Taxon: Poranopsis paniculata (Roxb.) Roberty **Family:** Convolvulaceae

Common Name(s): bridal bouquet
bridalwreath
Christmasvine
Christ's vine
snowcreeper
snow-in-the-jungle
white corallita

Synonym(s): Porana paniculata Roxb.

Assessor: Chuck Chimera **Status:** Assessor Approved **End Date:** 15 Nov 2016

WRA Score: 8.0 **Designation:** H(HPWRA) **Rating:** High Risk

Keywords: Naturalized Climber, Ornamental, Smothering Habit, Fast-Growing, Spreads Vegetatively

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	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
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)	y
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		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y=1, n=0	n

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	n
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)	y=1, n=0	y
411	Climbing or smothering growth habit	y=1, n=0	y
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		
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
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	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	n
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
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)	y=-1, n=1	n

Supporting Data:

Qsn #	Question	Answer
101	**Is the species highly domesticated?**	**n**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[No evidence of domestication] "Widely though sparingly cultivated in tropical and subtropical regions, including Yunnan. A single seemingly indigenous collection from the Chinese side of the border between Xizang and Arunachal Pradesh, NE India, has been seen."

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. 2016. 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, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 9 Nov 2016]	"Native: Asia-Temperate China: China - Xizang Asia-Tropical Indian Subcontinent: Bangladesh; Bhutan; India; Nepal; Pakistan Indo-China: Myanmar"

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 9 Nov 2016]	

203	**Broad climate suitability (environmental versatility)**	**y**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Elevation range exceeds 2000 m, demonstrating environmental versatility] "Various soils, forests, thickets, scrub, open plains, often around human habitation; 0–2000 m. Xizang, Yunnan [Bhutan, India, Myanmar, Nepal, Pakistan]."

Qsn #	Question	Answer
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 10 Nov 2016]	[Occurs in both temperate & subtropical climates] "Native: Asia-Temperate China: China - Xizang Asia-Tropical Indian Subcontinent: Bangladesh; Bhutan; India; Nepal; Pakistan Indo-China: Myanmar"

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 9 Nov 2016]	"Native: Asia-Temperate China: China - Xizang Asia-Tropical Indian Subcontinent: Bangladesh; Bhutan; India; Nepal; Pakistan Indo-China: Myanmar"

205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Widely though sparingly cultivated in tropical and subtropical regions, including Yunnan. A single seemingly indigenous collection from the Chinese side of the border between Xizang and Arunachal Pradesh, NE India, has been seen."

301	Naturalized beyond native range	y
	Source(s)	**Notes**
	Parker, J.L. & Parsons, B. (2012). New plant records from the Big Island for 2009. Bishop Museum Occasional Papers 113: 55–63	"Bridal veil creeper is rarely cultivated on the island of Hawai'i, but several naturalized populations have been found. This species has been previously recorded as naturalized from Maui (Starr et al. 2004: 21). It has been noted that fruit is not produced in Hawai'i (staples & Herbst 2005), but further study into this is warranted based primarily on the large scale of these localized infestations. Material examined. HAWAI'I: south Kona Distr. Hwy 11, Kealakekua, 2146988n, 197626e. White-flowered vine with heart-shaped leaves with silky, pale-white undersides. Large population covering approx. 3 acres. Could have spread from cultivation at abandoned homesite, 23 Sep 2008, J. Parker & R. Parsons BIED36."
	Graveson, R. 2012. Plants of Saint Lucia - A Pictorial Flora of Wild and Cultivated Vascular Plants. http://www.saintlucianplants.com/index.html. [Accessed 10 Nov 2016]	"Escaped very rare vine of disturbed moist areas, around Castries. Native to the Indian subcontinent, Myanmar, China. Also is or was a cultivated ornamental. Difficult to know if this species persists or escapes."

Qsn #	Question	Answer
	Brock, K. (2016). KISC Early Detection Botanist. Pers. Comm. 09 November	"I would certainly say that this plant is concerning, and I am keeping an eye out for non cultivated occurrences and mapping them on Kauai.. Where it is planted, it tends to be a "run away" vine, getting very large and smothering trees. The blankets of it are very obvious right now, since it's flowering (this is the 3rd report I've received about this plant in 1 week! So it's certainly perceived as invasive). However, it appears to be spreading by vegetative reproduction as far as I can tell. I'll be keeping my eye out for seeds. There is one very, very large occurrence on Kauai where I don't believe it was planted intentionally, but has probably started out of a waste pile."
	Starr, F., Starr, K. & Loope, L.L.2004. New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers 79: 20-30	"Native to temperate and tropical Asia (GRIN, 2001), P. paniculata (bridal bouquet, snow-in- the-jungle) is known from BISH specimens to have been in Hawaii since at least 1936 and to have been collected from the islands of Kauai, Oahu, and Hawaii. This rampant vine is know also known from Maui, where it is spreading well beyond initial plantings in Makawao. It can be identified by its ability to grow up to 30 ft [9 m] into the canopy of trees, heart-shaped leaves to 6 in [15 cm] long with white pubescence underneath, and small, 5/16 in [0.8 cm] white flowers growing in dense masses (Bailey & Bailey, 1976). This collection represents a new naturalized record for the Hawaiian Islands. Material examined: MAUI: East Maui, Makawao, Mliko Gulch, sprawling into gulch, 1600 ft [488 m], 5 Jan 1999, Starr & Martz 990105-4."
	Acevedo-Rodríguez, P. 2005. Vines and Climbing Plants of Puerto Rico and the Virgin Islands. Contributions from the United States National Herbarium Volume 51: 1-483. Smithsonian Institution, Washington, D.C.	"Status: Exotic, cultivated and naturalized in disturbed areas, uncommon. Distribution: Species native to India, cultivated throughout the tropics, where it can be found naturalized in disturbed areas. Also on Vieques, St. Croix, and St. Thomas."
	Senterre, B. (2009) Invasion risk from climbing and creeping plant species in Seychelles. Consultancy report, Ministry of Environment-UNDP-GEF project	"Table 1. List of the 56 most relevant creepers to be discussed for the invasion risk analysis in Seychelles." [Includes Poranopsis paniculata]

302	Garden/amenity/disturbance weed	n
	Source(s)	**Notes**
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	Naturalized, & possibly a horticultural weed

303	Agricultural/forestry/horticultural weed	y
	Source(s)	**Notes**
	Morton, J.F. 1976. Pestiferous spread of many ornamental and fruit species in South Florida. Proceedings of the Florida State Horticultural Society 89: 348-353	"Porana paniculata Roxb. CHRISTMAS VINE. India. Naturalized in South Florida, in disturbed sites (6). Stems root at joints; vine shrouds trees"
	Harkness, R. W., & Byrd, C. D. (1971). Weed control in lime, avocado and mango groves. Proceedings of the Florida State Horticultural Society 84: 285-290	"Table 2 presents a list of the weeds identified in these groves plus several other species that are fairly common in Dade County groves." ... "Table 2. Common weeds in South Dade groves" [Includes Porana paniculata. No description of impacts]

Qsn #	Question	Answer
	Parker, J. 2016. BIISC Early Detection Botanist. Pers. Comm. 15 Nov	[Smothers fruit trees] "Bobby and I collected that in 2008 and have seen it smothering everything, even huge mango trees, in 4 or 5 locations on the island. We need to go back and check on its seed production, but it must have been putting out some seed at the time, because that's a requirement for us to call it naturalized. It definitely spreads from plantings, I can't speak to its ability to invade native forest as of yet, but as far as vines go, it's a pretty nasty one."

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

401	Produces spines, thorns or burrs	n
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[No evidence] "Climbers; indumentum grayish to dull yellow. Stems puberulent, glabrescent. Petiole 2.6–10.8 cm; leaf blade cor-date-circular, 7.5–16.5 × 5.3–15 cm, smooth to rugulose, abaxially silvery villous. Panicle crowded; bracts cordate. Pedicel 2–4 mm, elongating in fruit. Flowers (4–)5– (–7) mm. Sepals lanceolate-linear, flat or concave, equal, 1–2 mm, to-mentose-villous abaxially. Fruiting calyx tan, reddish, or pale brown, loosely clasping; outer 3 sepals elliptic-oblong to nar rowly ovate, 1.6–2.2(–2.4) cm × 7–9 mm, puberulent, margin free. Corolla white to cream, narrowly funnelform; limb (3–)5–7 mm in diam., 5-lobed. Stamens included, ± equal; filaments glabrous. Disc absent or ringlike. Ovary glabrous. Style obsolete; stigma subsessile"

402	Allelopathic	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown

403	Parasitic	n
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Climbers; indumentum grayish to dull yellow. Stems puberulent, glabrescent." [No evidence]

Qsn #	Question	Answer
404	**Unpalatable to grazing animals**	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown

405	Toxic to animals	n
	Source(s)	**Notes**
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Unknown

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	**Notes**
	Savita, Singh, L., Vats, P., & Parveen, S. (2006). Studies on wild edible plants of ethnic people in east Sikkim. Asian Journal of Biological Sciences, 1(2), 117-125	"Porana paniculata ... Fruits edible" [No evidence]
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

408	Creates a fire hazard in natural ecosystems	
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Unknown. May serve as a fuel ladder if growing in dry areas] "Climbers; indumentum grayish to dull yellow." ... "Various soils, forests, thickets, scrub, open plains, often around human habitation; 0–2000 m."

409	Is a shade tolerant plant at some stage of its life cycle	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Top Tropicals. (2016). Poranopsis paniculata, Porana paniculata. http://toptropicals.com/catalog/uid/poranopsis_paniculata.htm. [Accessed 10 Nov 2016]	"full sun semi-shade"
	Dave's Garden. (2016). Bridal Bouquet, Snow Creeper - Porana paniculata. http://davesgarden.com/guides/pf/go/76887/. [Accessed 10 Nov 2016]	"Sun Exposure: Full Sun"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	Staples, G. W. (2006). Revision of Asiatic Poraneae (Convolvulaceae)–Cordisepalum, Dinetus, Duperreya, Porana, Poranopsis, and Tridynamia. Blumea, 51(3), 403-491	"Soil types have been recorded as rocky, stony, conglomerate and limestone (in a subtropical jungle habitat); from sea level to 2000 m elevation."
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Various soils, forests, thickets, scrub, open plains, often around human habitation; 0–2000 m."

411	Climbing or smothering growth habit	y
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Climbers; indumentum grayish to dull yellow. Stems puberulent, glabrescent. Petiole 2.6–10.8 cm; leaf blade cordate-circular, 7.5–16.5 × 5.3–15 cm, smooth to rugulose, abaxially silvery villous."

412	Forms dense thickets	n
	Source(s)	**Notes**
	WRA Specialist. 2016. Personal Communication	Climbing & smothering habit

501	Aquatic	n
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Terrestrial climber] "Climbers; indumentum grayish to dull yellow. Stems puberulent, glabrescent." ... "Various soils, forests, thickets, scrub, open plains, often around human habitation; 0–2000 m."

502	Grass	n
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 10 Nov 2016]	"Family: Convolvulaceae Tribe: Cardiochlamyeae"

503	Nitrogen fixing woody plant	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 10 Nov 2016]	"Family: Convolvulaceae Tribe: Cardiochlamyeae"

504	**Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)**	**n**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Climbers; indumentum grayish to dull yellow. Stems puberulent, glabrescent. Petiole 2.6–10.8 cm; leaf blade cordate-circular, 7.5–16.5 × 5.3–15 cm, smooth to rugulose, abaxially silvery villous. Panicle crowded; bracts cordate. Pedicel 2–4 mm, elongating in fruit. Flowers (4–)5–6(–7) mm. Sepals lanceolate-linear, flat or concave, equal, 1–2 mm, tomentose-villous abaxially."

601	**Evidence of substantial reproductive failure in native habitat**	**n**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[No evidence] "Various soils, forests, thickets, scrub, open plains, often around human habitation; –2000 m. Xizang, Yunnan [Bhutan, India, Myanmar, Nepal, Pakistan]. Widely though sparingly cultivated in tropical and subtropical regions, including Yunnan."

602	**Produces viable seed**	**y**
	Source(s)	**Notes**
	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	"Although fruit does not form here, it is distinctive; indehiscent, papery-walled, containing 1 seed, and enclosed by the greatly enlarged winglike calyx."
	Acevedo-Rodríguez, P. 2005. Vines and Climbing Plants of Puerto Rico and the Virgin Islands. Contributions from the United States National Herbarium Volume 51: 1-483. Smithsonian Institution, Washington, D.C.	"Fruit indehiscent, ovoid-globose, 5-6 mm long, with the three outer sepals accrescent; seed usually one, ovoid or subglobose."
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Fruit tan to brownish with darker lines, globose-ellipsoid, 5–6(–7) × 4–5 mm, pubescent, apiculate. Seeds dark brown, globose-ellipsoid, 4–6 × 3–5 mm, glabrous."
	Staples, G. W. (2006). Revision of Asiatic Poraneae (Convolvulaceae)–Cordisepalum, Dinetus, Duperreya, Porana, Poranopsis, and Tridynamia. Blumea, 51(3), 403-491	"Utricle globose to broadly ellipsoid, apiculate, 5–6(–7) by 4–5 mm, chartaceous, tan to brownish, darker striate, pubescent with erect, 2-armed hairs. Seed globose to broadly ellipsoid, 4–6 by 3–5 mm, dark brown, faintly striate, glabrous; hilum basal, c. 1 mm diameter."

Qsn #	Question	Answer
603	**Hybridizes naturally**	
	Source(s)	**Notes**
	Staples, G. W. (2006). Revision of Asiatic Poraneae (Convolvulaceae)–Cordisepalum, Dinetus, Duperreya, Porana, Poranopsis, and Tridynamia. Blumea, 51(3), 403-491	Unknown

604	**Self-compatible or apomictic**	
	Source(s)	**Notes**
	Watson, L. & Dallwitz, M.J. (1992 onwards). The Families of Flowering Plants: Descriptions, Illustrations, Identification, and Information Retrieval. Version: 14th December 2000. http://biodiversity.uno.edu/delta/. [Accessed 10 Nov 2016]	"Reproductive type, pollination. Plants hermaphrodite (usually)" [Family description]
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Unknown. Perfect flowers] "Corolla white to cream, narrowly funnelform; limb (3–)5–7 mm in diam., 5-lobed. Stamens included, ± equal; filaments glabrous. Disc absent or ringlike. Ovary glabrous. Style obsolete; stigma subsessile."

605	**Requires specialist pollinators**	**n**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Panicle crowded; bracts cordate. Pedicel 2–4 mm, elongating in fruit. Flowers (4–)5–6(–7) mm. Sepals lanceolate-linear, flat or concave, equal, 1–2 mm, to-mentose-villous abaxially. Fruiting calyx tan, reddish, or pale brown, loosely clasping; outer 3 sepals elliptic-oblong to nar-rowly ovate, 1.6–2.2(–2.4) cm × 7–9 mm, puberulent, margin free. Corolla white to cream, narrowly funnelform; limb (3–)5–7 mm in diam., 5-lobed. Stamens included, ± equal; filaments glabrous. Disc absent or ringlike. Ovary glabrous. Style obsolete; stigma subsessile."
	Morton, J. F. (1964). Honeybee plants of south Florida. Proceedings of the Florida State Horticultural Society 77: 415-436	"Porana paniculata. CHRISTMAS VINE. Sea son: fall. Profuse bloom abuzz with bees (N. Smiley, Miami Herald)."
	Gaur, R. D., Tiwari, P., Tiwari, J. K., Rawat, D. S., & Ballabha, R. (2014). Bee forage potential of Garhwal Himalaya, India. Indian Journal of Fundamental and Applied Life Sciences, 4, 196-204	"Table 1: Checklist of the bee forage plants from Garhwal Himalaya, India" [Includes Porana paniculata]

606	**Reproduction by vegetative fragmentation**	**y**
	Source(s)	**Notes**
	McLaughlin, J. (2007). A Word or Two About Gardening: Flowering Vines: Some Impressive Climbers that Attach by Twining and Clinging. http://miami-dade.ifas.ufl.edu/old/publications.htm. [Accessed 10 Nov 2016]	"Poranopsis paniculata (syn. Porana paniculata) is a white flowering vine that's locally popular, especially with Cuban Americans. This is a vigorous woody vine (liane) that produces terminal pendulous inflorescences (large branched panicles) composed of numerous small, sweetly fragrant, tubular flowers." ... "Use a large trellis or pergola as a support keeping the vine away from trees and the stems off the ground – they readily root."

Qsn #	Question	Answer
	Reynolds, C. (2014). Here Come the Bride's Plants. The Ledger. Aug 28. http://www.theledger.com/lifestyle/20140828/here-come-the-brides-plants. [Accessed 10 Nov 2016]	"This fast-growing vine tends to root wherever a node touches the ground, so older specimens can become quite woody and shrubby. Bridal bouquet vine needs minimal maintenance but should be cut back hard in early spring. Propagate with warm-season cuttings."

607	Minimum generative time (years)	
	Source(s)	**Notes**
	Rauch, F.D. & Weissich, P.R. 2000. Plants for Tropical Landscapes: A Gardener's Guide. University of Hawaii Press, Honolulu, HI	"A fast-climbing, twining vine up to 60 feet long" [Time to maturity unknown, but may be able to spread vegetatively prior to first flowering]

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Fruit tan to brownish with darker lines, globose-ellipsoid, 5–6(–7) × 4–5 mm, pubescent, apiculate. Seeds dark brown, globose-ellipsoid, 4–6 × 3–5 mm, glabrous." [Seeds, if produced, lack means of external attachment]
	Reynolds, C. (2014). Here Come the Bride's Plants. The Ledger. Aug 28. http://www.theledger.com/lifestyle/20140828/here-come-the-brides-plants. [Accessed 10 Nov 2016]	"This fast-growing vine tends to root wherever a node touches the ground, so older specimens can become quite woody and shrubby." [Discarded plants or cuttings may become inadvertently dispersed]

702	Propagules dispersed intentionally by people	y
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 10 Nov 2016]	". widely cult. in tropics"
	Staples, G. W. (2006). Revision of Asiatic Poraneae (Convolvulaceae)–Cordisepalum, Dinetus, Duperreya, Porana, Poranopsis, and Tridynamia. Blumea, 51(3), 403-491	"It is probably significant that P. paniculata is the only cultivated species of this genus, and it has not been easy to distinguish herbarium specimens made from cultivated plants grown on diverse soil types from those of wild origin, thus the calciphile tendency of wild plants may be more marked than it seems based on herbarium specimen label data alone."
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Widely though sparingly cultivated in tropical and subtropical regions, including Yunnan."

Qsn #	Question	Answer
703	**Propagules likely to disperse as a produce contaminant**	**n**
	Source(s)	**Notes**
	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	"Although fruit does not form here, it is distinctive; indehiscent, papery-walled, containing 1 seed, and enclosed by the greatly enlarged winglike calyx."
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Fruit tan to brownish with darker lines, globose-ellipsoid, 5–6(–7) × 4–5 mm, pubescent, apiculate. Seeds dark brown, globose-ellipsoid, 4–6 × 3–5 mm, glabrous." [Seeds, ir produced, would probably not contaminate produce as they are relatively large]

Qsn #	Question	Answer
704	**Propagules adapted to wind dispersal**	**n**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Fruit tan to brownish with darker lines, globose-ellipsoid, 5–6(–7) × 4–5 mm, pubescent, apiculate. Seeds dark brown, globose-ellipsoid, 4–6 × 3–5 mm, glabrous." [Fruit & seeds, if produced, may be dispersed by gravity]

Qsn #	Question	Answer
705	**Propagules water dispersed**	
	Source(s)	**Notes**
	Staples, G. W. (2006). Revision of Asiatic Poraneae (Convolvulaceae)–Cordisepalum, Dinetus, Duperreya, Porana, Poranopsis, and Tridynamia. Blumea, 51(3), 403-491	"Habitat — Forests, scrub thickets, subtropical jungles, open plains, and around human habitations." [Unlikely. Does not occur naturally in riparian areas, but could possibly be dispersed by vegetative fragments]

Qsn #	Question	Answer
706	**Propagules bird dispersed**	**n**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Fruit tan to brownish with darker lines, globose-ellipsoid, 5–6(–7) × 4–5 mm, pubescent, apiculate. Seeds dark brown, globose-ellipsoid, 4–6 × 3–5 mm, glabrous." [Fruit & seeds, if produced, are not fleshy or adapted to bird dispersal]

Qsn #	Question	Answer
707	**Propagules dispersed by other animals (externally)**	**n**
	Source(s)	**Notes**
	Wu, Z. Y. & P. H. Raven, eds. 1995. Flora of China. Vol. 16 (Gentianaceae through Boraginaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Fruit tan to brownish with darker lines, globose-ellipsoid, 5–6(–7) × 4–5 mm, pubescent, apiculate. Seeds dark brown, globose-ellipsoid, 4–6 × 3–5 mm, glabrous." [Fruit & seeds, if produced, lack means of external attachment]

Qsn #	Question	Answer
708	**Propagules survive passage through the gut**	**n**
	Source(s)	**Notes**
	Gordon, D. R., Mitterdorfer, B., Pheloung, P. C., Ansari, S., Buddenhagen, C., Chimera, C., ... & Williams, P. A. 2010). Guidance for addressing the Australian Weed Risk Assessment questions. Plant Protection Quarterly, 25(2): 56-74	"Answer 'no' where the taxon is unlikely to be eaten by animals or if seeds are not viable following passage through the gut."

801	**Prolific seed production (>1000/m2)**	**n**
	Source(s)	**Notes**
	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	"Although fruit does not form here, it is distinctive; indehiscent, papery-walled, containing 1 seed, and enclosed by the greatly enlarged winglike calyx." [Seed production may be limited or absent in the Hawaiian Islands]
	Hume, E. P. (1949). Some Ornamental Vines for the Tropics. Circular No. 31. Federal Experiment Station in Puerto Rico, USDA, Mayaguez, Puerto Rico	"The seeds when produced are in globose hairy capsules but are seldom seen under Puerto Rican conditions."

802	**Evidence that a persistent propagule bank is formed (>1 yr)**	
	Source(s)	**Notes**
	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	"Although fruit does not form here, it is distinctive; indehiscent, papery-walled, containing 1 seed, and enclosed by the greatly enlarged winglike calyx." [Unknown, but seeds may not be produced in the Hawaiian Islands]

803	**Well controlled by herbicides**	
	Source(s)	**Notes**
	WRA Specialist. 2016. 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**
	Reynolds, C. (2014). Here Come the Bride's Plants. The Ledger. Aug 28. http://www.theledger.com/lifestyle/20140828/here-come-the-brides-plants. [Accessed 10 Nov 2016]	[May tolerate hard cutting back] "This fast-growing vine tends to root wherever a node touches the ground, so older specimens can become quite woody and shrubby. Bridal bouquet vine needs minimal maintenance but should be cut back hard in early spring. Propagate with warm-season cuttings."
	McLaughlin, J. (2007). A Word or Two About Gardening: Flowering Vines: Some Impressive Climbers that Attach by Twining and Clinging. http://miami-dade.ifas.ufl.edu/old/publications.htm. [Accessed 10 Nov 2016]	[Possibly does not tolerate heavy pruning] "Prune lateral shoots back to within two buds of main stems – does not respond well if main stems are heavily cut back. "

Qsn #	Question	Answer
805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	**n**
	Source(s)	**Notes**
	Parker, J.L. & Parsons, B. (2012). New plant records from the Big Island for 2009. Bishop Museum Occasional Papers 113: 55–63	[No evidence] "Bridal veil creeper is rarely cultivated on the island of Hawai'i, but several naturalized populations have been found."
	Starr, F., Starr, K. & Loope, L.L.2004. New plant records from the Hawaiian Archipelago. Bishop Museum Occasional Papers 79: 20-30	[No evidence] "This rampant vine is know also known from Maui, where it is spreading well beyond initial plantings in Makawao."

Summary of Risk Traits:

High Risk / Undesirable Traits
• Elevation range exceeds 1000 m, demonstrating environmental versatility
• Thrives in tropical climates
• Possibly naturalizing on Kauai, & naturalized on Maui & Hawaii, Hawaiian Islands. Also naturalized in other tropical locations
• Regarded as a weed of fruit tree groves; smothers commercially important fruit trees
• Climbing & smothering growth habit
• Tolerates many soil types
• Reproduces by seeds & vegetatively
• Seeds dispersed by gravity & intentionally by people

Low Risk Traits
• Unarmed (no spines, thorns or burrs)
• Non-toxic
• Ornamental
• Seed production may be limited or absent in the Hawaiian Islands
• Limited or absent seed production in the Hawaiian Islands reduces risk of accidental dispersal