

Family: *Arecaceae*

Taxon: *Hyophorbe verschaffeltii*

Synonym: *Mascarena verschaffeltii* L. H. Bailey

Common Name: Spindle palm
Palmiste Marron

Questionnaire : current 20090513
Status: Assessor Approved

Assessor: Chuck Chimera
Data Entry Person: Chuck Chimera

Designation: L

WRA Score -5

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	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	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	n
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	
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	y
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	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	>3
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	n
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/m ²)	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	n
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: L

WRA Score -5

Supporting Data:

101	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Is the species highly domesticated? No] No evidence
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/files/FR/FR30300.pdf	[Species suited to tropical or subtropical climate(s) 2-High] "This palm is endemic to the Mascarene Islands, which are located to the east of Madagascar in the Indian Ocean."
202	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/files/FR/FR30300.pdf	[Quality of climate match data 2-High]
203	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/files/FR/FR30300.pdf	[Broad climate suitability (environmental versatility)? No] "The palm naturally inhabits the well-drained sandy soils of upland forests and coastal savannas." ... "Like the bottle palm (<i>Hyophorbe lagenicaulis</i>), it is sensitive to freezing temperatures. However, the spindle palm is somewhat tolerant of and more likely to survive freezing temperatures than the bottle palm."
204	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/files/FR/FR30300.pdf	[Native or naturalized in regions with tropical or subtropical climates? Yes] "This palm is endemic to the Mascarene Islands, which are located to the east of Madagascar in the Indian Ocean. The palm naturally inhabits the well-drained sandy soils of upland forests and coastal savannas. In the United States, this palm grows in south Florida, extreme southern California, and the Hawaiian Islands."
205	2005. Acevedo-Rodríguez, P./Strong, M.T.. Monocots and Gymnosperms of Puerto Rico and the Virgin Islands. Contributions from the United States National Herbarium. 52: 1-415.	[Does the species have a history of repeated introductions outside its natural range? Yes] "Hyophorbe verschaffeltii H. Wendl., of the Mascarene Islands, occasionally planted for ornament in the Virgin Islands"
205	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/files/FR/FR30300.pdf	[Does the species have a history of repeated introductions outside its natural range? Yes] "In the United States, this palm grows in south Florida, extreme southern California, and the Hawaiian Islands."
301	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Naturalized beyond native range? No evidence]
301	2007. Randall, R.P.. The introduced flora of Australia & its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	[Naturalized beyond native range? No] Present in Australia, but not listed as naturalized or a weed
301	2012. Wagner, W.L./Herbst, D.R./Khan, N./Flynn, T.. Hawaiian Vascular Plant Updates: A Supplement to the Manual of the Flowering Plants of Hawai'i & Hawai'i's Ferns & Fern Allies. http://botany.si.edu/pacificislandbiodiversity/hawaiianflora/supplement.htm	[Naturalized beyond native range? No evidence in Hawaiian Islands]
302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Garden/amenity/disturbance weed? No] No evidence
302	2007. Randall, R.P.. The introduced flora of Australia & its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	[Garden/amenity/disturbance weed? No] No evidence
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Agricultural/forestry/horticultural weed? No] No evidence
303	2008. Meyer, J.-Y./Lavergne, C./Hodel, D. R.. Time Bombs in Gardens: Invasive Ornamental Palms in Tropical Islands, with Emphasis on French Polynesia (Pacific Ocean) and the Mascarenes (Indian Ocean). Palms. 52: 71-83.	[Agricultural/forestry/horticultural weed? No] No evidence

304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Environmental weed? No] No evidence
304	2008. Meyer, J-Y./Lavergne, C./Hodel, D. R.. Time Bombs in Gardens: Invasive Ornamental Palms in Tropical Islands, with Emphasis on French Polynesia (Pacific Ocean) and the Mascarenes (Indian Ocean). <i>Palms</i> . 52: 71-83.	[Environmental weed? No] No evidence
305	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Congeneric weed? No] No evidence
305	2008. Meyer, J-Y./Lavergne, C./Hodel, D. R.. Time Bombs in Gardens: Invasive Ornamental Palms in Tropical Islands, with Emphasis on French Polynesia (Pacific Ocean) and the Mascarenes (Indian Ocean). <i>Palms</i> . 52: 71-83.	[Congeneric weed? No] "Five <i>Hyophorbe</i> species have been described in the Mascarenes: one endemic to La Réunion (<i>H. indica</i>), one to Rodrigues (<i>H. verchaffeltii</i>) and three from Mauritius (<i>H. lagenicaulis</i> , <i>H. vaughanii</i> and <i>H. amaricaulis</i>)." [None listed as naturalized or invasive]
401	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. <i>Hyophorbe verschaffeltii</i> , Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Produces spines, thorns or burrs? No] "The pinnately compound leaves or fronds can grow from 6 to 10 feet long and are attached to a petiole that can extend nearly one foot long. Its lance-shaped leaflets are dark green, approximately 2 1/2 feet long, and grow out of the rachis at different angles, giving the leaf a feathery look. The trunk is light gray, has rings around it, and is most swollen at the midpoint of its total height. On top of the trunk sits a bright green crownshaft (from which the fronds emerge) that has a smooth, waxy surface and can reach 2 to 3 feet in height. The base of the crownshaft tapers from the swollen part of the trunk and becomes more slender as it elongates to the top of the palm."
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Parasitic? No] Arecaceae
404	1998. Johnson, D. <i>Hyophorbe verschaffeltii</i> . In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2.. www.iucnredlist.org	[Unpalatable to grazing animals? No] "There is no evidence of regeneration and grazing pressures are strong."
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No evidence]
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 evidence]
406	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. <i>Hyophorbe verschaffeltii</i> , Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Host for recognized pests and pathogens? Potentially] "This species is susceptible to lethal yellowing disease (http://edis.ifas.ufl.edu/pp146), so it is best to avoid planting the spindle palm where the disease is known to occur."
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? 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 evidence]
408	2012. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? No] No evidence from introduced or natural range
409	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. <i>Hyophorbe verschaffeltii</i> , Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "This slow-growing tree can reach heights that range from 20 to 25 feet, growing best in full sunlight." ... "Spindle palm grows best in full sun and requires irrigation during dry periods."
409	2012. Dave's Gardern. PlantFiles: Spindle Palm - <i>Hyophorbe verschaffeltii</i> . http://davesgarden.com/guides/pf/go/57769/	[Is a shade tolerant plant at some stage of its life cycle? Possibly Yes] "Sun Exposure: Full Sun. Sun to Partial Shade"

409	2012. Learn 2 Grow. Hyophorbe verschaffeltii. http://www.learn2grow.com/plants/hyophorbe-verschaffeltii/	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "Spindle palm requires full sun and a well drained soil that receives adequate water in the summertime."
410	2012. Learn 2 Grow. Hyophorbe verschaffeltii. http://www.learn2grow.com/plants/hyophorbe-verschaffeltii/	[Tolerates a wide range of soil conditions? Yes] "Soil pH - Acidic, Neutral, Alkaline" ... "Soil type - Loam, Sand"
411	2008. Riffle, R.L.. Timber Press Pocket Guide to Palms. Timber Press, Portland, OR.	[Climbing or smothering growth habit? No] "Mature trunks grow to 25 feet high."
412	1998. Johnson, D. Hyophorbe verschaffeltii. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2.. www.iucnredlist.org	[Forms dense thickets? No] "Fewer than 60 individuals remain in the wild, occurring in Grand Montagne, Anse Quitor and Ravine de la Cascade, St Louis." [No evidence from native range]
412	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Forms dense thickets? No] No evidence from introduced range
501	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Aquatic? No] Terrestrial
502	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Grass? No] Arecaceae
503	2012. WRA Specialist. Personal Communication.	[Nitrogen fixing woody plant? No] Arecaceae
504	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/FR/FR30300.pdf	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "The pinnately compound leaves or fronds can grow from 6 to 10 feet long and are attached to a petiole that can extend nearly one foot long. Its lance-shaped leaflets are dark green, approximately 2 1/2 feet long, and grow out of the rachis at different angles, giving the leaf a feathery look. The trunk is light gray, has rings around it, and is most swollen at the midpoint of its total height. On top of the trunk sits a bright green crownshaft (from which the fronds emerge) that has a smooth, waxy surface and can reach 2 to 3 feet in height. The base of the crownshaft tapers from the swollen part of the trunk and becomes more slender as it elongates to the top of the palm."
601	1998. Johnson, D. Hyophorbe verschaffeltii. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2.. www.iucnredlist.org	[Evidence of substantial reproductive failure in native habitat? Yes] "Fewer than 60 individuals remain in the wild, occurring in Grand Montagne, Anse Quitor and Ravine de la Cascade, St Louis."
601	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/FR/FR30300.pdf	[Evidence of substantial reproductive failure in native habitat? Potentially Yes] "Although it is cultivated and planted worldwide, in its natural range spindle palm is critically endangered, almost to the point of extinction."
602	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Produces viable seed? Yes] "Mature fruit is black and fresh seed should germinate within 6 months with bottom heat."
602	2012. Dave's Gardern. PlantFiles: Spindle Palm - Hyophorbe verschaffeltii. http://davesgarden.com/guides/pf/go/57769/	[Produces viable seed? Yes] "Propagation Methods: From seed; germinate in vitro in gelatin, agar or other medium"
603	1998. Johnson, D. Hyophorbe verschaffeltii. In: IUCN 2011. IUCN Red List of Threatened Species. Version 2011.2.. www.iucnredlist.org	[Hybridizes naturally? Possibly Yes] "There is also a threat of hybridisation with the introduced <i>H. lagenicaulis</i> ." [Threatens genetic integrity of endangered species]
604	1986. Henderson, A.. A Review of Pollination Studies in the Palmae. Botanical Review. 52: 221-259.	[Self-compatible or apomictic? Possibly No] "The genus is protandrous." [maturing the anthers before the stigma suggests that the palm will not self-pollinate]
605	1994. Zomlefer, W.B.. Guide to Flowering Plant Families. The University of North Carolina Press, Chapel Hill & London	[Requires specialist pollinators? No] "Although early monographers assumed that many palms were anemophilous, the flowers actually are predominantly entomophilous. Common insect vectors include beetles, Hymenoptera, and flies; bats and hummingbirds also have been noted (Henderson 1986)."
605	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdf/FR/FR30300.pdf	[Requires specialist pollinators? No] "Inflorescences can reach lengths of 2 1/2 feet, are heavily branched, and encircle the trunk just below the crownshaft. Male and female flowers occur on the same inflorescence and are white or cream colored."
606	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Reproduction by vegetative fragmentation? No] "It has a solitary trunk that bulges slightly in the centre, a distinctive broad crownshaft and a crown of arching leaves." ... "Mature fruit is black and fresh seed should germinate within 6 months with bottom heat."

607	1990. Rosario, T.L./Paralisan, H.A./Siar, S.V.. Floral biology, cytology and embryo culture of champagne palm (<i>Mascarena lagenicaulis</i> Linn.). Philippine Agriculturist. 73(3-4): 349-357.	[Minimum generative time (years)? Presumably >4] "With perfect flowers, the first flowering occurs from the 8th to the 10th year of growth." [Hyophorbe lagenicaulis takes 8 to 10 years to reach maturity. Hyophorbe verschaffeltii presumably has a similar maturation period]
607	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Minimum generative time (years)? Probably 4+] "This slow-growing tree can reach heights that range from 20 to 25 feet, growing best in full sunlight."
607	2012. Learn 2 Grow. Hyophorbe verschaffeltii. http://www.learn2grow.com/plants/hyophorbe-verschaffeltii/	[Minimum generative time (years)? Probably >4] "Growth Rate - Slow"
701	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] "Frt long-ellipsoid, ca 0.67-1.2 " x 0.3, black." [No evidence. Fruits & seeds lack means of external attachment]
702	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules dispersed intentionally by people? Yes] "In the early twentieth century it was rare in Honolulu, with only four specimens known in 1917, but today it is rather more abundant."
702	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Propagules dispersed intentionally by people? Yes] "Spindle palm makes an attractive indoor plant and will do well as long as enough light and space are available. Although it is cultivated and planted worldwide, in its natural range spindle palm is critically endangered, almost to the point of extinction."
703	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules likely to disperse as a produce contaminant? No] "Frt long-ellipsoid, ca 0.67-1.2 " x 0.3, black." [No evidence. Fruits single-seeded. Relatively large & not likely to become a contaminant of produce]
704	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Propagules adapted to wind dispersal? No] "Each fruit is 3/4 inch in diameter and turns from orange to red as it ripens." [Fleshy fruited]
705	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Propagules water dispersed? No] "Each fruit is 3/4 inch in diameter and turns from orange to red as it ripens." [Fleshy-fruited. Adapted for animal dispersal]
706	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Propagules bird dispersed? Presumably Yes] "Each fruit is 3/4 inch in diameter and turns from orange to red as it ripens." [Fleshy fruited]
707	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules dispersed by other animals (externally)? No] "Frt long-ellipsoid, ca 0.67 1.2 " x 0.3, black." [No evidence. Fruits & seeds lack means of external attachment]
708	2010. Friedman, M.H./Andreu, M.G./Quintana, H.V./McKenzie, M.. Hyophorbe verschaffeltii, Spindle Palm. FOR 241. University of Florida IFAS Ext., edis.ifas.ufl.edu/pdffiles/FR/FR30300.pdf	[Propagules survive passage through the gut? Presumably Yes] "Each fruit is 3/4 inch in diameter and turns from orange to red as it ripens." [Fleshy fruited]
801	1998. Kubitzki, K. (ed.). The Families and genera of vascular plants. Volume IV. Flowering plants, Monocotyledons: Alismatanae and Commelinanae (except Gramineae). Springer-Verlag, Berlin, Heidelberg, New York	[Prolific seed production (>1000/m ²)? No. Unlikely] "Solitary, monoecious trees." ... "Fruit 1-seeded..." [Genus description]
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "Storage Conditions: It is suggested that this species may not show recalcitrant seed storage behaviour, its true seed storage behaviour (orthodox or intermediate) therefore needs to be investigated." [Refers to H. lagenicaulis. No information for H. verschaffeltii]
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species

804	2001. Ellison, D./Ellison, A.. Cultivated palms of the world. UNSW Press, Sydney.	[Tolerates, or benefits from, mutilation, cultivation, or fire? No] "It has a solitary trunk that bulges slightly in the centre..." [Single trunk with single meristem, unlikely to resprout if cut down]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits:

High Risk / Undesirable Traits:

- Thrives in tropical climates
- Tolerates many soil types (potential to exploit many habitats)
- May hybridize with *H. lagenicaulis*
- Animal-dispersed seeds (Possibly certain birds, pigs, rats, & mongoose in Hawaii)

Low Risk / Desirable Traits:

- No evidence of naturalization or invasiveness
- Ornamental value
- Slow growth rate
- Fruits & seeds relatively large and unlikely to be spread accidentally