

Key Words: High Risk, Escaped In Puerto Rico, Tropical Shrub, Edible Fruit, Bird-dispersed

**Family:** *Rubiaceae*

**Taxon:** *Rosenbergiodendron formosum*

**Synonym:** *Randia formosa* (Jacq.) K. Schum.  
*Gardenia mussaenda* L. f.  
*Mussaenda formosa* Jacq. (basionym)  
*Randia mussaenda* (L. f.) DC.

**Common Name:** blackberry jam fruit  
raspberry bush  
jasmin de rosa

**Questionnaire :** current 20090513      **Assessor:** Chuck Chimera      **Designation:** H(HPWRA)  
**Status:** Assessor Approved      **Data Entry Person:** Assessor      **WRA Score** 1

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	
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	
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	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	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	
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 **1**

## Supporting Data:

101	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). Brittonia. 50(4): 452-466.	[Is the species highly domesticated? No evidence] "Rosenbergiodendron formosum var. formosum is characterized by the rounded to elliptic fruits, the medium-sized corolla tubes (mostly 6-12 cm long) and the usually large corolla lobes (mostly 2.5-4.5 cm long). The usually distinctly acute leaves vary from being narrowly elliptic" ... "Rosenbergiodendron formosum var. nitidum differs from var. formosum by its shiny leaves with usually distinctly immersed midrib and secondary veins, and by the (possibly) larger fruit. Variety nitidum might deserve the rank of species, but due to the scarcity of material the range of variation cannot be properly judged."
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	1980. Woodson, Jr., R.E./Schery, R.W./Dwyer, J.D.. Flora of Panama. Part IX. Family 179. Rubiaceae. Part 2. Annals of the Missouri Botanical Garden. 67(2): 257-522.	[Species suited to tropical or subtropical climate(s) 2-High] "Randia formosa ranges from Panama to Peru and Brazil. It also occurs in the Antilles."
201	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). Brittonia. 50(4): 452-466.	[Species suited to tropical or subtropical climate(s) - 2-High] "Distribution and habitat. Rosenbergiodendron formosum var. formosum seems to be restricted to mostly drier lowland areas in Panama, N Colombia, NW Venezuela, and W Ecuador" ... "Rosenbergiodendron formosum var. nitidum is known only from Venezuela along Rio Orinoco."
202	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). Brittonia. 50(4): 452-466.	[Quality of climate match data 2-High]
203	2012. Dave's Garden. PlantFiles: Blackberry Jam Fruit, Jasmin de Rosa - Randia formosa. <a href="http://davesgarden.com/guides/pf/go/55844/">http://davesgarden.com/guides/pf/go/55844/</a> [Accessed 23 Nov 2012]	[Broad climate suitability (environmental versatility)? No] "Hardiness: 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)"
203	2012. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, <a href="http://www.tropicos.org/">http://www.tropicos.org/</a>	[Broad climate suitability (environmental versatility)? No] Collected in tropical latitudes from 0-800 m elevation
204	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). Brittonia. 50(4): 452-466.	"Distribution and habitat. [Native or naturalized in regions with tropical or subtropical climates? Yes] "Rosenbergiodendron formosum var. formosum seems to be restricted to mostly drier lowland areas in Panama, N Colombia, NW Venezuela, and W Ecuador" ... "Rosenbergiodendron formosum var. nitidum is known only from Venezuela along Rio Orinoco."
205	1918. Britton, N.L.. The flora of the American Virgin Islands. New York Botanical Garden, New York, NY	[Does the species have a history of repeated introductions outside its natural range? American Virgin Islands] "Roadsides, St. Croix. Planted for ornament."
205	2000. Liogier, A.H./ Martorell, L.F.. Flora of Puerto Rico and adjacent islands: a systematic synopsis. Second Edition Revised. La Editorial, UPR, San Juan, Puerto Rico	[Does the species have a history of repeated introductions outside its natural range? Puerto Rico] "Planted as an ornamental and escaped in Puerto Rico"
205	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	[Does the species have a history of repeated introductions outside its natural range? Hawaii] "Two species are occasionally cultivated in Hawaii for their long white corollas."
301	2007-2012. Gann, G.D./Bradley, K.A.. The Floristic Inventory and Assessment of Puerto Rico Database Online (BETA). The Institute for Regional Conservation, Miami, FL <a href="http://regionalconservation.org/">http://regionalconservation.org/</a>	[Naturalized beyond native range? Possibly Yes] "Native Status: Not Native, Naturalized"
301	2000. Liogier, A.H./ Martorell, L.F.. Flora of Puerto Rico and adjacent islands: a systematic synopsis. Second Edition Revised. La Editorial, UPR, San Juan, Puerto Rico	[Naturalized beyond native range? Possibly Yes in Puerto Rico] "Planted as an ornamental and escaped in Puerto Rico"
301	2012. Acevedo-Rodríguez, P./Strong, M.T.. Catalogue of Seed Plants of the West Indies. Smithsonian Contributions to Botany. 98: 1192 pp.	[Naturalized beyond native range? Listed as "Cultivated" in Puerto Rico] "Distribution: Cultivated in Puerto Rico, Virgin Islands (St. Croix, St. John), Lesser Antilles (St. Lucia), Tobago, and Trinidad." [In contrast to Liogier & Martorell 2000]

301	2012. Graveson, R.. Plants of Saint Lucia - A Pictorial Flora of Wild and Cultivated Vascular Plants. <a href="http://www.saintlucianplants.com/index.html">http://www.saintlucianplants.com/index.html</a>	[Naturalized beyond native range? Escaped] "We have only found one specimen, which was growing wild, Laborie. Native to Central America (Panama), northern South America to Ecuador." ... "Possibly introduced as a curiosity (the blue pulp around the seeds tastes of blackberry jam) and escaped, or possibly grew from a seed released by a migratory bird."
302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? 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 evidence]
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence]
305	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Congeneric weed? No evidence] Several species of <i>Randia</i> listed as naturalized and/or weed, but no evidence for <i>Rosenbergiodendron</i>
401	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Produces spines, thorns or burrs? No] "Shrubs or small trees to 4 m tall. Stipules ca. 0.3 cm long. Leaves sessile or petiolate; petioles to 0.5 cm long on the longshoots; leaf blade narrowly elliptic to obovate, 3.5-9 X 2-4 cm, acute to acuminate at apex, attenuate to shortly attenuate at base, all veins level adaxially or midrib and secondary veins immersed, abaxial side with midrib and several of the secondary veins prominent, tertiary veins and veinlets level, leaf adaxially lightly sericeous when young, glabrescent, abaxially lightly sericeous when young, later mostly sericeous only on midrib and secondary veins."
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Parasitic? No] "Shrubs or small trees to 4 m tall." [Rubiaceae]
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 <a href="http://books.google.com/books?id=h7tb-5ZaQ8C&amp;pg=PA17&amp;lpg=PA17&amp;dq=International+poisonous+plants+checklist:+an+evidence-based+reference&amp;">http://books.google.com/books?id=h7tb-5ZaQ8C&amp;pg=PA17&amp;lpg=PA17&amp;dq=International+poisonous+plants+checklist:+an+evidence-based+reference&amp;</a>	[Toxic to animals? No evidence]
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 <a href="http://books.google.com/books?id=h7tb-5ZaQ8C&amp;pg=PA17&amp;lpg=PA17&amp;dq=International+poisonous+plants+checklist:+an+evidence-based+reference&amp;">http://books.google.com/books?id=h7tb-5ZaQ8C&amp;pg=PA17&amp;lpg=PA17&amp;dq=International+poisonous+plants+checklist:+an+evidence-based+reference&amp;</a>	[Causes allergies or is otherwise toxic to humans? No evidence]
407	2012. Top Tropicals. <i>Randia formosa</i> . <a href="http://toptropicals.com/html/toptropicals/plant_wk/randia.htm">http://toptropicals.com/html/toptropicals/plant_wk/randia.htm</a> [Accessed 23 Nov 2012]	[Causes allergies or is otherwise toxic to humans? No evidence. Edible fruit] "You don't have to make a preserve with this fruit - the fresh pulp tastes exactly like Blackberry Jam. Yet it's not too sweet and actually tastes even better than any preserve. When you see the shrub all covered by yellow fruit, you are anxious to pick, crack open all of them, and suck out the sweet and tasty exotic pulp... This is one of those fun rare fruits than one never gets tired of! " ... "The fruit contains two cells with small flat seeds surrounded by sweet black soft pulp tasting like "blackberry jam", beloved of children and adults. "
408	1980. Woodson, Jr., R.E./Schery, R.W./Dwyer, J.D.. Flora of Panama. Part IX. Family 179. Rubiaceae. Part 2. <i>Annals of the Missouri Botanical Garden</i> . 67(2): 257-522.	[Creates a fire hazard in natural ecosystems? No evidence]
408	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Creates a fire hazard in natural ecosystems? No] "Distribution and habitat. <i>Rosenbergiodendron formosum</i> var. <i>formosum</i> seems to be restricted to mostly drier lowland areas in Panama, N Colombia, NW Venezuela, and W Ecuador" [Occurs in drier habitats, but no evidence that this species increases fire hazards in natural ecosystems]

409	2012. Top Tropicals. <i>Randia formosa</i> . <a href="http://toptropicals.com/html/topropicals/plant_wk/randia.htm">http://toptropicals.com/html/topropicals/plant_wk/randia.htm</a> [Accessed 23 Nov 2012]	[Is a shade tolerant plant at some stage of its life cycle? Yes] "Tolerates shade and will flower and fruit in filtered light, which is appreciated by container gardeners who grow these plants indoors or in a crowded greenhouse."
410	1998. Riffle, R.L.. The Tropical Look - An Encyclopedia of Dramatic Landscape Plants. Timber Press, Portland, OR	[Tolerates a wide range of soil conditions?' :Average well-drained soil"
410	2012. Top Tropicals. <i>Randia formosa</i> . <a href="http://toptropicals.com/html/topropicals/plant_wk/randia.htm">http://toptropicals.com/html/topropicals/plant_wk/randia.htm</a> [Accessed 23 Nov 2012]	[Tolerates a wide range of soil conditions?] "It requires acidic soil and will feel happy in a well-drained potting mix. "
411	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Climbing or smothering growth habit? No] "Shrubs or small trees to 4 m tall."
412	1996. Condit, R./Hubbell, S.P./Foster, R.B.. Changes in Tree Species Abundance in a Neotropical Forest: Impact of Climate Change. <i>Journal of Tropical Ecology</i> . 12(2): 231-256..	[Forms dense thickets? No evidence in Barro Colorado] "Table 1. Total populations of all 313 species recorded in the 50 ha plot on Barro Colorado Island, above two dbh cutoffs." [No evidence that <i>Rosenbergiodendron formosum</i> forms dense thickets]
412	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Forms dense thickets? No evidence]
412	2000. Liogier, A.H./ Martorell, L.F.. Flora of Puerto Rico and adjacent islands: a systematic synopsis. Second Edition Revised. La Editorial, UPR, San Juan, Puerto Rico	[Forms dense thickets? No evidence] "Planted as an ornamental and escaped in Puerto Rico"
412	2002. Miranda, I.S./Absy, M.L./Rebêlo, G.H.. Community Structure of Woody Plants of Roraima Savannas, Brazil. <i>Plant Ecology</i> . 164: 109-123.	[Forms dense thickets? No evidence] "Patterns of diversity and community organisation of woody species of savannahs in Roraima, northern Brazil, were investigated, to relate structural data with edaphic factors and to analyse floristic relationships using classification and ordination techniques. The species studied refer to an inventory of 45 plots of 150 x 10 m (0.15 ha) distributed in the Roraima savannahs. We identified 13,410 woody individuals, belonging to 30 families, 52 genera and 71 species. The percentage of rare species is high, 58%. The richness, diversity, density and basal area of the studied plots suggest that Roraima savannahs are poor in species. The most important species include element dwarf shrubs ( <i>Byrsonima verbascifolia</i> , <i>Tibouchina aspera</i> and <i>Cassia obtusifolia</i> ), shrubby ( <i>Psidium guianense</i> , <i>Randia formosa</i> , ..."
501	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Aquatic? No] "Shrubs or small trees to 4 m tall." [Terrestrial]
502	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Grass? No] Rubiaceae
503	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Nitrogen fixing woody plant? No] Rubiaceae
504	1980. Woodson, Jr., R.E./Schery, R.W./Dwyer, J.D.. Flora of Panama. Part IX. Family 179. Rubiaceae. Part 2. <i>Annals of the Missouri Botanical Garden</i> . 67(2): 257-522.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Shrubs to 5 m tall, the branches 8.5-20.0 cm long, terete, unarmed, opposite, stiff, strongly ascending, usually glabrous, occasionally pubescent, the nodes crowded terminally, otherwise well spaced."
601	1980. Woodson, Jr., R.E./Schery, R.W./Dwyer, J.D.. Flora of Panama. Part IX. Family 179. Rubiaceae. Part 2. <i>Annals of the Missouri Botanical Garden</i> . 67(2): 257-522.	[Evidence of substantial reproductive failure in native habitat? No evidence]
601	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Evidence of substantial reproductive failure in native habitat? No evidence]
602	1998. Riffle, R.L.. The Tropical Look - An Encyclopedia of Dramatic Landscape Plants. Timber Press, Portland, OR	[Produces viable seed? Yes] "Propagation by seeds and cuttings"
603	1998. Gustafsson, C.G.R.. The Neotropical <i>Rosenbergiodendron</i> (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Hybridizes naturally? Unknown] "Direct studies to find out if there really is hybridization and apomixis within <i>Rosenbergiodendron</i> are needed."

604	2005. Ramírez, N.. Plant sexual systems, dichogamy, and herkogamy in the Venezuelan Central Plain. <i>Flora - Morphology, Distribution, Functional Ecology of Plants</i> . 200(1): 30–48.	[Self-compatible or apomictic? Unknown, but evidence suggests possibly no] "Herkogamy is defined here as having the stigma positioned at a separation of at least 3mm from the anther in the smallest flowers (Ramírez, 1993) and at least 10mm in the largest flowers. In this study, the occurrence of ordered herkogamy was examined (Webb and Lloyd, 1986). Plant species were classified as herkogamous and nonherkogamous." ... "Appendix A Sexual system, dichogamy, herkogamy, and dispersal syndrome for 210 plant species in the Venezuelan Central Plain" [Randia formosa - Sexual System = hermaphrodite; Dichogamy = protandry; Herkogamy = herkogamy]
605	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Requires specialist pollinators?] "Flowers solitary and terminal. Calyx tube 0.4-0.6 cm long, hairs and collectors in a dense ring inside at base, lobes 0.4-0.9(-1.1) cm long. Corolla tube 6-10(-12) cm long, outside densely antrorsely sericeous, lobes 2.5-4.5 X 0.7-1.5 cm. Anthers 0.5-1 cm long. Style 6-12 cm long, stigma lobes 0.5- 0.8 cm long."
605	2004. Ramírez, N.. Ecology of Pollination in a Tropical Venezuelan Savanna. <i>Plant Ecology</i> . 173(2): 171-189.	[Requires specialist pollinators? No] "Table AI. Plant species, Life form, habitat, and pollination modes of 164 plant species of a Venezuelan Central Plain" [Randia formosa - Pollination System = Moth]
606	1998. Riffle, R.L.. The Tropical Look - An Encyclopedia of Dramatic Landscape Plants. Timber Press, Portland, OR	[Reproduction by vegetative fragmentation? No evidence] "Propagation by seeds and cuttings"
607	2012. Top Tropicals. <i>Randia formosa</i> . <a href="http://toptropicals.com/html/toptropicals/plant_wk/randia.htm">http://toptropicals.com/html/toptropicals/plant_wk/randia.htm</a> [Accessed 23 Nov 2012]	[Minimum generative time (years)? 1+] "Starts fruiting in young age - 1-1.5 year from seed. 1-3 gallon container plants start blooming and fruiting when reach about 2 ft tall."
701	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Unlikely] "Fruits subspherical to ellipsoidal, young fruits ± sericeous, to 4.5 cm long, to 2.5 cm diam.; seeds 0.5-0.8 X 0.3- 0.6 cm." [Fruits & seeds lack means of external attachment, although seeds may be small enough that they may occasionally be transported in mud on boots or tires]
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] "Two species are occasionally cultivated in Hawaii for their long white corollas."
702	2009. Weaver, Jr., R.E./Anderson, P.J.. Botany Section. TRI-ODOLOGY. 48(2): .Florida Department of Agriculture and Consumer Services, Division of Plant Industry,	[Propagules dispersed intentionally by people? Yes] "The fruit, for which the plant is prized, is oblong to oval and 2-3 cm long (roughly olive sized and shaped) with very sweet, black pulp. This shrub can be cultivated much like its relative, the gardenia, to provide a fragrant ornamental as well as an edible addition to the landscape."
703	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Propagules likely to disperse as a produce contaminant? Unlikely] "Fruits subspherical to ellipsoidal, young fruits ± sericeous, to 4.5 cm long, to 2.5 cm diam.; seeds 0.5-0.8 X 0.3- 0.6 cm." [Fruits & seeds relatively large & would probably be detected before becoming a contaminant of produce]
704	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Propagules adapted to wind dispersal? No] "Fruits subspherical to ellipsoidal, young fruits ? sericeous, to 4.5 cm long, to 2.5 cm diam.; seeds 0.5-0.8 X 0.3- 0.6 cm."
705	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Propagules water dispersed? Fleshy-fruited. Primarily adapted for vertebrate dispersal, although fruits may possibly be buoyant] "Fruits subspherical to ellipsoidal, young fruits ± sericeous, to 4.5 cm long, to 2.5 cm diam.; seeds 0.5-0.8 X 0.3- 0.6 cm." ... "Distribution and ecology. Rosenbergiodendron formosum var. nitidum is known only from Venezuela along Rio Orinoco."
706	1982. Sugden, A.M.. Long-Distance Dispersal, Isolation, and the Cloud Forest Flora of the Serrania de Macuira, Guajira, Colombia. <i>Biotropica</i> . 14(3): 208-219.	[Propagules bird dispersed? Yes] "Appendix. Notes on the propagules and their dispersal." [Randia formosa = dispersed by birds internally]
706	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Propagules bird dispersed? Presumably Yes] "Fruits subspherical to ellipsoidal, young fruits ± sericeous, to 4.5 cm long, to 2.5 cm diam.; seeds 0.5-0.8 X 0.3- 0.6 cm." [Fleshy-fruited]
707	1998. Gustafsson, C.G.R.. The Neotropical Rosenbergiodendron (Rubiaceae, Gardenieae). <i>Brittonia</i> . 50(4): 452-466.	[Propagules dispersed by other animals (externally)? No evidence. Likely adapted for internal dispersal] "Fruits subspherical to ellipsoidal, young fruits ± sericeous, to 4.5 cm long, to 2.5 cm diam.; seeds 0.5-0.8 X 0.3- 0.6 cm."
708	1982. Sugden, A.M.. Long-Distance Dispersal, Isolation, and the Cloud Forest Flora of the Serrania de Macuira, Guajira, Colombia. <i>Biotropica</i> . 14(3): 208-219.	[Propagules survive passage through the gut? Yes] "Appendix. Notes on the propagules and their dispersal." [Randia formosa = dispersed by birds internally]

708	2012. Proyecto Tití. Plant Species Consumed by Cotton-top Tamarins. <a href="http://proyectotiti.com/english/plants-in-cotton-top-diet.htm">http://proyectotiti.com/english/plants-in-cotton-top-diet.htm</a> [Accessed 23 Nov 2012]	[Propagules survive passage through the gut? Presumably Yes] "Plant Species Consumed by Cotton-top Tamarins" [Consume fruit of <i>R. formosum</i> ]
801	1980. Woodson, Jr., R.E./Schery, R.W./Dwyer, J.D.. Flora of Panama. Part IX. Family 179. Rubiaceae. Part 2. Annals of the Missouri Botanical Garden. 67(2): 257-522.	[Prolific seed production (>1000/m <sup>2</sup> )?] "Fruits sessile, oblong or rotund, 1.5-2.5 cm long, occasionally wider than long, usually drying black, glabrate to sparsely hairy, the seeds numerous, plane, disposed 4-seriately."
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a>	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "Storage Behaviour: Orthodox? Storage Conditions: Seeds survived drying to ambient relative humidity"
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	1998. Riffle, R.L.. The Tropical Look - An Encyclopedia of Dramatic Landscape Plants. Timber Press, Portland, OR	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown] "...infrequent pruning does not harm it."
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**

- Escaped in Puerto Rico & possibly Saint Lucia
- Thrives in tropical climates
- Shade tolerant
- Viable seeds dispersed by birds, mammals & people
- Reaches reproductive maturity in 1 to 1.5 years

### **Low Risk / Desirable Traits**

- Despite ability to spread, no negative impacts have been documented
- Unarmed (no spines, thorns or burrs)
- Non-toxic
- Edible fruit
- Fragrant flowers
- Landscaping and ornamental value