonous if ingested"
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence
	NIH U.S. National Library of Medicine. 2018. TOXNET Toxicology Data Network. https://toxnet.nlm.nih.gov/ . [Accessed 16 Apr 2018]	No evidence

Qsn #	Question	Answer
408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"Mostly in dense wet forest, 900 meters or less"
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. Annals of the Missouri Botanical Garden, 32(1): 1-105	[Unlikely, & no evidence found. Herbaceous plant of shady, wet areas] "Plants 6-8 dm. tall" ... "Mexico to northern Brazil, in wet lowland forests and savannas."

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"Mostly in dense wet forest, 900 meters or less"
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	"Sun Exposure: Sun to Partial Shade Light Shade Partial to Full Shade"
	Wong, M. 2008. Perennial Bedding Plants for Hawai'i. OF-41. College of Tropical Agriculture and Human Resources, Honolulu, HI	"Walking iris is a plant that looks like an iris, with white and purple flowers. The plant requires substantial shade."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Tilley, N. 2018. Growing Walking Iris Plants– Tips On Caring For <i>Neomarica</i> Iris. https://www.gardeningknowhow.com . [Accessed 16 Apr 2018]	"Since walking iris tolerates a wide range of soil and light conditions, this hardy plant is quite versatile in the garden. Walking iris plants make an excellent accent along natural paths and pond edges. They look great when massed together and can be used as a taller ground cover in the shade. Walking iris can also be used in borders, beds and containers (even indoors)."
	Gilman, E.F. 1999. <i>Neomarica</i> spp. Walking Iris. FPS426. University of Florida IFAS Extension. http://edis.ifas.ufl.edu . [Accessed 16 Apr 2018]	"Soil tolerances: occasionally wet; acidic; sand; loam; clay" ... "It is tolerant of a wide range of moist soils but will not endure drought conditions."
	UF IAS Gardening Solutions. 2014. Walking Iris. http://gardeningsolutions.ifas.ufl.edu . [Accessed 16 Apr 2018]	"Walking iris can be grown in full or partial shade, can tolerate a range of soil types, and will thrive in moist locations."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"Plants erect, or weak and reclining; leaves 30-80 cm. long, thin, deep green, 1.5-2.5 cm. wide, with a conspicuous elevated costa; peduncle about as long as the leaves, flat and leaf-like, bearing a cluster of flowers far below the apex, simple, the tip of the leaf often taking root in the soil"

Qsn #	Question	Answer
412	Forms dense thickets	n
	Source(s)	Notes
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. Annals of the Missouri Botanical Garden, 32(1): 1-105	[No evidence] "Mexico to northern Brazil, in wet lowland forests and savannas."
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396-430	[No evidence] "Mostly in dense wet forest, 900 meters or less; Peten; Alta Verapaz; Izabal; Huehuetenango. Southern Mexico; British Honduras, along the Atlantic coast to Panama; southward to Brazil."
	Croat, T.B. 1978. Flora of Barro Colorado Island. Stanford University Press, Stanford, CA	[No evidence] "Neomarica gracilis ... Rare, in the forest."
501	Aquatic	n
	Source(s)	Notes
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. Annals of the Missouri Botanical Garden, 32(1): 1-105	[Terrestrial herb] "Mexico to northern Brazil, in wet lowland forests and savannas."
502	Grass	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2018. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 16 Apr 2018]	"Family: Iridaceae Subfamily: Iridoideae Tribe: Mariceae"
503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2018. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html . [Accessed 16 Apr 2018]	"Family: Iridaceae Subfamily: Iridoideae Tribe: Mariceae"
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Croat, T.B. 1978. Flora of Barro Colorado Island. Stanford University Press, Stanford, CA	"Rhizomatous herb, 50-100 cm tall, glabrous."
	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. Plant Protection Quarterly, 25(2): 56-74	"This question addresses taxa that have specialized organs and should not include plants with just rhizomes/ stolons (see 6.06)."
601	Evidence of substantial reproductive failure in native habitat	n

Qsn #	Question	Answer
	Source(s)	Notes
	eMonocot. 2018. <i>Neomarica gracilis</i> (Herb.) Sprague. http://e-monocot.org/taxon/urn:kew.org:wcs:taxon:323840 . [Accessed 16 Apr 2018]	"Southern America, Brazil, Brazil Southeast, Brazil West-Central, Southern South America Paraguay" ... "IUCN Red List Status - Not listed"

602	Produces viable seed	Y
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"capsule about 2.5 cm. long, the seeds subtended by a red aril."
	Tilley, N. 2018. Growing Walking Iris Plants– Tips On Caring For <i>Neomarica</i> Iris. https://www.gardeningknowhow.com . [Accessed 16 Apr 2018]	"If you're curious about how to grow a <i>Neomarica</i> walking iris, it's fairly easy to do. In addition to propagating themselves, the walking iris can be easily propagated through division of offsets or by seed in spring, which is relatively easy as well and flowering usually occurs within the first season. Rhizomes can be planted in the ground or pots just beneath the soil."
	Gilman, E.F. 1999. <i>Neomarica</i> spp. Walking Iris. FPS426. University of Florida IFAS Extension. http://edis.ifas.ufl.edu . [Accessed 16 Apr 2018]	"The walking iris may be grown from seed or divisions. They also propagate themselves through plantlets that form at the tips of the flower stalks; the flower stalks bend to the ground, and then take root."

603	Hybridizes naturally	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown. No evidence found

604	Self-compatible or apomictic	
	Source(s)	Notes
	Fryxell, P. A. 1957. Mode of reproduction of higher plants. <i>The Botanical Review</i> , 23(3): 135-233	[Self-incompatibility documented in genus] " <i>Marica</i> (<i>Neomarica</i>) <i>northiana</i> " ... "Self-incompatible"

605	Requires specialist pollinators	
	Source(s)	Notes
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. <i>Annals of the Missouri Botanical Garden</i> , 32(1): 1-105	"flowering scape 3-5 dm. long, slightly winged below, conspicuously so above; terminal spathe leaf-like, 3-3.5 dm. long, 2-3 cm. broad, with a conspicuous midrib; flowering peduncle 1-3 cm. long, bearing 2-5 pretty white or blue flowers; perianth about 5 cm. in diameter, the spathes 1-3 cm. long;"
	Croat, T.B. 1978. Flora of Barro Colorado Island. Stanford University Press, Stanford, CA	"Flowers are rather specialized and are open for only one day (Bailey, 1949). They seem suited to bee pollination."
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	"On Jul 9, 2003, Lainie444 from Pineville, LA wrote: ... Watch a bumblebee as it lands on the purple petals. As the bee walks up the petal, the petal curls inward and propels the bee to the center of the flower for nectar."

Qsn #	Question	Answer
	Goldarazena, A., Gattesco, F., Atencio, R., & Korytowski, C. (2012). An updated checklist of the Thysanoptera of Panama with comments on host associations. Check List, 8(6), 1232-1247	"Thrips simplex ... Mound and Marullo (1996) collected both sexes in flowers of <i>Neomarica gracilis</i> (Iridaceae)."

606	Reproduction by vegetative fragmentation	y
	Source(s)	Notes
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	"On Oct 29, 2014, CindySue5 wrote: Re propagating <i>Neomarica Gracilis</i> . Here in Adelaide, South Australia, (Mediterranean climate) plants grow well and increase in partial shade, as our summers can be very hot. We don't harvest seed, but find that after flowering, stems will hang down to ground level, and if watered, will grow well from there. New plant will flower even if not detached from mother plant. Plants will also increase from rhizomes." ... "On Aug 23, 2006, cpear from Groves, TX wrote: I've grown this plant for the past 30 years. I even put several hanging baskets on crates in a part of my back yard that wouldn't grow grass because of the shade and they dropped shoots and rooted in the ground and eventually took over that part of the yard." ... "On Jun 18, 2003, Monocromatico from Rio de Janeiro, Brazil (Zone 11) wrote: ... And the buds root easily just in contact with the soil.:"
	Missouri Botanical Garden. 1945. Flora of Panama. Part III. Fascicle I. Annals of the Missouri Botanical Garden, 32(1): 1-105	"Rhizomatous Iris-like herbs"
	Tilley, N. 2018. Growing Walking Iris Plants– Tips On Caring For <i>Neomarica</i> Iris. https://www.gardeningknowhow.com . [Accessed 16 Apr 2018]	"So what makes this plant so unusual and how did it acquire its name? Well, because of its habit of propagating itself, the iris appears to “walk” throughout the garden as it fills the area with additional plantlets. When the new plantlet is formed at the tip of the flower stalk, it bends to the ground and takes root. This new plant then repeats the process. Thus, giving the illusion of walking or moving about as it spreads."

607	Minimum generative time (years)	
	Source(s)	Notes
	Gilman, E.F. 1999. <i>Neomarica</i> spp. Walking Iris. FPS426. University of Florida IFAS Extension. http://edis.ifas.ufl.edu . [Accessed 16 Apr 2018]	"Growth rate: moderate"
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"Plants perennial, from short rhizomes" [Time to flowering unknown. Probably from <1-2 years]

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"capsule about 2.5 cm. long, the seeds subtended by a red aril." [Red aril presumably an adaptation for bird, or ant dispersal]

Qsn #	Question	Answer
	Kubitzki, K. (ed.). 1998. The Families and genera of vascular plants. Volume III. Flowering plants, Monocotyledons: Liliae (except Orchidaceae). Springer-Verlag, Berlin, Heidelberg, New York	"The orange, occasionally fleshy seeds of species of <i>Libertia</i> , <i>Chasmanthe</i> , <i>Crocasmia</i> and <i>Neomarica</i> (often species of forest or woodland) are presumably dispersed by birds."
702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	" <i>Neomarica gracilis</i> ... This is the smallest of the three <i>nraricas</i> grown in Hawai'i ... White-and-blue iris makes a fine bedding plant and is easily grown ..."
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	Widely cultivated as an ornamental
703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	No evidence found. Reproduces by seeds & vegetatively, & grown as an ornamental. Could potentially establish in potted plants grown in close proximity
704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"capsule about 2.5 cm. long, the seeds subtended by a red aril." [Red aril presumably an adaptation for bird, or ant dispersal]
	Kubitzki, K. (ed.). 1998. The Families and genera of vascular plants. Volume III. Flowering plants, Monocotyledons: Liliae (except Orchidaceae). Springer-Verlag, Berlin, Heidelberg, New York	"The orange, occasionally fleshy seeds of species of <i>Libertia</i> , <i>Chasmanthe</i> , <i>Crocasmia</i> and <i>Neomarica</i> (often species of forest or woodland) are presumably dispersed by birds."
705	Propagules water dispersed	n
	Source(s)	Notes
	Croat, T.B. 1978. Flora of Barro Colorado Island. Stanford University Press, Stanford, CA	"Flowering stems fall over and root at the tips ... The fruits have arillate seeds." [Spreads vegetatively and by bird, or ant-dispersed seeds]
706	Propagules bird dispersed	y
	Source(s)	Notes
	Kubitzki, K. (ed.). 1998. The Families and genera of vascular plants. Volume III. Flowering plants, Monocotyledons: Liliae (except Orchidaceae). Springer-Verlag, Berlin, Heidelberg, New York	"A few species, mostly of forest habitats, have red, orange or yellow seeds, amongst which are <i>Chasmanthe</i> (<i>Ixioidae</i>) and <i>Iris foetidissima</i> , <i>Neomarica variegata</i> and <i>Libertia</i> spp. (<i>Iridoideae</i>). In <i>C. aethiopica</i> and <i>N. variegata</i> the seed coat is ± fleshy when first exposed but is always dry in <i>C. floribunda</i> . Species with such seeds are presumably dispersed by birds."

Qsn #	Question	Answer
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	[Aril may be an adaptation for bird or ant dispersal] "capsule about 2.5 cm. long, the seeds subtended by a red aril."
	Goldblatt, P. & Manning, J. C. 2008. The Iris Family: Natural History & Classification. Timber Press, Portland, OR	[Related taxon may be bird dispersed] "The orange, fleshy seeds of some species of Chasmanthe and Libertia, and Iris foetidissima and the Central American Neomarica variabilis, all species of forest or woodland, are presumably dispersed by birds."

707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"capsule about 2.5 cm. long, the seeds subtended by a red aril." [Red aril presumably an adaptation for bird, or ant dispersal]
	Kubitzki, K. (ed.). 1998. The Families and genera of vascular plants. Volume III. Flowering plants, Monocotyledons: Liliaceae (except Orchidaceae). Springer-Verlag, Berlin, Heidelberg, New York	[Aril may be an adaptation for ant dispersal] "The orange, occasionally fleshy seeds of species of Libertia, Chasmanthe, Crocosmia and Neomarica (often species of forest or woodland) are presumably dispersed by birds." ... "There are few published observations on the role in seed dispersal of the aril, characteristic of several species of Crocus, Iris, Patersonia and Aristeia singularis. Their whitish or yellow colour suggests that they contain lipid and are thus elaiosomes and hence ant-dispersed. Ant dispersal has been confirmed in arillate seeds of Crocus (Mathew 1982)."

708	Propagules survive passage through the gut	y
	Source(s)	Notes
	Standley, P.C. & Steyermark., J.A. 1952. Flora of Guatemala. Part III. Fieldiana, Botany Series 24(3): 396–430	"capsule about 2.5 cm. long, the seeds subtended by a red aril." [Red aril presumably an adaptation for bird, or ant dispersal]
	Kubitzki, K. (ed.). 1998. The Families and genera of vascular plants. Volume III. Flowering plants, Monocotyledons: Liliaceae (except Orchidaceae). Springer-Verlag, Berlin, Heidelberg, New York	"The orange, occasionally fleshy seeds of species of Libertia, Chasmanthe, Crocosmia and Neomarica (often species of forest or woodland) are presumably dispersed by birds."

801	Prolific seed production (>1000/m2)	
	Source(s)	Notes
	Croat, T.B. 1978. Flora of Barro Colorado Island. Stanford University Press, Stanford, CA	[Seed densities unknown] "Capsules oblong, 2-3 cm long, green; seeds many, red, irregular, ca 5 mm long."

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Royal Botanic Gardens Kew. (2018) Seed Information Database (SID). Version 7.1. Available from: http://data.kew.org/sid/ . [Accessed 16 Apr 2018]	[Unknown] "0 records found."

803	Well controlled by herbicides	

Qsn #	Question	Answer
	Source(s)	Notes
	WRA Specialist. 2018. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	Dave's Garden. 2018. Walking Iris, Apostle Plant - <i>Neomarica gracilis</i> . https://davesgarden.com/guides/pf/go/2108/ . [Accessed 16 Apr 2018]	[Unknown. Able to resprout after frost & propagated by dividing plants. May tolerate repeated cutting or damage to foliage] "Propagation Methods: By dividing rhizomes" ... "On Mar 5, 2007, katladie from French Settlement, LA wrote: I have this plant growing in the ground in shade under a large oak. It dies back after a frost, but comes back as soon as it warms up."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	Hara, A. H., Kishimoto, C. M., & Niino-Duponte, R. Y. (2013). Host Range of the Nettle Caterpillar <i>Darna pallivitta</i> (Moore)(Lepidoptera: Limacodidae) in Hawai'i. Pp. 183-191 in Peña, J. E. (ed.). Potential Invasive Pests of Agricultural Crops. CABI, Wallingford, UK	"Table 10.1. Recorded feeding list of <i>Darna pallivitta</i> (alphabetical by family) in Hawai'i" [Includes <i>Neomarica gracilis</i>]

Summary of Risk Traits:

High Risk / Undesirable Traits

- Thrives in tropical climates
- Anecdotal reports of weediness in landscaping
- Unconfirmed reports of toxicity
- A host of the nettle caterpillar
- Shade tolerant
- Tolerates many soil types
- Reproduces by seeds & vegetatively by plantlets
- Arillate seeds may be dispersed by birds, ants & intentionally planted by people
- Missing information on reproductive biology & seed ecology reduces accuracy of risk prediction

Low Risk Traits

- Widely cultivated, with no reports of invasiveness or naturalization in natural areas or agricultural setting
- Unarmed (no spines, thorns, or burrs)
- May require specialized pollinators

Second Screening Results for Herbs or Low Stature Shrubby Life Forms

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

(B) Unpalatable to grazers or known to form dense stands? NA

Outcome = Accept (Low Risk)