

Taxon: Pittosporum senacia**Family:** Pittosporaceae**Common Name(s):** Bois carotte
Bois de joli cœur
Bois de mangue marron
Joli cœur**Synonym(s):** Pittosporum lanceolatum Cordem.
Pittosporum mauritianum Loddiges
Senacia lanceolata Tul.
Senacia undulata (Lam.) Lam.**Assessor:** Assessor**Status:** Assessor Approved**End Date:** 2 Jun 2014**WRA Score:** 7.0**Designation:** H(HPWRA)**Rating:** High Risk**Keywords:** Naturalizing, Tropical Tree, Unarmed, Shade-tolerant, Bird-dispersed

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	y
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	y
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed		
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		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals		
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
408	Creates a fire hazard in natural ecosystems		

Qsn #	Question	Answer Option	Answer
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)		
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets		
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat		
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation		
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
702	Propagules dispersed intentionally by people		
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)		
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m ²)		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Coode, M. J. 1976. Notes on Pittosporaceae and Myrsinaceae of the Mascarenes. Kew Bulletin 31(2): 221-225	No evidence

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2014. 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
	Coode, M. J. 1976. Notes on Pittosporaceae and Myrsinaceae of the Mascarenes. Kew Bulletin 31(2): 221-225	"The family is represented in the Mascarenes by three species of the genus <i>Pittosporum</i> ..." ... " <i>P. senacia</i> Putterl. is found in various forms in Mauritius, Reunion (where it is very variable), Madagascar and the Seychelles."

202	Quality of climate match data	High
	Source(s)	Notes
	Coode, M. J. 1976. Notes on Pittosporaceae and Myrsinaceae of the Mascarenes. Kew Bulletin 31(2): 221-225	

203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	Coode, M. J. 1976. Notes on Pittosporaceae and Myrsinaceae of the Mascarenes. Kew Bulletin 31(2): 221-225	[Environmentally versatile in tropical climates, with an elevation range exceeding 1000 m] "The typical subspecies has, in Reunion, a wider altitudinal range and ecological tolerance, from the wet lowland forests of St. Philippe in the SE. to the relatively dry forests of the Ravine de la Grande Chaloupe in the NW., and to the upper limit of the species at c. 2200 m in Cilaos. It is fairly uniform in Mauritius but variable in Reunion."

204	Native or naturalized in regions with tropical or subtropical climates	y
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Qsn #	Question	Answer
	Source(s)	Notes
	Coode, M. J. 1976. Notes on Pittosporaceae and Myrsinaceae of the Mascarenes. Kew Bulletin 31(2): 221-225	"The family is represented in the Mascarenes by three species of the genus <i>Pittosporum</i> ..." ... " <i>P. senacia</i> Putterl. is found in various forms in Mauritius, Reunion (where it is very variable), Madagascar and the Seychelles."

205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2014. New plant records for the Hawaiian Islands 2012–2013. Bishop Museum Occasional Papers 115: 7–17	"Native to the Seychelles and Mascarene islands, <i>Pittosporum senacia</i> is virtually un - known outside its native range. This species is only known from two botanical gardens on o'ahu, and was collected as naturalized at one of them."

301	Naturalized beyond native range	y
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2014. New plant records for the Hawaiian Islands 2012–2013. Bishop Museum Occasional Papers 115: 7–17	"Native to the Seychelles and Mascarene islands, <i>Pittosporum senacia</i> is virtually un - known outside its native range. This species is only known from two botanical gardens on o'ahu, and was collected as naturalized at one of them. Fifteen plants of various sizes were seen in the collection area, and many more were scattered upslope from the original planting site, growing in the understory of a non-native mesic forest in an unmanaged portion of the garden, presumably spread by birds."

302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Tassin, J., Médoc, J. M., Kull, C. A., Rivière, J. N. and Balent, G. 2009, Can invasion patches of <i>Acacia mearnsii</i> serve as colonizing sites for native plant species on Réunion (Mascarene archipelago)? African Journal of Ecology, 47: 422–432	[Not regarded as a weed in this study, but <i>P. senacia</i> is listed among pioneer species, suggesting it could invade disturbed habitats] "Another important point is that native plant species recorded in <i>A. mearnsii</i> invasion patches were mostly common pioneer species. Among the eighteen recorded native species, seven (<i>Aphloia theiformis</i> , <i>Antirhea borbonica</i> J.F. Gmel., <i>Doratoxylon apetalum</i> , <i>Nuxia verticillata</i> , <i>Ocotea obtusata</i> (Nees) Kosterm., <i>Pittosporum senacia</i> Putt. and <i>Smilax anceps</i> Willd.) are also able to colonize lava flows from rain forest remnants of Re'union (The'baud & Strasberg, 1997). Some of them were also observed to colonize disturbed sites from forest remnants in similar studies in other countries."

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

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

305	Congeneric weed	y
	Source(s)	Notes
	Weber, E. 2003. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	" <i>Pittosporum undulatum</i> " ... "This tree is a successful gap colonizer and eliminates native vegetation by the low and dense canopies, shading out almost all other species."

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	CIRAD. 2008. Arbres et arbustes indigènes de la Réunion. http://arbres-reunion.cirad.fr/accueil . [Accessed 1 Jun 2014]	"Arbrisseau à petit arbre, glabre, très ramifié. Écorce des rameaux les plus vieux de couleur pâle. Simples, entières, alternes, pétiolées, groupées aux extrémités des rameaux, formant de faux verticilles ou isolées et distantes. Limbe obovale [?] ou elliptique [?] Groupées aux extrémités des rameaux, en ombelles [?] ou en panicules [?] Pétales blancs, oblongs. Fleurs mâles à ovaire rudimentaire, et à style ne dépassant pas les étamines." [Translation from French: "Shrub to small tree, glabrous, with many branches. Bark of older branches light colored. [Leaves] simple, entire, alternate, petiolate, clustered at the ends of branches, forming false whorls or isolated and distant-lamina obovate or elliptical.]

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

403	Parasitic	n
	Source(s)	Notes
	CIRAD. 2008. Arbres et arbustes indigènes de la Réunion. http://arbres-reunion.cirad.fr/accueil . [Accessed 1 Jun 2014]	[Translation from French] "'Shrub to small tree, glabrous, with many branches." [Pittosporaceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	Goodland, T.& Healey, J.R.1996. The invasion of Jamaican montane rainforests by the Australian tree <i>Pittosporum undulatum</i> . School of Agricultural and Forest Sciences, University of Wales, Bangor, UK	[Unknown for <i>P. senacia</i> . Other <i>Pittosporum</i> species are palatable] " <i>P. undulatum</i> has a wide distribution on St Helena where it has had considerable value as a source of fodder...Fodder. In St Helena, <i>P. undulatum</i> is pollarded and fed to penned goats and cattle. It is said to make good fodder (Q. Cronk, pers. comm., 1986), which is rather surprising considering its rather coriaceous leaves, with high levels of secondary compounds, including sapogenins (Higuchi et al. 1983)."

Qsn #	Question	Answer
405	Toxic to animals	
	Source(s)	Notes
	Fleurs Fruits Feuilles de L'île de la Reunion et d'ailleurs. 2014. Pittosporum species. http://fleurs-fruits-feuilles.de.com/pittosporum_species.php . [Accessed 2 Jun 2014]	[Unknown. Toxicity reported from members of genus] "Particularité: Le feuillage contiendrait des substances toxiques pour le bétail, provoquant des troubles gastriques." [Translation from French: "The leaves contain substances toxic to livestock, causing stomach problems."]
406	Host for recognized pests and pathogens	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown
407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence of human toxicity in Pittosporum
408	Creates a fire hazard in natural ecosystems	
	Source(s)	Notes
	Coode, M. J. 1976. Notes on Pittosporaceae and Myrsinaceae of the Mascarenes. Kew Bulletin 31(2): 221-225	[Unknown. Unlikely in wet forests. Possibly in dry forests] "The typical subspecies has, in Reunion, a wider altitudinal range and ecological tolerance, from the wet lowland forests of St. Philippe in the SE. to the relatively dry forests of the Ravine de la Grande Chaloupe in the NW., and to the upper limit of the species at c. 2200 m in Cilaos. It is fairly uniform in Mauritius but variable in Reunion."
409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Frohlich, D.& Lau, A. 2014. New plant records for the Hawaiian Islands 2012–2013. Bishop Museum Occasional Papers 115: 7–17	"...growing in the understory of a non-native mesic forest in an unmanaged portion of the garden, presumably spread by birds."
	Madaule, T. 2006. Etude et Diagnostic de al Foret Semi-Xerophile a La Reunion. CIRAD Forêts La Réunion, Saint-Pierre	"Espèces indigènes et exotiques tolérant l'ombre: le joli cœur (<i>Pittosporum senacia</i>)" [Translation from French: "Native and exotic shade-tolerant species: Pretty Heart (<i>Pittosporum senacia</i>)"]
	Lau, A.& Frohlich, D. 2014. Oahu Early Detection Botanists. Pers. Comm. 15 April	" <i>Pittosporum senacia</i> – growing in dense shade"
	Murugaiyan, P.. 2009. Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version. Mare Aux Cochons. High Altitude freshwater Wetlands. Seychelles Islands. sites.wetlands.org/reports/ris/1SC003_RIS_2009.pdf	[Presumably shade tolerant as an understory species] " <i>Pittosporum senacia</i> subspecies <i>wrightii</i> (NT). Understory tree in rocky areas."
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	

Qsn #	Question	Answer
	Source(s)	Notes
	Coode, M. J. 1976. Notes on Pittosporaceae and Myrsinaceae of the Mascarenes. Kew Bulletin 31(2): 221-225	[Broad range suggests possible tolerance of many soil types] "The typical subspecies has, in Reunion, a wider altitudinal range and ecological tolerance, from the wet lowland forests of St. Philippe in the SE. to the relatively dry forests of the Ravine de la Grande Chaloupe in the NW., and to the upper limit of the species at c. 2200 m in Cilaos. It is fairly uniform in Mauritius but variable in Reunion."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	CIRAD. 2008. Arbres et arbustes indigènes de la Réunion. http://arbres-reunion.cirad.fr/accueil . [Accessed 2 Jun 2014]	"Shrub to small tree, glabrous, with many branches."

412	Forms dense thickets	
	Source(s)	Notes
	Florens, F. V., Baider, C., Martin, G. M., & Strasberg, D. 2012. Surviving 370 years of human impact: what remains of tree diversity and structure of the lowland wet forests of oceanic island Mauritius? Biodiversity and Conservation, 21(8), 2139-2167	[13 <i>Pittosporum senacia</i> individuals recorded on 4 of 5 islands] "Mauritius, a 1,865 km ² oceanic island within the Madagascar and Indian Ocean islands biodiversity hotspot may be regarded as reflecting what awaits many tropical oceanic islands owing to the extreme levels of transformation resulting from over 370 years of human presence. The island has an urgent need to conserve its surviving remnants of native terrestrial habitats. There, however, exists little published quantitative information like species diversity, stem density and basal area in these habitats and other essential parameters for informing their conservation. We surveyed woody native plants in five of the best preserved lowland wet forests using 75 random plots of 100 m ² (totalling 0.75 ha). Density, dominance and frequency values were calculated along with species and family importance values for each site." ... "Table 9 Number of individuals of each species sampled at each of the five study sites and their respective families, and endemism"

501	Aquatic	n
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Terrestrial Tree

502	Grass	n
	Source(s)	Notes
	The Plant List. 2013. Version 1.1. Published on the Internet; http://www.theplantlist.org/ . [Accessed 2 Jun 2014]	Pittosporaceae

503	Nitrogen fixing woody plant	n
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Qsn #	Question	Answer
	Source(s)	Notes
	The Plant List. 2013. Version 1.1. Published on the Internet; http://www.theplantlist.org/ . [Accessed 2 Jun 2014]	Pittosporaceae
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	CIRAD. 2008. Arbres et arbustes indigènes de la Réunion. http://arbres-reunion.cirad.fr/accueil . [Accessed 2 Jun 2014]	[Translation from French] "Shrub to small tree, glabrous, with many branches."
601	Evidence of substantial reproductive failure in native habitat	
	Source(s)	Notes
	World Conservation Monitoring Centre 1998. <i>Pittosporum senacia</i> ssp. <i>wrightii</i> . In: IUCN 2013. IUCN Red List of Threatened Species. Version 2013.2. www.iucnredlist.org	[Possibly related to habitat loss] "Endemic to the Seychelles, the species qualifies as threatened by virtue of its restricted distribution."
602	Produces viable seed	y
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2014. New plant records for the Hawaiian Islands 2012–2013. Bishop Museum Occasional Papers 115: 7–17	"Fifteen plants of various sizes were seen in the collection area, and many more were scattered upslope from the original planting site, growing in the understory of a non-native mesic forest in an unmanaged portion of the garden, presumably spread by birds."
	Safford, R. & Hawkins, F. (eds.). 2013. The Birds of Africa: Volume VIII: The Malagasy Region. Bloomsbury Publishing, London, UK	[Spreads by bird-dispersed seeds] " <i>Zosterops mauritanus</i> " ... "Fruit feeding rarely observed but often revealed by stomach or faecal contents (Cheke 1987 c). Incidence varies geographically and seasonally; most important in lowlands in winter; least in highlands in summer (Cheke 1987 c). Species recorded: native <i>Aphloia theiformis</i> , <i>Diospyros</i> spp., <i>Pittosporum senacia</i> ... "
603	Hybridizes naturally	
	Source(s)	Notes
	Friis, I. 1987. A Reconsideration of <i>Pittosporum</i> in Africa and Arabia. Kew Bulletin. 42(2): 319-335	[Unknown] "Partial isolation and subsequent mixing by hybridization may play an important part in the evolution of these varied taxa, but nothing certain can be stated at the moment."
604	Self-compatible or apomictic	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown
605	Requires specialist pollinators	n

Qsn #	Question	Answer
	Source(s)	Notes
	CIRAD. 2008. Arbres et arbustes indigènes de la Réunion. http://arbres-reunion.cirad.fr/accueil . [Accessed 2 Jun 2014]	[Morphology suggests no requirements for specialized pollinators] "Groupées aux extrémités des rameaux, en ombelles [?] ou en panicules [?] Pétales blancs, oblongs. Fleurs mâles à ovaire rudimentaire, et à style ne dépassant pas les étamines. Fleurs femelles à staminodes ressemblant aux étamines mais plus courts ; ovaire porté par un court gynophore et à style robuste, dépassant les staminodes. " [Translation from French: [inflorescences] grouped at the ends of branches, in umbels or panicles. Petals white, oblong. Male flowers with rudimentary ovary, and style not exceeding the stamens. Female flowers with staminodes resembling stamens, but shorter; ovary supported by a short gynophore with a robust style that exceeds staminodes.]

606	Reproduction by vegetative fragmentation	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

607	Minimum generative time (years)	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	
	Source(s)	Notes
	Fleurs Fruits Feuilles de L'île de la Reunion et d'ailleurs. 2014. http://fleurs-fruits-feuilles-de.com/pittosporum_senacia.php . [Accessed 1 Jun 2014]	[Translation from French] "Female flowers produce small round orange capsules (pictures 4-5), which reveal in opening with 2 valves, red seeds (photo 2) (hence the name pretty heart) coated with a shiny substance and very sticky." [Sticky sap on seeds may allow for external attachment & inadvertent dispersal]

702	Propagules dispersed intentionally by people	
	Source(s)	Notes
	Frohlich, D.& Lau, A. 2014. New plant records for the Hawaiian Islands 2012–2013. Bishop Museum Occasional Papers 115: 7–17	"Native to the Seychelles and Mascarene islands, <i>Pittosporum senacia</i> is virtually unknown outside its native range. This species is only known from two botanical gardens on o'ahu, and was collected as naturalized at one of them." [Intentionally introduced into the Hawaiian Islands, but not widely cultivated by nurseries or landscaping industry]
	CIRAD. 2008. Arbres et arbustes indigènes de la Réunion. http://arbres-reunion.cirad.fr/accueil . [Accessed]	"Ornement et pharmacopée." [Translation from French: Ornamental & medicinal. Potential for intentional cultivation, but currently not widely used]
	WRA Specialist. 2014. Personal Communication	Currently no evidence found of widespread cultivation or deliberate introductions by nursery or landscaping industries

Qsn #	Question	Answer
703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	No evidence, and, as a small tree, unlikely to become a contaminant of produce or to be grown with produce

704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Thebaud, C., & Strasberg, D. 1997. Plant dispersal in fragmented landscapes: a field study of woody colonization in rainforest remnants of the Mascarene Archipelago. Pp 321-332 in W. F. Laurance & R. O. Bierregaard (eds.). Tropical Forest Remnants: Ecology, Management and Conservation of Fragmented Communities, University of Chicago Press, Chicago, IL	[Fleshy-fruited. Not adapted for wind dispersal] "Table 21.1. Woody species and mean colonization rates outside forest remnants at Grand Brule, La Reunion, Mascarene Archipelago." ... "Pittosporum senacia - Rate (m/yr) = 0.23 (8); Growth = S; Dispersal = F; Fruit length = 7.2" ... "Dispersal mode: ... (F) Fleshy fruit, seeds dispersed by vertebrates."

705	Propagules water dispersed	n
	Source(s)	Notes
	Tassin, J., Médoc, J. M., Kull, C. A., Rivière, J. N. and Balent, G. 2009, Can invasion patches of <i>Acacia mearnsii</i> serve as colonizing sites for native plant species on Réunion (Mascarene archipelago)?. African Journal of Ecology, 47: 422-432	"Table 2 Native species colonizing <i>Acacia mearnsii</i> invasion patches: number of plots and invasion patches colonized within the sample of 182 plots and 48 invasion patches, seed dispersal means (a, anemochory; b, barochory; o, ornithochory) and age range of colonized invasion patches" ... "Pittosporum senacia - Seed dispersal = o"

706	Propagules bird dispersed	y
	Source(s)	Notes
	Frohlich, D. & Lau, A. 2014. New plant records for the Hawaiian Islands 2012-2013. Bishop Museum Occasional Papers 115: 7-17	"Fifteen plants of various sizes were seen in the collection area, and many more were scattered upslope from the original planting site, growing in the understory of a non-native mesic forest in an unmanaged portion of the garden, presumably spread by birds."
	Gibbs, D. 2010. Pigeons and Doves: A Guide to the Pigeons and Doves of the World. A & C Black Publishers. London, UK	"Pink Pigeon. <i>Columba mayeri</i> " ... "Found in small groups, singly or in pairs. It is known to make flights up to 8 km in search of food. Feeding involves a wide variety of fruits and berries in the wild, including <i>Nuxia verticillata</i> , <i>Apholia theiformis</i> , <i>Erythospermum monticolum</i> , <i>Lantana camara</i> , <i>Diospyros tessellaria</i> and <i>Pittosporum senacia</i> , the leaves of <i>Eugenia</i> and <i>Ligustrum</i> , and flowers;"
	Tassin, J., Médoc, J. M., Kull, C. A., Rivière, J. N. and Balent, G. 2009, Can invasion patches of <i>Acacia mearnsii</i> serve as colonizing sites for native plant species on Réunion (Mascarene archipelago)?. African Journal of Ecology, 47: 422-432	"Table 2 Native species colonizing <i>Acacia mearnsii</i> invasion patches: number of plots and invasion patches colonized within the sample of 182 plots and 48 invasion patches, seed dispersal means (a, anemochory; b, barochory; o, ornithochory) and age range of colonized invasion patches" ... "Pittosporum senacia - Seed dispersal = o"

Qsn #	Question	Answer
	Thebaud, C., & Strasberg, D. 1997. Plant dispersal in fragmented landscapes: a field study of woody colonization in rainforest remnants of the Mascarene Archipelago. Pp 321-332 in W. F. Laurance & R. O. Bierregaard (eds.). Tropical Forest Remnants: Ecology, Management and Conservation of Fragmented Communities, University of Chicago Press, Chicago, IL	"Table 21.1. Woody species and mean colonization rates outside forest remnants at Grand Brule, La Reunion, Mascarene Archipelago." ... "Pittosporum senacia - Rate (m/yr) = 0.23 (8); Growth = S; Dispersal = F; Fruit length = 7.2" ... "Dispersal mode: ... (F) Fleshy fruit, seeds dispersed by vertebrates."
	Safford, R. & Hawkins, F. (eds.). 2013. The Birds of Africa: Volume VIII: The Malagasy Region. Bloomsbury Publishing, London, UK	"Zosterops mauritianus" ... "Fruit feeding rarely observed but often revealed by stomach or faecal contents (Cheke 1987 c). Incidence varies geographically and seasonally; most important in lowlands in winter; least in highlands in summer (Cheke 1987 c). Species recorded: native <i>Aphloia theiformis</i> , <i>Diospyros</i> spp., <i>Pittosporum senacia</i> ... "

707	Propagules dispersed by other animals (externally)	
	Source(s)	Notes
	Fleurs Fruits Feuilles de L'ile de la Reunion et d'ailleurs. 2014. http://fleurs-fruits-feuilles-de.com/pittosporum_senacia.php . [Accessed 1 Jun 2014]	[Translation from French] "Female flowers produce small round orange capsules (pictures 4-5), which reveal in opening with 2 valves, red seeds (photo 2) (hence the name pretty heart) coated with a shiny substance and very sticky." [Sticky sap on seeds may allow for external attachment to animals]

708	Propagules survive passage through the gut	y
	Source(s)	Notes
	Safford, R. & Hawkins, F. (eds.). 2013. The Birds of Africa: Volume VIII: The Malagasy Region. Bloomsbury Publishing, London, UK	"Zosterops mauritianus" ... "Fruit feeding rarely observed but often revealed by stomach or faecal contents (Cheke 1987 c). Incidence varies geographically and seasonally; most important in lowlands in winter; least in highlands in summer (Cheke 1987 c). Species recorded: native <i>Aphloia theiformis</i> , <i>Diospyros</i> spp., <i>Pittosporum senacia</i> ... "
	Thebaud, C., & Strasberg, D. 1997. Plant dispersal in fragmented landscapes: a field study of woody colonization in rainforest remnants of the Mascarene Archipelago. Pp 321-332 in W. F. Laurance & R. O. Bierregaard (eds.). Tropical Forest Remnants: Ecology, Management and Conservation of Fragmented Communities, University of Chicago Press, Chicago, IL	[Presumably Yes. Fleshy-fruited & adapted for frugivory] "Table 21.1. Woody species and mean colonization rates outside forest remnants at Grand Brule, La Reunion, Mascarene Archipelago." ... "Pittosporum senacia - Rate (m/yr) = 0.23 (8); Growth = S; Dispersal = F; Fruit length = 7.2" ... "Dispersal mode: ... (F) Fleshy fruit, seeds dispersed by vertebrates."
	Meyer, J. Y., & Butaud, J. F. 2009. The impacts of rats on the endangered native flora of French Polynesia (Pacific Islands): drivers of plant extinction or coup de grâce species?. <i>Biological invasions</i> , 11(7): 1569-1585	[Rodents chew on bark, stem or leaves, but not documented to damage seeds in this study] "Table 4 Rats damages on native and endemic plant species in other Indo-Pacific tropical islands (excluding New Zealand) according to published literature and personal observations" [Includes <i>Pittosporum senacia</i> - Rat damage type - BSL - BSL bark, stem or leaf damages]

801	Prolific seed production (>1000/m2)	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

Qsn #	Question	Answer
802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	CIRAD. 2008. Arbres et arbustes indigènes de la Réunion. http://arbres-reunion.cirad.fr/accueil . [Accessed 1 Jun 2014]	[Translation from French] "Seeds of 'Joli cœur' persist over 2 years in cold storage." [Unknown from field conditions]
803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2014. 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
	WRA Specialist. 2014. Personal Communication	Unknown
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Thrives in tropical climates
- Elevation range exceeds 1000 m
- Naturalizing on Oahu, Hawaiian Islands
- Other *Pittosporum* species have become invasive
- Shade tolerant
- Produces fleshy fruits & seeds that are dispersed by birds & other frugivorous animals
- Lack of pertinent biological & ecological information makes accurate risk prediction difficult

Low Risk Traits

- No reports of naturalization or invasiveness elsewhere, but apparently not widely cultivated outside native range
- Unarmed (no spines, thorns or burrs)
- Ornamental & medicinal uses in native range