

Family: *Asclepiadaceae*

Taxon: *Hoya multiflora*

Synonym: *Centrostemma multiflorum* (Blume) Decne. Common Name: Shooting Stars
Wax Plant
Porcelain Flower

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation: L
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score -2
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	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	n
302	Garden/amenity/disturbance weed		n=0, y = 1*multiplier (see Appendix 2)	n
303	Agricultural/forestry/horticultural weed		n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed		n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed		n=0, y = 1*multiplier (see Appendix 2)	
401	Produces spines, thorns or burrs		y=1, n=0	n
402	Allelopathic		y=1, n=0	
403	Parasitic		y=1, n=0	n
404	Unpalatable to grazing animals		y=1, n=-1	
405	Toxic to animals		y=1, n=0	
406	Host for recognized pests and pathogens		y=1, n=0	n
407	Causes allergies or is otherwise toxic to humans		y=1, n=0	
408	Creates a fire hazard in natural ecosystems		y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle		y=1, n=0	
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		y=1, n=0	n

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	3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	
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	y
705	Propagules water dispersed	y=1, n=-1	n
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	
708	Propagules survive passage through the gut	y=1, n=-1	
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	n
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: L

WRA Score -2

Supporting Data:

101	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	[Is the species highly domesticated? No] No evidence
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	2010. Rahayu, S./Jusuf, M./Suharsono/Kusmana, C./Abdulhadi, R.. Morphological variation of <i>Hoya multiflora</i> Blume at different habitat type of Bodogol Research Station of Gunung Gede Pangrango National Park, Indonesia. <i>Biodiversitas</i> . 11(4): 187-193.	[Species suited to tropical or subtropical climate(s) 2-High] " <i>Hoya multiflora</i> Blume (Asclepiadaceae) is widely distributed throughout India to New Guinea (Hooker 1885; Schlechter 1914; Thaitong 1994), at the elevation of 200- 1200 m above sea level (Backer and van der Brink Jr. 1965; Rintz 1980)."
202	2010. Rahayu, S./Jusuf, M./Suharsono/Kusmana, C./Abdulhadi, R.. Morphological variation of <i>Hoya multiflora</i> Blume at different habitat type of Bodogol Research Station of Gunung Gede Pangrango National Park, Indonesia. <i>Biodiversitas</i> . 11(4): 187-193.	[Quality of climate match data? 2-High] " <i>Hoya multiflora</i> Blume (Asclepiadaceae) is widely distributed throughout India to New Guinea..."
203	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	[Broad climate suitability (environmental versatility)? Yes] "Native from Myanmar and Thailand across China, Malaysia, Indonesia, and the Philippines. <i>H. multiflora</i> grows between sea level and 5,000' elevation in rainforest habitats, frequently as an epiphyte on dead wood." [Broad elevation range, exceeds 1000 m, demonstrating environmental versatility]
203	2010. Rahayu, S./Kusmana, C./Abdulhadi, R./Jusuf, M./Suharsono. Distribution of <i>Hoya multiflora</i> Blume at Gunung Gede Pangrango National Park, Indonesia. <i>Journal of Forestry Research</i> . 7(1)44: 42-52.	[Broad climate suitability (environmental versatility)? Yes] "The herbarium observation was done at the 70 sheets which have indicated that <i>H. multiflora</i> is widely distributed. This species was found throughout Sumatra to Maluku, and has broad physiographic division - lowlands, midlands and highlands. The lowland starts at the elevation of 20 m to the high mountain at the elevation of 1500 m"
204	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	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Native from Myanmar and Thailand across China, Malaysia, Indonesia, and the Philippines. <i>H. multiflora</i> grows between sea level and 5,000' elevation in rainforest habitats, frequently as an epiphyte on dead wood."
204	2010. Rahayu, S./Jusuf, M./Suharsono/Kusmana, C./Abdulhadi, R.. Morphological variation of <i>Hoya multiflora</i> Blume at different habitat type of Bodogol Research Station of Gunung Gede Pangrango National Park, Indonesia. <i>Biodiversitas</i> . 11(4): 187-193.	[Native or naturalized in regions with tropical or subtropical climates? Yes] " <i>Hoya multiflora</i> Blume (Asclepiadaceae) is widely distributed throughout India to New Guinea..."
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? Yes] "...introduced to Hawaii from the Philippines in 1975 by Robert Osgood of the Hawaiian Sugar Planters Association."
205	2012. Dave's Garden. PlantFiles: Shooting Star <i>Hoya</i> , Wax Plant, Porcelain Flower - <i>Hoya multiflora</i> . http://davesgarden.com/guides/pt/go/2734/	[Does the species have a history of repeated introductions outside its natural range? Yes] "This plant has been said to grow in the following regions: Phoenix, Arizona San Francisco, California Biscayne Park, Florida St Petersburg, Florida Kailua Kona, Hawaii (2 reports) Naperville, Illinois Lawrence, Kansas Greenwell Springs, Louisiana Whitestone, New York Morganton, North Carolina Cleveland, Ohio Humble, Texas Mansfield, Texas" [Some locations only grown indoors]
301	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Naturalized beyond native range? No evidence]
301	2007. Randall, R.P.. The introduced flora of Australia & its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	[Naturalized beyond native range? No evidence from Australia]
301	2009. Chong, K.Y./Tan, H.T.W./Corlett, R.T.. A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalized and Cultivated Species. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore	[Naturalized beyond native range? No evidence from Singapore] " <i>Hoya multiflora</i> Blume; Apocynaceae; cultivated only"

302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Garden/amenity/disturbance weed? No evidence]
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Agricultural/forestry/horticultural weed? No evidence]
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Environmental weed? No evidence]
305	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	[Congeneric weed? Potentially] <i>Hoya australis</i> , <i>Hoya bella</i> , <i>Hoya carnosa</i> , <i>Hoya schneei</i> , and <i>Hoya serpens</i> are categorized as naturalized and/or a weed, but evidence of impacts were not found or were unspecified
401	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Produces spines, thorns or burrs? No] "Plants glabrous throughout except for corolla throat. Stems erect or decumbent, to 2.5 m tall, pale gray, yellowish when dry, with persistent leaf scars. Petiole 1–2 cm; leaf blade oblong lanceolate, 8–18 x 2–6 cm, thick papery when dried, base cuneate, apex obtusely acuminate; lateral veins obscure."
401	2007. Wanntorp, L.. Pollinaria of <i>Hoya</i> (Marsdenieae, Apocynaceae): Shedding Light on Molecular Phylogenetics. <i>Taxon</i> . 56(2): 465-478.	[Produces spines, thorns or burrs? No] " <i>Hoya multiflora</i> is a terrestrial half-shrub with thin dark green relatively thin lanceolate ovate leaves."
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2007. Wanntorp, L.. Pollinaria of <i>Hoya</i> (Marsdenieae, Apocynaceae): Shedding Light on Molecular Phylogenetics. <i>Taxon</i> . 56(2): 465-478.	[Parasitic? No] " <i>Hoya multiflora</i> is a terrestrial half-shrub with thin dark green relatively thin lanceolate ovate leaves." [Apocynaceae or Asclepiadaceae]
404	2012. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	2012. Dave's Gardern. PlantFiles: Shooting Star <i>Hoya</i> , Wax Plant, Porcelain Flower - <i>Hoya multiflora</i> . http://davesgarden.com/guides/pf/go/2734/	[Toxic to animals? Unknown] "Danger: N/A"
406	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	[Host for recognized pests and pathogens? No] No evidence
407	2012. WRA Specialist. Personal Communication.	[Causes allergies or is otherwise toxic to humans? Unknown] Other species of <i>Hoya</i> documented to have toxic properties
408	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Creates a fire hazard in natural ecosystems? No] No evidence
408	2010. Rahayu, S./Kusmana, C./Abdulhadi, R./Jusuf, M./Suharsono. Distribution of <i>Hoya multiflora</i> Blume at Gunung Gede Pangrango National Park, Indonesia. <i>Journal of Forestry Research</i> . 7(1)44: 42-52.	[Creates a fire hazard in natural ecosystems? No] No evidence
409	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	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Shooting-star prefers partial shade..."
409	2010. Rahayu, S./Kusmana, C./Abdulhadi, R./Jusuf, M./Suharsono. Distribution of <i>Hoya multiflora</i> Blume at Gunung Gede Pangrango National Park, Indonesia. <i>Journal of Forestry Research</i> . 7(1)44: 42-52.	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "It was also noted that the <i>H. multiflora</i> only found at the upper areas of the hill and slope, not in the valley area. The seed dispersal strategy by wind and the intensity of sun light are reasons for the site selection."
410	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	[Tolerates a wide range of soil conditions? No] "...grows well in a humusy, slightly acidic, organically rich, well-drained compost mixture."
410	2012. Dave's Gardern. PlantFiles: Shooting Star <i>Hoya</i> , Wax Plant, Porcelain Flower - <i>Hoya multiflora</i> . http://davesgarden.com/guides/pf/go/2734/	[Tolerates a wide range of soil conditions ? No] "Soil pH requirements: 6.1 to 6.5 (mildly acidic) 6.6 to 7.5 (neutral)"

411	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	[Climbing or smothering growth habit? No] "Perennial erect herb, branching only from base; stems to 3' tall, ± glabrous" ... "This species is a compact, bushy plant that does not require a trellis or other support..."
412	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Forms dense thickets? No evidence from China] "Open forests, bushland, 500–1200 m."
412	2010. Rahayu, S./Kusmana, C./Abdulhadi, R./Jusuf, M./Suharsono. Distribution of Hoya multiflora Blume at Gunung Gede Pangrango National Park, Indonesia. Journal of Forestry Research. 7(1)44: 42-52.	[Forms dense thickets? No evidence from Gunung Gede Pangrango National Park, Bogor, Indonesia] "The result of the study showed that the population of this species was only found at the Bodogol Research Station at elevation of 700 - 900 m above sea level (a.s.l.). Thus, the facts contradict with the evidence from the herbarium sheets of the Herbarium Bogoriense which have presumed that this species has a wide variation of altitudinal range from 20 to 1500 m a.s.l. (Indonesia) or 200 - 1400 m a.s.l. (Java). The Bodogol's population showed the clumped type of dispersion"
501	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	[Aquatic? No] Terrestrial or epiphytic
502	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	[Grass? No] Asclepiadaceae or Apocynaceae
503	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	[Nitrogen fixing woody plant? No] Asclepiadaceae or Apocynaceae
504	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	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Perennial erect herb, branching only from base; stems to 3' tall, ± glabrous" ... "This species is a compact, bushy plant that does not require a trellis or other support..."
601	2010. Rahayu, S./Kusmana, C./Abdulhadi, R./Jusuf, M./Suharsono. Distribution of Hoya multiflora Blume at Gunung Gede Pangrango National Park, Indonesia. Journal of Forestry Research. 7(1)44: 42-52.	[Evidence of substantial reproductive failure in native habitat? No] "H. multiflora has widespread geographic distribution found in almost all parts of Indonesian archipelago ranging from 20 to 1500 m above sea level. The distribution of H. multiflora at the Gunung Gede Pangrango National Park is between 650-900 m above sea level at the Bodogol Research Station. The main factor affecting the spatial distribution is seed dispersal which mainly depends on the wind as a primary dispersal agent, rather than habitat factors. The speed and direction of the wind also influence on the long and short distant dispersal of this species."
602	2010. Rahayu, S./Kusmana, C./Abdulhadi, R./Jusuf, M./Suharsono. Distribution of Hoya multiflora Blume at Gunung Gede Pangrango National Park, Indonesia. Journal of Forestry Research. 7(1)44: 42-52.	[Produces viable seed? Yes] "H. multiflora has widespread geographic distribution found in almost all parts of Indonesian archipelago ranging from 20 to 1500 m above sea level. The distribution of H. multiflora at the Gunung Gede Pangrango National Park is between 650-900 m above sea level at the Bodogol Research Station. The main factor affecting the spatial distribution is seed dispersal which mainly depends on the wind as a primary dispersal agent, rather than habitat factors. The speed and direction of the wind also influence on the long and short distant dispersal of this species."
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2012. WRA Specialist. Personal Communication.	[Self-compatible or apomictic? Unknown]
605	1994. Zomlefer, W.B.. Guide to Flowering Plant Families. The University of North Carolina Press, Chapel Hill & London	[Requires specialist pollinators? No] "Various insects (especially Hymenoptera and Lepidoptera) are attracted to the showy, richly nectariferous flowers."
605	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Requires specialist pollinators? No] "Inflorescences extra-axillary, subterminal, or terminal, hemispherical, many flowered; peduncle stout, 1.5–3 cm. Pedicel 3.5–7 cm. Sepals ovate, ca. 2.5 × 1.7 mm; glands many, linear. Corolla yellowish white with orange lobe apices, 1.6–1.8 cm, strongly reflexed from base; limb ca. 6 mm, throat white villous; lobes oblong-triangular, ca. 1.2 × 0.8 cm. Corona on distinct stalk; lobes yellow, narrowly lanceolate, 8–9 mm, outer angles extended into acuminate spurs, inner angles acuminate, higher than stigma head." [Specialized floral structure that is attractive to insect pollinators]

605	2012. Dave's Gardern. PlantFiles: Shooting Star Hoya, Wax Plant, Porcelain Flower - Hoya multiflora. http://davesgarden.com/guides/pt/go/2734/	[Requires specialist pollinators? No] "This plant is attractive to bees, butterflies and/or birds" [No evidence]
606	2012. Dave's Gardern. PlantFiles: Shooting Star Hoya, Wax Plant, Porcelain Flower - Hoya multiflora. http://davesgarden.com/guides/pt/go/2734/	[Reproduction by vegetative fragmentation? No] "Propagation Methods: From semi-hardwood cuttings Seed Collecting: Allow pods to dry on plant; break open to collect seeds Seed does not store well; sow as soon as possible" [No evidence]
607	2010. Sharpe, K.. Hoya plant care. gardenguides.com , http://www.gardenguides.com/115963-hoya-plant-care.html	[Minimum generative time (years)? 3-4] "Flowering begins when the hoya reaches 4 years of age." [Generic description]
701	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules likely to be dispersed unintentionally? Potentially] "Follicles linear-lanceolate in outline, 12–18 cm. Seeds ovate, ca. 4 × 2 mm; coma to 5 cm." [A coma is a usually terminal tuft or cluster, especially a tuft of hairs on a seed. Possibly that coma may allow seeds to adhere to clothing or get caught in machinery or other equipment]
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] "It is cultivated in tropical areas as an ornamental and in temperate zones as a glasshouse specimen."
703	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules likely to disperse as a produce contaminant? No] "Follicles linear-lanceolate in outline, 12–18 cm. Seeds ovate, ca. 4 × 2 mm; coma to 5 cm." [No evidence, and seed hairs are relatively long and unlikely to become an inadvertent contaminant of produce]
704	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 adapted to wind dispersal? Yes] "Frt usu 1, linear, 6-7" long, 0.25-0.3" Ø. Seed hair tuft to 2" long." [Seeds with hairs presumably adapted to wind dispersal]
704	2010. Rahayu, S./Kusmana, C./Abdulhadi, R./Jusuf, M./Suharsono. Distribution of Hoya multiflora Blume at Gunung Gede Pangrango National Park, Indonesia. Journal of Forestry Research. 7(1)44: 42-52.	[Propagules adapted to wind dispersal? Yes] "It was also noted that the H. multiflora only found at the upper areas of the hill and slope, not in the valley area. The seed dispersal strategy by wind and the intensity of sun light are reasons for the site selection." ... "Biologically, H. multiflora has follicle type fruits and tiny seeds bearing lots of silky hairs. This characteristic allows the seeds to travel the wind current and gentle breezes of the earth. Wind dispersal of seeds, or anemochory, is one of the more primitive means of dispersal. Wind dispersal can take on one of two primary forms: seeds can float on the breeze or alternatively, they can flutter to the ground (Irwini and Taylor, 2007). In the case of this species, it has plumose crown of hairs (pappus) above a slender seed. This type of dispersal adopted this typical characteristic of a parachute seed so this plant evolved parachute method of seed dispersal by wind (Armstrong, 1999)."
705	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules water dispersed? No] "Follicles linear-lanceolate in outline, 12–18 cm. Seeds ovate, ca. 4 × 2 mm; coma to 5 cm." [Possible, but unlikely. Adapted for wind dispersal]
706	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 bird dispersed? No] "Frt usu 1, linear, 6-7" long, 0.25-0.3" Ø. Seed hair tuft to 2" long." [Not fleshy-fruited]
707	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules dispersed by other animals (externally)? Potentially] "Follicles linear-lanceolate in outline, 12–18 cm. Seeds ovate, ca. 4 × 2 mm; coma to 5 cm." [A coma is a usually terminal tuft or cluster, especially a tuft of hairs on a seed. Possibly that coma may allow seeds to adhere to animal fur]
708	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 survive passage through the gut? Unknown] "Frt usu 1, linear, 6-7" long, 0.25-0.3" Ø. Seed hair tuft to 2" long." [Seeds not adapted for internal dispersal and unlikely to be consumed except by seed predators]
801	1995. Wu, Z.Y./Raven, P.H. (eds.). Flora of China Vol. 16 (Gentianaceae through Boraginaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Prolific seed production (>1000/m ²)? Unlikely] "Plants glabrous throughout except for corolla throat. Stems erect or decumbent, to 2.5 m tall, pale gray, yellowish when dry, with persistent leaf scars." ... "Follicles linear-lanceolate in outline, 12–18 cm. Seeds ovate, ca. 4 × 2 mm; coma to 5 cm."

802	2012. Dave's Gardern. PlantFiles: Shooting Star Hoya, Wax Plant, Porcelain Flower - Hoya multiflora. http://davesgarden.com/guides/pf/go/2734/	[Evidence that a persistent propagule bank is formed (>1 yr)? No] "Seed does not store well; sow as soon as possible"
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information found on herbicide efficacy or chemical control of this species.
804	2012. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]