Keywords: Low Risk, Tropical, Ornamental Palm, Shade Tolerant, Fleshy-fruited

Family: ***Arecaceae***

Taxon: ***Chamaedorea falcifera***

Synonym: *NA* ***Common Name:*** NA

Questionaire : current 20090513 **Assessor:** Assessor **Designation:** L

Status: Assessor Approved **Data Entry Person:** Assessor **WRA Score 0**

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)**	**y**
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**	
406	**Host for recognized pests and pathogens**	**y=1, n=0**	
407	**Causes allergies or is otherwise toxic to humans**	**y=1, n=0**	
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**	
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**	
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**	**n**
605	**Requires specialist pollinators**	**y=-1, n=0**	
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**	
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/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: L **WRA Score** **0**

Supporting Data:

101	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Is the species highly domesticated? No] No evidence
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Species suited to tropical or subtropical climate(s) 2- High] "Dense, wet, mixed, lowland forest, 40-300 meters; endemic" [Guatemala]
202	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Quality of climate match data 2-High]
203	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Broad climate suitability (environmental versatility)? No] "Dense, wet, mixed, lowland forest, 40-300 meters" [Restricted to low elevation tropics]
203	2001. Ellison, D./Ellison, A.. Cultivated Palms of the World. UNSW Press, Sydney.	[Broad climate suitability (environmental versatility)? No] "It requires a shady position in a tropical to subtropical climate"
204	1958. Moore, H.E., Jr.. Chamaedorea falcifera. Principes. 2: 68-70.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "A recent survey of the species of Chamaedorea native in Guatemala has brought to light specimens that represent a new species described here as Chamaedorea falcifera." … "Its home is in the dense wet lowland forests at low elevations (to 300 meters) in the department of Izabal where Dr. Julian A. Steyermark collected it in several localities."
205	2005. Imada, C.T./Staples, G.W./Herbst, D.R.. Annotated Checklist of Cultivated Plants of Hawai'i. The Bishop Museum, http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/	[Does the species have a history of repeated introductions outside its natural range? No] "Locations: Ho'omaluhia Botanical Garden Wahiawa Botanical Garden Waimea Arboretum & Botanical Garden" [No evidence f widespread cultivation in Hawaii]
205	2013. PACSOA. Palms: Chamaedorea falcifera. http://www.pacsoa.org.au/palms/Chamaedorea/falcifera.html [Accessed 24 Apr 2013]	[Does the species have a history of repeated introductions outside its natural range? No] "General: Not very commonly grown"
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
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] 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	2001. Langeland, K.A./Stocker, R.K.. Control of Non-native Plants in Natural Areas of Florida. Institute of Food & Agricultural Sciences, University of Florida, Gainesville, FL http://mrec.ifas.ufl.edu/ldspmgt/Ldsp%20Turf%20Mgmt/PDFfiles/WG20900.pdf	[Congeneric weed? Yes. Chamaedorea seifrizii is a weed of minor significance with the potential to become an environmental weed] "Treatment: Cut palm below growing point and treat with 50% Garlon 3A or 10% Garlon 4. Alternatively, Garlon 4 can be applied to the apical bud.? … "Treatment: Treat as fishtail palm, above. Comments: Pinnate-leaved, narrow trunked, clustering species; invades hammocks."
305	2011. Florida Exotic Pest Plant Council. Florida EPPC's 2011 Invasive Plant Species List. http://www.fleppc.org/list/11list.html	[Congeneric weed? Yes. Chamaedorea seifrizii - An invader of minor significance at this time] "Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. These species may become ranked Category I, if ecological damage is demonstrated." [Chamaedorea seifrizii included in this list]
401	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Produces spines, thorns or burrs? No] "Plants unarmed" [Chamaedorea genus description]
402	2013. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]

403	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Parasitic? No] Arecaceae
404	2006. Berry, E.J.. Population ecology of the harvested understory palm Chamaedorea radicalis: pollination biology, female fecundity, and source-sink population dynamics. PhD Dissertation. Miami University, Oxford, OH	[Unpalatable to grazing animals? Unknown for Chamaedorea falcifera. Related species C. radicalis palatable to livestock] "These large palms were more abundant on rock outcrops than the forest floor, suggesting that rock outcrops are better microsites for C. radicalis. However, field experiments revealed that differences between the substrates were not from natural variation in microsite conditions, but rather due to differences in browsing by free-range livestock, which negatively affects palm survival, growth, and fecundity."
405	2008. Irish, M.. Trees and Shrubs for the Southwest: Woody Plants for Arid Gardens. Timber Press, Portland, OR	[Toxic to animals? Unknown. Related species with fruit that may be mildly toxic or a skin irritant] "The fruit is a pea sized berry that begins green, then turns orange or red, and finally is black. Although birds are fond of the fruit, people need to be wary. These fruits are renowned for causing strong skin irritations when handled, particularly if the berry is broken."
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No evidence]
406	2013. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2003. Riffle, R.L./Craft, P.. An Encyclopedia of Cultivated Palms. Timber Press, Portland, OR.	[Causes allergies or is otherwise toxic to humans? Possibly an irritant to people] "Almost all species, like those of Caryota, have fruits, which contain calcium oxalate crystals that are irritating to the skin."
408	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Creates a fire hazard in natural ecosystems? No] "Dense, wet, mixed, lowland forest" [No evidence, and unlikely given wet forest habitat]
409	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "Dense, wet, mixed, lowland forest" [Presumably yes if occurring in dense tropical forest]
409	2001. Ellison, D./Ellison, A.. Cultivated Palms of the World. UNSW Press, Sydney.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "It requires a shady position in a tropical to subtropical climate"
410	2013. WRA Specialist. Personal Communication.	[Tolerates a wide range of soil conditions? Unknown] No detailed information on soil requirements found
411	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Climbing or smothering growth habit? No] "Stems solitary, slender, 1-6 meters high, 5-7 mm. in diameter"
412	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Forms dense thickets? No] "Dense, wet, mixed, lowland forest, 40-300 meters" [A component of dense forest, but no evidence that this palm forms dense thickets]
412	2013. PACSOA. Palms: Chamaedorea falcifera. http://www.pacsoa.org.au/palms/Chamaedorea/falcifera.html [Accessed 24 Apr 2013]	[Forms dense thickets? No] "A small to medium sized, cane-like, solitary palm to about 3m, with wide, cupped leaflets." [Solitary palm]
501	1958. Moore, H.E., Jr.. Chamaedorea falcifera. Principes. 2: 68-70.	[Aquatic? No] Terrestrial palm
502	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Grass? No] Arecaceae
503	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Nitrogen fixing woody plant? No] Arecaceae
504	1958. Moore, H.E., Jr.. Chamaedorea falcifera. Principes. 2: 68-70.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Chamaedorea falcifera is a species with slender solitary stems 1-6 meters high, 5-7 mm. in diameter and short internodes 1.5-3.2 cm. long."
601	2001. Ellison, D./Ellison, A.. Cultivated Palms of the World. UNSW Press, Sydney.	[Evidence of substantial reproductive failure in native habitat? Unknown] "This very rare species is indigenous to the lowland rainforests of Guatemala and is believed to be extinct in its natural habitat." [Reasons for rarity or extinction in wild are unknown]
602	2001. Ellison, D./Ellison, A.. Cultivated Palms of the World. UNSW Press, Sydney.	[Produces viable seed? Yes] "Seed takes 5 to 6 months to germinate with bottom heat."
603	2013. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	1986. Henderson, A.. A Review of Pollination Studies in the Palmae. Botanical Review. 52: 221-259.	[Self-compatible or apomictic? No] "Chamaedorea - This genus is dioecious"
605	1990. Bawa, K.S./Hadley, M.. Reproductive ecology of tropical forest plants. Volume 7 of Man and the Biosphere series. UNESCO, Paris, France	[Requires specialist pollinators? Unknown] "Nearly all of the Chamaedoreoid palms are neotropical, the genus Chamaedorea accounting for 133 of the 142 species (Moore, 1973). However, the strong fragrance of both male and female inflorescences, reminiscent of overripe cheese, and abundant visitation by Thysanoptera, strongly suggest entomophily (Schatz, pers. Obs.)."

606	2001. Ellison, D./Ellison, A.. Cultivated Palms of the World. UNSW Press, Sydney.	[Reproduction by vegetative fragmentation? No] "It is a solitary palm with a slender trunk of small to medium height and a sparse crown of partially divided leaves." … "Seed takes 5 to 6 months to germinate from bottom heat." [A solitary palm with no evidence of spread by suckering]
607	2013. WRA Specialist. Personal Communication.	[Minimum generative time (years)? Unknown]
701	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] "fruit orange, rather densely spiraled, essentially superficial on the branches, sickle-shaped, 1.1-1.4 cm. long, 3 4 mm. in diameter, the perianth nerved when dry, calyx 0.7 mm. high, shallowly 3 lobed, petals imbricate, the 2 larger 2 mm. high, staminodes lacking, abortive carpels adherent to the fruit at maturity; seed 9 mm. long, 2 mm. in diameter" [Theoretically possible due to small size, but no evidence, and unlikely as fruits and seeds lack means of external attachment]
702	2001. Ellison, D./Ellison, A.. Cultivated Palms of the World. UNSW Press, Sydney.	[Propagules dispersed intentionally by people? Yes] Ornamental
703	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Propagules likely to disperse as a produce contaminant? No] "fruit orange, rather densely spiraled, essentially superficial on the branches, sickle-shaped, 1.1-1.4 cm. long, 3 4 mm. in diameter, the perianth nerved when dry, calyx 0.7 mm. high, shallowly 3 lobed, petals imbricate, the 2 larger 2 mm. high, staminodes lacking, abortive carpels adherent to the fruit at maturity; seed 9 mm. long, 2 mm. in diameter"
704	1958. Moore, H.E., Jr.. Chamaedorea falcifera. Principes. 2: 68-70.	[Propagules adapted to wind dispersal? No] "The fruit is orange, sickle-shaped and acute at the tip, measuring 1.1-1.4 cm. long, 3-4 mm. in diameter."
705	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Propagules water dispersed? No evidence from fruit morphology or natural distribution] "Dense, wet, mixed, lowland forest, 40 300 meters" … "fruit orange, rather densely spiraled, essentially superficial on the branches, sickle-shaped, 1.1-1.4 cm. long, 3 4 mm. in diameter, the perianth nerved when dry, calyx 0.7 mm. high, shallowly 3 lobed, petals imbricate, the 2 larger 2 mm. high, staminodes lacking, abortive carpels adherent to the fruit at maturity; seed 9 mm. long, 2 mm"
706	1958. Moore, H.E., Jr.. Chamaedorea falcifera. Principes. 2: 68-70.	[Propagules bird dispersed? Yes] "The fruit is orange, sickle-shaped and acute at the tip, measuring 1.1-1.4 cm. long, 3-4 mm. in diameter." [Fleshy-fruited, and presumably adapted for dispersal by birds or mammals]
707	1958. Moore, H.E., Jr.. Chamaedorea falcifera. Principes. 2: 68-70.	[Propagules dispersed by other animals (externally)? No] "The fruit is orange, sickle-shaped and acute at the tip, measuring 1.1-1.4 cm. long, 3-4 mm. in diameter." [Fleshy-fruited and presumably adapted for internal dispersal]
708	1958. Moore, H.E., Jr.. Chamaedorea falcifera. Principes. 2: 68-70.	[Propagules survive passage through the gut? Presumably Yes] "The fruit is orange, sickle shaped and acute at the tip, measuring 1.1-1.4 cm. long, 3-4 mm. in diameter." [Fleshy-fruited, and presumably adapted for ingestion and dispersal by birds or mammals]
801	1958. Standley, P.C./Steyermark, J.A.. Flora of Guatemala. Part I. Fieldiana. 24: 1-478.	[Prolific seed production (>1000/m2)? Probably No] "fruit orange, rather densely spiraled, essentially superficial on the branches, sickle shaped, 1.1-1.4 cm. long, 3 4 mm. in diameter, the perianth nerved when dry, calyx 0.7 mm. high, shallowly 3 lobed, petals imbricate, the 2 larger 2 mm. high, staminodes lacking, abortive carpels adherent to the fruit at maturity; seed 9 mm. long, 2 mm." …. "Staminate and pistillate inflorescences of this apparently local species are few branched, differing in this respect from other species allied to it." [Small seeded, but with few branched inflorescences. Also dioecious]
802	2001. Ellison, D./Ellison, A.. Cultivated Palms of the World. UNSW Press, Sydney.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "Seed takes 5 to 6 months to germinate with bottom heat."
803	2001. Langeland, K.A./Stocker, R.K.. Control of Non-native Plants in Natural Areas of Florida. Institute of Food & Agricultural Sciences, University of Florida, Gainesville, FL http://mrec.ifas.ufl.edu/ldspmgt/Ldsp%20Turf%20Mgmt/PDFfiles/WG20900.pdf	[Well controlled by herbicides? Possibly Yes. Related species Chamaedorea seifrizii effectively controlled with herbicides] "Treatment: Cut palm below growing point and treat with 50% Garlon 3A or 10% Garlon 4. Alternatively, Garlon 4 can be applied to the apical bud.? … "Treatment: Treat as fishtail palm, above. Comments: Pinnate-leaved, narrow-trunked, clustering species; invades hammocks."
804	2013. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
805	2013. 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
- Other *Chamaedorea* species have become weedy or invasive
- Shade tolerant
- Dispersed by people and potentially birds or other animals
- Limited ecological information from native and introduced ranges limits predictive ability of risk assessment

Low Risk / Desirable Traits

- No evidence of naturalization or invasiveness found
- Unarmed (no spines or thorns)
- Landscaping and ornamental value