

<b>Taxon:</b> Solanum seaforthianum Andrews	<b>Family:</b> Solanaceae
<b>Common Name(s):</b> black nightshade Brazilian nightshade climbing nightshade deadly nightshade Italian jasmine potato creeper St. Vincent lilac	<b>Synonym(s):</b> Solanum cyrrhosum Dunal Solanum kerrii Bonati Solanum prunifolium Roem. & Schult. Solanum salignum Roem. & Schult. Solanum venustum Kunth

<b>Assessor:</b> Chuck Chimera	<b>Status:</b> Assessor Approved	<b>End Date:</b> 22 Apr 2019
<b>WRA Score:</b> 12.0	<b>Designation:</b> H(Hawai'i)	<b>Rating:</b> High Risk

**Keywords:** Woody Vine, Environmental Weed, Toxic, Self-Compatible, 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	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	y
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed		
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	y
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	y=1, n=0	y

Qsn #	Question	Answer Option	Answer
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	y
408	Creates a fire hazard in natural ecosystems		
409	Is a shade tolerant plant at some stage of its life cycle		
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	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		
604	Self-compatible or apomictic	y=1, n=-1	y
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	y
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		
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 <sup>2</sup> )		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides	y=-1, n=1	y
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
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	[No evidence of domestication] "Probably native to the islands of the West Indies and coastal northern South America in Colombia and Venezuela, perhaps also on the Caribbean slope of Central America and Mexico; widely cultivated in the tropics and subtropics (often escaped and apparently naturalised)."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2019). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2019). 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
	USDA, ARS, Germplasm Resources Information Network. 2019. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 16 Apr 2019]	"Native Southern America CARIBBEAN: Trinidad and Tobago [Trinidad] NORTHERN SOUTH AMERICA: Venezuela WESTERN SOUTH AMERICA: Colombia"

202	Quality of climate match data	High
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network. 2019. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 16 Apr 2019]	

Qsn #	Question	Answer
203	<b>Broad climate suitability (environmental versatility)</b>	<b>n</b>
	<b>Source(s)</b>	<b>Notes</b>
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets"
	Missouri Botanical Garden. (2019). <i>Solanum seforthianum</i> . <a href="http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22">http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22</a> . [Accessed 22 Apr 2019]	"Zone: 11 to 12"

204	<b>Native or naturalized in regions with tropical or subtropical climates</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Native to the West Indies, but widely grown as an ornamental and now naturalized in many tropical areas; in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets, on Kaua'i, O'ahu, Moloka'i, and Maui. Cultivated on O'ahu as early as 1916 (Rock 17162, BISH)."

205	<b>Does the species have a history of repeated introductions outside its natural range?</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	"Probably native to the islands of the West Indies and coastal northern South America in Colombia and Venezuela, perhaps also on the Caribbean slope of Central America and Mexico; widely cultivated in the tropics and subtropics (often escaped and apparently naturalised)."
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"widely grown as an ornamental and now naturalized in many tropical areas; in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets, on Kaua'i, O'ahu, Moloka'i, and Maui. Cultivated on O'ahu as early as 1916 (Rock 17162, BISH)."

301	<b>Naturalized beyond native range</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	"Probably native to the islands of the West Indies and coastal northern South America in Colombia and Venezuela, perhaps also on the Caribbean slope of Central America and Mexico; widely cultivated in the tropics and subtropics (often escaped and apparently naturalised)."
	Staples, G. W., Imada, C.T. & Herbst, D. R. 2003. New Hawaiian plant records for 2001. <i>Bishop Museum Occasional Papers</i> . 74: 7-21	" <i>Solanum seforthianum</i> Andrews New island record Previously known to be naturalized on Kaua'i, O'ahu, Moloka'i, and Maui (Wagner et al., 1999: 1275), this is the first record of star potato vine on the island of Hawai'i. Material examined. HAWAII: Hämäkua Distr., Waip'fo Valley, on weedy roadside cliff face adjacent to small boat dock near mouth of valley, 13 Mar 2001, C. Imada, T. Kelley & C. Puttock 2001-18."

Qsn #	Question	Answer
	D'Arcy, W. G. (1974). <i>Solanum</i> and its close relatives in Florida. <i>Annals of the Missouri Botanical Garden</i> , 61(3): 819-867	" <i>Solanum seforthianum</i> is occasionally cultivated for ornament and is naturalized throughout the state. It is most commonly seen in citrus groves and hammocks in South and Central Florida and is rare in other districts. The species is a native of the West Indies, perhaps Cuba, and is locally naturalized in Central America."
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. <i>Manual of the flowering plants of Hawaii</i> . Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"widely grown as an ornamental and now naturalized in many tropical areas; in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets, on Kaua'i, O'ahu, Moloka'i, and Maui. Cultivated on O'ahu as early as 1916 (Rock 17162, BISH)."

302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. <i>Manual of the flowering plants of Hawaii</i> . Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets"
	WRA Specialist. (2019). Personal Communication	In the Hawaiian Islands, primarily occurs in disturbed areas and secondary vegetation, but regarded as an environmental weed in other parts of the world where it has been introduced

303	Agricultural/forestry/horticultural weed	
	Source(s)	Notes
	BioNET-EAFRINE. 2011. <i>Solanum seforthianum</i> (Brazilian Nightshade). <a href="https://keys.lucidcentral.org">https://keys.lucidcentral.org</a> . [Accessed 22 Apr 2019]	" <i>Solanum seforthianum</i> is a weed of crops and other habitats. Its berries are reported to be poisonous to poultry, pigs, cattle, sheep and children (Howard 1979)." [Could potentially impact pasture productivity]

304	Environmental weed	y
	Source(s)	Notes
	Queensland Government. (2019). <i>Weeds of Australia</i> . <i>Solanum seforthianum</i> . <a href="http://keyserver.lucidcentral.org">http://keyserver.lucidcentral.org</a> . [Accessed 22 Apr 2019]	"A common weed of untended areas with fertile soils. It is a weed of closed forests, forest margins, urban bushland, waterways (i.e. riparian areas), crops, roadsides, disturbed sites and waste areas." ... "Brazilian nightshade ( <i>Solanum seforthianum</i> ) is regarded as an environmental weed in New South Wales and Queensland."
	Save Our Waterways Now. (2019). <i>Solanum seforthianum</i> (Solanaceae) Brazilian nightshade. <a href="http://www.saveourwaterwaysnow.com.au">http://www.saveourwaterwaysnow.com.au</a> . [Accessed 22 Apr 2019]	"A problem in moist creek edges, as it gets very intertwined with other plants."
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. <i>Manual of the flowering plants of Hawaii</i> . Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets" [Environmental impacts in Hawaii may be minimal because it occurs in already disturbed habitats]
	BioNET-EAFRINE. 2011. <i>Solanum seforthianum</i> (Brazilian Nightshade). <a href="https://keys.lucidcentral.org">https://keys.lucidcentral.org</a> . [Accessed 22 Apr 2019]	" <i>Solanum seforthianum</i> is a weed of crops and other habitats. Its berries are reported to be poisonous to poultry, pigs, cattle, sheep and children (Howard 1979). <i>S. seforthianum</i> has been included in the Global Invasive Species Database (GISD 2008). It has been listed as a noxious weed in South Africa (prohibited plants that must be controlled. They serve no economic purpose and possess characteristics that are harmful to humans, animals or the environment)."

Qsn #	Question	Answer
	Sundarapandian, S. M., Muthumperumal, C., & Subashree, K. (2015). Biological invasion of vines, their impacts and management. Pp. 211-253 in N. Parthasarathy (ed.), Biodiversity of Lianas, Sustainable Development and Biodiversity 5. Springer International Publishing, Switzerland	"Table 12.1 List of invasive vine species with details on their nativity, continents invaded, habitat ecology, impacts on ecosystems, control measures and resource values reported, in various studies" ... "Impacts on ecosystem - Smothers and disrupts native plant communities"
	Macdonald, I. A. W. (1983). Alien trees, shrubs and creepers invading indigenous vegetation in the Hluhluwe-Umfolozi Game Reserve Complex in Natal. <i>Bothalia</i> , 14 (3/4), 949-959	"This species has shown itself capable of invading indigenous vegetation elsewhere in south east Africa (Ross, 1972: 309; Biegel 1977: 99; Ndumu Game Reserve, Natal, pers. obs.; Mkuzi Game Reserve, Natal, P. S. Goodman, pers. comm.). Its major impacts are likely to be competition for light, water and nutrients with other forest and forest edge species and for dispersal vectors with indigenous, bird distributed, plant species. Plants are often widely scattered and hand removal using lines of labourers sweeping infested areas appears the only practical control method. Repeated removal operations are necessary; in one case an area cleared in 1978 had been reinvaded to a density of 2 750 plants/ha by June 1979, when it was recleared, after which it was reinvaded to a density of 1 225 plants/ha by June 1981."

305	Congeneric weed	y
	Source(s)	Notes
	USDA NRCS. 2019. Federal Noxious Weed List. <a href="http://plants.usda.gov/java/noxious">http://plants.usda.gov/java/noxious</a> . [Accessed 22 Apr 2019]	Federal noxious weeds include: <i>Solanum tampicense</i> , <i>Solanum torvum</i> & <i>Solanum viarum</i>
	USDA NRCS. 2019. Hawaii State-listed Noxious Weeds. <a href="https://plants.usda.gov/java/noxious?rptType=State&amp;statefips=15">https://plants.usda.gov/java/noxious?rptType=State&amp;statefips=15</a> . [Accessed 22 Apr 2019]	Hawaii State-listed Noxious Weeds include: <i>Solanum carolinense</i> L., <i>Solanum elaeagnifolium</i> Cav., <i>Solanum robustum</i> Wendl. & <i>Solanum torvum</i> Sw.
	Weber, E. 2003. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	<i>Solanum laxum</i> , <i>Solanum linnaeanum</i> , <i>Solanum mauritianum</i> , <i>Solanum nigrum</i> , <i>Solanum tampicense</i> , <i>Solanum viarum</i> listed as weeds of natural areas

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R. & Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[No evidence] "Climbers to 3-4 m tall with slender stems, unarmed, glabrous except with simple, few-celled hairs along leaf margins, on veins of lower surface, and on corolla margins and tips, a few short glandular hairs on peduncles and pedicels."

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. (2019). Personal Communication	Unknown

403	Parasitic	n
	Source(s)	Notes

Qsn #	Question	Answer
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Climbers to 3-4 m tall with slender stems, unarmed, glabrous except with simple, few-celled hairs along leaf margins, on veins of lower surface, and on corolla margins and tips, a few short glandular hairs on peduncles and pedicels." [Solanaceae. No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	Macdonald, I. A. W. (1983). Alien trees, shrubs and creepers invading indigenous vegetation in the Hluhluwe-Umfolozi Game Reserve Complex in Natal. Bothalia, 14 (3/4), 949-959	"In some patches of low canopy forest on eGodini the relatively unpalatable <i>S. seforthianum</i> was one of the dominant understory species by 1978."
	Reyes, S. A., & Gudiño, J. S. F. (1999). Toxic plants for cattle registered in the state of Veracruz, Mexico. Veterinaria México, 30(1), 79-94	[Toxic to cattle. Palatability probably low. May be incidentally ingested when grazing for other forage] "PT: Toda la planta. Tox: Ganado bovino. Causa salivación, estomatitis, enteritis de carácter catarral o hemorrágico, vómito, timpanitis, diarrea, depression nerviosa, conjuntivitis frecuente, narcosis, parálisis."

405	Toxic to animals	y
	Source(s)	Notes
	Williams, C. 2012. Medicinal Plants in Australia Volume 3: Plants, Potions and Poisons. Rosenberg Publishing, Kenthurst NSW	"The green berries of <i>Solanum seforthianum</i> have definite toxicity. There have been reports that the ripe fruit also can cause gastrointestinal irritation. Solasodine (0.3%) is present in leaf and stem, as well as in the green fruit (Everist 1981)."
	Reyes, S. A., & Gudiño, J. S. F. (1999). Toxic plants for cattle registered in the state of Veracruz, Mexico. Veterinaria México, 30(1), 79-94	[Toxic to cattle. Palatability unknown. May be incidentally ingested when grazing for other forage] "PT: Toda la planta. Tox: Ganado bovino. Causa salivación, estomatitis, enteritis de carácter catarral o hemorrágico, vómito, timpanitis, diarrea, depression nerviosa, conjuntivitis frecuente, narcosis, parálisis."

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	Debrot, E. A., Lastra, R., & De Uzcategui, R. C. (1977). <i>Solanum seforthianum</i> , a weed host of eggplant mosaic virus in Venezuela. Plant Disease Reporter, 61(8), 628-631	"Abstract : <i>S. seforthianum</i> , a common weed of Venezuela, was found naturally infected with eggplant mosaic virus (EMV) at Salom, Yaracuy State. Diseased plants showed mottling, vein banding and little or no distortion. The virus was readily sap-transmitted to a number of indicator hosts of EMV, had a thermal inactivation point between 75 deg and 80 deg C, reacted serologically against EMV antisera and was not transmitted by <i>Myzus persicae</i> . Purified preparations contained many isometric particles of about 30-nm diam., both penetrated and unpenetrated by phosphotungstic acid (PTA). This is the first report of EMV naturally infecting an indigenous host in the warm tropics. "
	Missouri Botanical Garden. (2019). <i>Solanum seforthianum</i> . <a href="http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22">http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22</a> . [Accessed 22 Apr 2019]	"No serious insect or disease problems. Powdery mildew, rots, both early and late blight, damping off and certain virus diseases. Watch for aphids, whiteflies, spider mites and thrips."

Qsn #	Question	Answer
407	Causes allergies or is otherwise toxic to humans	y
	Source(s)	Notes
	Missouri Botanical Garden. (2019). <i>Solanum seaforthianum</i> . <a href="http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22">http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22</a> . [Accessed 22 Apr 2019]	"Stems, leaves and fruit of this nightshade vine are poisonous if ingested."
	Williams, C. 2012. <i>Medicinal Plants in Australia Volume 3: Plants, Potions and Poisons</i> . Rosenberg Publishing, Kenthurst NSW	"The green berries of <i>Solanum seaforthianum</i> have definite toxicity. There have been reports that the ripe fruit also can cause gastrointestinal irritation. Solasodine (0.3%) is present in leaf and stem, as well as in the green fruit (Everist 1981)."

408	Creates a fire hazard in natural ecosystems	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. <i>Manual of the flowering plants of Hawaii</i> . Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Unknown. Could act as a fuel ladder in fire prone areas] "Climbers to 3-4 m tall with slender stems" ... "in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets"

409	Is a shade tolerant plant at some stage of its life cycle	
	Source(s)	Notes
	Missouri Botanical Garden. (2019). <i>Solanum seaforthianum</i> . <a href="http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22">http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22</a> . [Accessed 22 Apr 2019]	"Sun: Full sun to part shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	
	Source(s)	Notes
	Backyard Gardener. (2019). <i>Solanum seaforthianum</i> ( St. Vincent Lilac ). <a href="https://www.backyardgardener.com/plantname/solanum-seaforthianum-st-vincent-lilac/">https://www.backyardgardener.com/plantname/solanum-seaforthianum-st-vincent-lilac/</a> . [Accessed 22 Apr 2019]	"pH Range:7 to 8 Soil Range:Some Sand to Some Clay"
	Benson, D. & McDougall, L. 2001. <i>Ecology of Sydney plant species. Part 8. Dicotyledon families Rutaceae to Zygophyllaceae</i> . <i>Cunninghamia</i> 7(2): 255-462	" <i>Solanum seaforthianum</i> ... Substrate: Sandy soil."
	Missouri Botanical Garden. (2019). <i>Solanum seaforthianum</i> . <a href="http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22">http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=287171&amp;isprofile=0&amp;%22</a> . [Accessed 22 Apr 2019]	"Winter hardy to USDA Zones 11-12 where it is best grown in organically rich, medium moisture, well-drained soils in full sun to part shade."

Qsn #	Question	Answer
411	<b>Climbing or smothering growth habit</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Climbers to 3-4 m tall with slender stems, unarmed"
412	<b>Forms dense thickets</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	Macdonald, I. A. W. (1983). Alien trees, shrubs and creepers invading indigenous vegetation in the Hluhluwe-Umfolozi Game Reserve Complex in Natal. Bothalia, 14 (3/4), 949-959	[A climber that may reach relatively high densities] "Repeated removal operations are necessary; in one case an area cleared in 1978 had been reinvaded to a density of 2 750 plants/ha by June 1979, when it was recleared, after which it was reinvaded to a density of 1 225 plants/ha by June 1981."
501	<b>Aquatic</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Terrestrial] "Climbers to 3-4 m tall with slender stems... in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets"
502	<b>Grass</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	USDA, ARS, Germplasm Resources Information Network. 2019. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 22 Apr 2019]	Family: Solanaceae Subfamily: Solanoideae Tribe: Solaneae
503	<b>Nitrogen fixing woody plant</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	USDA, ARS, Germplasm Resources Information Network. 2019. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 22 Apr 2019]	Family: Solanaceae Subfamily: Solanoideae Tribe: Solaneae
504	<b>Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	"Woody vines, twining by the petioles."
601	<b>Evidence of substantial reproductive failure in native habitat</b>	n

Qsn #	Question	Answer
	<b>Source(s)</b>	<b>Notes</b>
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	[No evidence] "Probably native to the islands of the West Indies and coastal northern South America in Colombia and Venezuela, perhaps also on the Caribbean slope of Central America and Mexico; widely cultivated in the tropics and subtropics (often escaped and apparently naturalised)."

602	Produces viable seed	y
	<b>Source(s)</b>	<b>Notes</b>
	Staples, G.W. & Herbst, D.R. 2005. <i>A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places</i> . Bishop Museum Press, Honolulu, HI	"It is easily propagated by seeds or stem cuttings."
	Wagner, W.L., Herbst, D.R. & Sohmer, S.H. 1999. <i>Manual of the flowering plants of Hawaii</i> . Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Seeds reddish brown, compressed, 2-3 mm in diameter, shaggy pubescent."

603	Hybridizes naturally	
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. (2019). Personal Communication	Unknown. Interspecific hybridization documented in genus

604	Self-compatible or apomictic	y
	<b>Source(s)</b>	<b>Notes</b>
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	"Self-compatibility (SC) is widespread in <i>Solanum</i> (Whalen and Anderson 1981) and is essentially irreversible once acquired from the ancestral self-incompatible (SI) state (Iqic et al. 2003, 2006)."
	Wagner, W.L., Herbst, D.R. & Sohmer, S.H. 1999. <i>Manual of the flowering plants of Hawaii</i> . Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Self-compatible"

Qsn #	Question	Answer
605	Requires specialist pollinators	n
	Source(s)	Notes
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	"Flowers of all members of the Dulcamaroid clade are typical for <i>Solanum</i> and are buzz-pollinated by a wide variety of bees. In temperate regions species are visited by various species of bumblebees ( <i>Bombus</i> );"
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Flowers perfect, actinomorphic, few to 50 in showy panicles, at first terminal but soon becoming lateral by sympodial growth, pedicels slender, slightly thickened toward summit, ca. 1 cm long; calyx tubular, 1-2 mm long, the lobes short and obtuse, margins subentire; corolla mauve blue, stellate, deeply divided, the tube 2-3 mm long, the limb 2-3 cm in diameter, pubescent; stamens inserted on corolla tube; filaments 2-4 mm long; anthers oblong, stout, slightly unequal, ca. 4 mm long, opening by terminal pores; ovary glabrous or with a few glandular hairs; style 1, erect, 7-8 mm long; stigma terminal, capitate."

606	Reproduction by vegetative fragmentation	n
	Source(s)	Notes
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seaforthianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed 22 Apr 2019]	"Dispersal: Seed is spread by water, animals, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."
	Staples, G.W. & Herbst, D.R. 2005. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"It is easily propagated by seeds or stem cuttings."

607	Minimum generative time (years)	
	Source(s)	Notes
	Plant This. (2019). <i>Solanum seaforthianum</i> . <a href="http://www.plantthis.com.au">http://www.plantthis.com.au</a> . [Accessed 22 Apr 2019]	"Growth rate: average"
	Benson, D. & McDougall, L. 2001. Ecology of Sydney plant species. Part 8. Dicotyledon families Rutaceae to Zygophyllaceae. <i>Cunninghamia</i> 7(2): 255-462	"Primary juvenile period:" [Unspecified]

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y
	Source(s)	Notes
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seaforthianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed 22 Apr 2019]	"Dispersal: Seed is spread by water, animals, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."

702	Propagules dispersed intentionally by people	y
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Qsn #	Question	Answer
	<b>Source(s)</b>	<b>Notes</b>
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	"widely cultivated in the tropics and subtropics (often escaped and apparently naturalised)."
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"widely grown as an ornamental and now naturalized in many tropical areas"

703	Propagules likely to disperse as a produce contaminant	n
	<b>Source(s)</b>	<b>Notes</b>
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seforthianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed 22 Apr 2019]	"Dispersal: Seed is spread by water, animals, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."

704	Propagules adapted to wind dispersal	n
	<b>Source(s)</b>	<b>Notes</b>
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	"Berries bright shiny red, succulent, globose, ca. 1 cm in diameter. Seeds reddish brown, compressed, 2-3 mm in diameter, shaggy pubescent."
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seforthianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed 22 Apr 2019]	"Dispersal: Seed is spread by water, animals, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."

705	Propagules water dispersed	
	<b>Source(s)</b>	<b>Notes</b>
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seforthianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed ]	
	Save Our Waterways Now. (2019). <i>Solanum seforthianum</i> (Solanaceae) Brazilian nightshade. <a href="http://www.saveourwaterwaysnow.com.au">http://www.saveourwaterwaysnow.com.au</a> . [Accessed 22 Apr 2019]	"A problem in moist creek edges, as it gets very intertwined with other plants." [Fleshy-fruited, but proximity to water may result in some secondary dispersal]
	City of Gold Coast. (2017). Environmental Weeds and Native Alternatives An identification guide. <a href="http://www.goldcoast.qld.gov.au">www.goldcoast.qld.gov.au</a>	"Fruit are a bright red berry approximately one centimetre across. Seeds are spread by birds and water."

706	Propagules bird dispersed	y
	<b>Source(s)</b>	<b>Notes</b>

Qsn #	Question	Answer
	D'Arcy, W. G. (1974). <i>Solanum</i> and its close relatives in Florida. <i>Annals of the Missouri Botanical Garden</i> , 61(3): 819-867	" <i>Solanum seforthianum</i> is also native to the West Indies and is naturalized in south and central Florida. It is some- times grown for ornament. The usually bright or shiny fruits of <i>Solanum</i> plants are assumed to be bird dispersed, and transport of fruits from the nearby Antilles to Florida probably accounts for the introduction of these species to the North American mainland, although escapes from cultivation account for many of the populations of <i>S. seforthianum</i> in Florida"
	Macdonald, I. A. W. (1983). Alien trees, shrubs and creepers invading indigenous vegetation in the Hluhluwe-Umfolozi Game Reserve Complex in Natal. <i>Bothalia</i> , 14 (3/4), 949-959	" <i>Solanum seforthianum</i> is bird dispersed and its invasion of indigenous vegetation around eGodini has been extensive"
	BioNET-EAFRINE. 2011. <i>Solanum seforthianum</i> (Brazilian Nightshade). <a href="https://keys.lucidcentral.org">https://keys.lucidcentral.org</a> . [Accessed 22 Apr 2019]	"This species reproduces mainly by seed, which are most often dispersed by birds and other animals that eat the fleshy fruit."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seforthianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed 22 Apr 2019]	"Dispersal: Seed is spread by water, animals, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping." [Adapted for internal dispersal by birds and possibly other animals]

708	Propagules survive passage through the gut	y
	Source(s)	Notes
	Macdonald, I. A. W. (1983). Alien trees, shrubs and creepers invading indigenous vegetation in the Hluhluwe-Umfolozi Game Reserve Complex in Natal. <i>Bothalia</i> , 14 (3/4), 949-959	[Presumably Yes] " <i>Solanum seforthianum</i> is bird dispersed and its invasion of indigenous vegetation around eGodini has been extensive"

801	Prolific seed production (>1000/m2)	
	Source(s)	Notes
	Knapp, S. (2013). A revision of the Dulcamaroid Clade of <i>Solanum</i> L. (Solanaceae). <i>PhytoKeys</i> 22: 1-432	[Seed densities unknown] "Seeds 4-20 per berry, 4-4.5 mm long, 2.5-3 mm wide, flattened-reniform, pale yellowish tan, the surfaces minutely pitted, the reseal cells pentagonal, the lateral cell walls elongate to 0.5 mm long, leaving a wing of ca. 0.5 mm around the seed and the seed appearing pubescent."

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	NSW WeedWise. 2019. Brazilian nightshade ( <i>Solanum seforthianum</i> ). <a href="https://weeds.dpi.nsw.gov.au/Weeds/Details/197">https://weeds.dpi.nsw.gov.au/Weeds/Details/197</a> . [Accessed 22 Apr 2019]	

Qsn #	Question	Answer
	Royal Botanic Gardens Kew. (2019) Seed Information Database (SID). Version 7.1. Available from: <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a> . [Accessed 22 Apr 2019]	"Storage Behaviour: Orthodox Storage Conditions: 100 % viability following drying to mc's in equilibrium with 15 % RH and freezing for 25 weeks at -20°C at RBG Kew, WP"

803	Well controlled by herbicides	Y
	Source(s)	Notes
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seafortianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed 22 Apr 2019]	"Control: Hand Dig, Scrape and Paint, Skirting, Foliar spray."
	NSW WeedWise. 2019. Brazilian nightshade ( <i>Solanum seafortianum</i> ). <a href="https://weeds.dpi.nsw.gov.au/Weeds/Details/197">https://weeds.dpi.nsw.gov.au/Weeds/Details/197</a> . [Accessed 22 Apr 2019]	Control Herbicide options Glyphosate 360 g/L (Roundup®) Rate: 1 part product to 100 parts water plus surfactant Glyphosate 360 g/L with Metsulfuron-methyl 600 g/kg (Various products) Rate: 2 L + 10 g per 100 L of water plus wetter Picloram 100 g/L + Triclopyr 300 g/L + Aminopyralid 8 g/L (Grazon Extra®) Rate: 300-500 mL per 100 L water Triclopyr 300 g/L + Picloram 100 g/L with Metsulfuron-methyl 600 g/kg (Various products) Rate: 300-500 mL per 100 L water plus 10 g metsulfuron-methyl per 100 L water

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	Sydney Weeds Committees. (2019). Brazilian Nightshade - <i>Solanum seafortianum</i> . <a href="https://sydneyweeds.org.au/weeds/brazilian-nightshade/">https://sydneyweeds.org.au/weeds/brazilian-nightshade/</a> . [Accessed 22 Apr 2019]	"Control: Hand Dig, Scrape and Paint, Skirting, Foliar spray."
	Backyard Gardener. (2019). <i>Solanum seafortianum</i> ( St. Vincent Lilac ). <a href="https://www.backyardgardener.com/plantname/solanum-seafortianum-st-vincent-lilac/">https://www.backyardgardener.com/plantname/solanum-seafortianum-st-vincent-lilac/</a> . [Accessed 22 Apr 2019]	"pH Range:7 to 8 Soil Range:Some Sand to Some Clay"

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	Wagner, W.L., Herbst, D.R.& Sohmer, S.H. 1999. Manual of the flowering plants of Hawaii. Revised edition. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	[Unknown] "in Hawai'i naturalized in low elevation disturbed areas such as roadside thickets, on Kaua'i, O'ahu, Moloka'i, and Maui."

**Summary of Risk Traits:**

High Risk / Undesirable Traits

- Thrives in tropical climates
- Naturalized on Kaua'i, O'ahu, Moloka'i, Maui and Hawaii (Hawaiian Islands) and widely naturalized elsewhere
- A weed of disturbed sites in the Hawaiian Islands
- An environmental weed in Africa and Australia
- Other *Solanum* species are invasive
- Relatively unpalatable
- Toxic to animals and people
- Reproduces by seeds
- Self-compatible
- Seeds dispersed by birds, water, animals, humans, contaminated soil (earthmoving equipment, car tires, etc.) and garden refuse dumping

Low Risk Traits

- Unarmed (no spines, thorns, or burrs)
- Not reported to spread vegetatively
- Herbicides provide effective control