

Family: *Areaceae*

Taxon: *Reinhardtia gracilis (H. Wendl.) Burret*

Synonym: *Malortiea gracilis H. Wendl.*

Common Name: window pane palm

Reinhardtia gracilis (H. Wendl.) Drude ex Da

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation:	H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score	2
101	Is the species highly domesticated?		y=-3, n=0		n
102	Has the species become naturalized where grown?		y=1, n=-1		
103	Does the species have weedy races?		y=1, n=-1		
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		n
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		n=0, y = 1*multiplier (see Appendix 2)		n
401	Produces spines, thorns or burrs		y=1, n=0		n
402	Allelopathic		y=1, n=0		
403	Parasitic		y=1, n=0		n
404	Unpalatable to grazing animals		y=1, n=-1		
405	Toxic to animals		y=1, n=0		n
406	Host for recognized pests and pathogens		y=1, n=0		
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
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		y=1, n=0		n
411	Climbing or smothering growth habit		y=1, n=0		n

412	Forms dense thickets	y=1, n=0	
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	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
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	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score **2**

Supporting Data:

101	2012. WRA Specialist. Personal Communication.	[Is the species highly domesticated? No] No evidence of domestication that reduces invasive ability.
102	2012. WRA Specialist. Personal Communication.	[Has the species become naturalized where grown? NA]
103	2012. WRA Specialist. Personal Communication.	[Does the species have weedy races? NA]
201	2002. Henderson, A.J.. Phenetic and phylogenetic analysis of Reinhardtia (Palmae). American Journal of Botany. 89: 1491-1502. http://www.jstor.org.eres.library.manoa.hawaii.edu/stable/pdfplus/4124067.pdf?acceptTC=true	[Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"? 2 - High] Reinhardtia gracilis occurs from southeastern Mexico to northwestern Columbia.
202	2002. Henderson, A.J.. Phenetic and phylogenetic analysis of Reinhardtia (Palmae). American Journal of Botany. 89: 1491-1502. http://www.jstor.org.eres.library.manoa.hawaii.edu/stable/pdfplus/4124067.pdf?acceptTC=true	[Quality of climate match data? 2 - High] Reinhardtia gracilis occurs from southeastern Mexico to northwestern Columbia.
203	2012. Betrock Information Systems Incorporated. Reinhardtia gracilis [accessed 6 November 2012]. http://palmworld.net/Guide2.asp?PALMID=17	[Broad climate suitability (environmental versatility)? No] HARDINESS ZONES: 10B-11 (killed at 26 F degrees, no damage at 32 degrees F).
203	2012. Dave's Garden. Reinhardtia gracilis [accessed 6 November 2012]. http://davesgarden.com/guides/pf/go/58172/	[Broad climate suitability (environmental versatility)? No] Hardiness: 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)
204	2002. Henderson, A.J.. Phenetic and phylogenetic analysis of Reinhardtia (Palmae). American Journal of Botany. 89: 1491-1502. http://www.jstor.org.eres.library.manoa.hawaii.edu/stable/pdfplus/4124067.pdf?acceptTC=true	[Native or naturalized in regions with tropical or subtropical climates? Yes] Reinhardtia gracilis occurs from southeastern Mexico to northwestern Columbia.
205	2012. WRA Specialist. Personal Communication.	[Does the species have a history of repeated introductions outside its natural range? No] No evidence of repeated introductions.
301	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Naturalized beyond native range? No] No evidence.
302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? No] No evidence.
303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No] No evidence.
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No] No evidence.
305	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Congeneric weed? No] No evidence.
401	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Produces spines, thorns or burrs? No] Stems solitary or clustered, the upper part covered with persistent leaf sheaths. Leaves 6-20; petiole almost as long as the blade; leaflets typically 2 per side.
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2010. Nickrent, D.. The parasitic plant connection. Department of Plant Biology, Southern Illinois University, Carbondale http://www.parasiticplants.siu.edu/index.html	[Parasitic? No] Arecaceae.
404	2012. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL http://www.crcnetbase.com/isbn/9781420062533	[Toxic to animals? No] No evidence of toxicity.

405	2012. National Center for Biotechnology Information. PubMed. http://www.ncbi.nlm.nih.gov/sites/entrez	[Toxic to animals? No] No evidence of toxicity.
405	2012. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	[Toxic to animals? No] No evidence of toxicity.
406	2012. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL http://www.crcnetbase.com/isbn/9781420062533	[Causes allergies or is otherwise toxic to humans? No] No evidence.
407	2012. National Center for Biotechnology Information. PubMed. http://www.ncbi.nlm.nih.gov/sites/entrez	[Causes allergies or is otherwise toxic to humans? No] No evidence.
407	2012. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	[Causes allergies or is otherwise toxic to humans? No] No evidence.
408	1998. Mendoza, A./Franco, M.. Sexual reproduction and clonal growth in <i>Reinhardtia gracilis</i> (Palmae), an understory tropical palm. American Journal of Botany. 85: 521-527. http://www.amjbot.org/content/85/4/521.full.pdf	[Creates a fire hazard in natural ecosystems? No] Small palm.
409	1998. Mendoza, A./Franco, M.. Sexual reproduction and clonal growth in <i>Reinhardtia gracilis</i> (Palmae), an understory tropical palm. American Journal of Botany. 85: 521-527. http://www.amjbot.org/content/85/4/521.full.pdf	[Is a shade tolerant plant at some stage of its life cycle? Yes] Understory palm species.
409	2012. Betrock Information Systems Incorporated. <i>Reinhardtia gracilis</i> [accessed 6 November 2012]. http://palmworld.net/Guide2.asp?PALMID=17	[Is a shade tolerant plant at some stage of its life cycle? Yes] COMMENTS: A choice palm for shady spots in which the "windows" at the base of the wide upper leaflets can be seen. Can be finicky in its growth until it finds a soil and shade condition that suits it.
409	2012. Dave's Garden. <i>Reinhardtia gracilis</i> [accessed 6 November 2012]. http://davesgarden.com/guides/pf/go/58172/	[Is a shade tolerant plant at some stage of its life cycle? Yes] Sun Exposure: Partial to Full Shade Full Shade
410	2012. Betrock Information Systems Incorporated. <i>Reinhardtia gracilis</i> [accessed 6 November 2012]. http://palmworld.net/Guide2.asp?PALMID=17	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? No] Organic, rich , well-drained soil required.
410	2012. Dave's Garden. <i>Reinhardtia gracilis</i> [accessed 6 November 2012]. http://davesgarden.com/guides/pf/go/58172/	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? No] Requires consistently moist soil.
411	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Climbing or smothering growth habit? No] Palm
412	2012. WRA Specialist. Personal Communication.	[Forms dense thickets? Unknown]
501	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Aquatic? No] Terrestrial; palm.
502	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Grass? No] Palm; Arecaceae
503	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Nitrogen fixing woody plant? No] Arecaceae.
504	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Palm.

601	2012. WRA Specialist. Personal Communication.	[Evidence of substantial reproductive failure in native habitat? No] No evidence.
602	1998. Mendoza, A./Franco, M.. Sexual reproduction and clonal growth in <i>Reinhardtia gracilis</i> (Palmae), an understory tropical palm. American Journal of Botany. 85: 521-527. http://www.amjbot.org/content/85/4/521.full.pdf	[Produces viable seed? Yes] This study comparing the sexual and clonal reproductive success of <i>Reinhardtia gracilis</i> indicates that there are viable seeds.
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2012. WRA Specialist. Personal Communication.	[Self-compatible or apomictic? Unknown]
605	2012. WRA Specialist. Personal Communication.	[Requires specialist pollinators? Unknown]
606	1998. Mendoza, A./Franco, M.. Sexual reproduction and clonal growth in <i>Reinhardtia gracilis</i> (Palmae), an understory tropical palm. American Journal of Botany. 85: 521-527. http://www.amjbot.org/content/85/4/521.full.pdf	[Reproduction by vegetative fragmentation? Yes] Gamet - ramet vegetative reproductive system (stolons).
607	2012. Dave's Garden. <i>Reinhardtia gracilis</i> [accessed 6 November 2012]. http://davesgarden.com/guides/pf/go/58172/	[Minimum generative time (years)?] GROWTH RATE: Slow to moderate
607	2012. WRA Specialist. Personal Communication.	[Minimum generative time (years)? Unknown]
701	2012. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] No evidence of unintentional dispersal.
702	2012. B & T Seeds. <i>Reinhardtia gracilis</i> [Accessed 7 November 2012]. http://b-and-t-world-seeds.com/carth.asp?species=Reinhardtia%20gracilis&sref=401464	[Propagules dispersed intentionally by people? Yes] B & T World Seeds have <i>Reinhardtia gracilis</i> seeds for sale.
702	2012. especies. <i>Reinhardtia gracilis</i> . http://www.ebay.com/itm/Reinhardtia-gracilis-RARE-Window-Pane-Palm-100-seeds-/350262465273?pt=LH_DefaultDomain_0&hash=item518d4512f9	[Propagules dispersed intentionally by people? Yes] There is one site on ebay that states they have <i>Reinhardtia gracilis</i> seeds for sale.
703	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Propagules likely to disperse as a produce contaminant? No] Fruits obovoid, 1.2-1.6 cm long, puple-black.
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Propagules adapted to wind dispersal? No] Propagules adapted to wind dispersal Fruits obovoid, 1.2-1.6 cm long, puple-black.
705	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Propagules water dispersed?] Propagules water dispersed Fruits obovoid, 1.2-1.6 cm long, puple-black.
705	2012. WRA Specialist. Personal Communication.	[Propagules water dispersed? Unknown]
706	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Propagules bird dispersed? Yes] Fruits obovoid, 1.2-1.6 cm long, puple-black.
707	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Propagules dispersed by other animals (externally)? No] Fruits obovoid, 1.2-1.6 cm long, puple-black.
708	1997. Henderson, A./Galeano, G./Bernal, R.. Field Guide to the Palms of the Americas. Princeton University Press, Princeton, NJ	[Propagules survive passage through the gut? Yes] Fruits obovoid, 1.2-1.6 cm long, puple-black.

801	1998. Mendoza, A./Franco, M.. Sexual reproduction and clonal growth in <i>Reinhardtia gracilis</i> (Palmae), an understory tropical palm. American Journal of Botany. 85: 521-527. http://www.amjbot.org/content/85/4/521.full.pdf	[Prolific seed production (>1000/m2)? No] The species flowers in September, normally producing one inflorescence per ramet, although infrequently two inflorescences per ramet are produced. Fruits start to be visible in January, and take between 4 and 6 mo to ripen completely.
802	2012. WRA Specialist. Personal Communication.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown]
804	2012. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risks:

- Native to tropical regions
- Understory species that tolerates shade
- Vegetative reproduction through stolons
- Dispersed by humans as an ornamental
- Bird dispersed

Low Risk:

- Not naturalized
- Not considered invasive elsewhere
- No species in the genus are considered invasive
- Requires specific soils