

Family: Vitaceae

Taxon: *Tetrastigma leucostaphylum*

Synonym: Common Name

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation: EVALUATE
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	
204	Native or naturalized in regions with tropical or subtropical climates		y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?		y=-2, ?=-1, n=0	n
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205	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)	
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	n
405	Toxic to animals		y=1, n=0	n
406	Host for recognized pests and pathogens		y=1, n=0	
407	Causes allergies or is otherwise toxic to humans		y=1, n=0	n
408	Creates a fire hazard in natural ecosystems		y=1, n=0	
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	
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	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	n
605	Requires specialist pollinators	y=-1, n=0	
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
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	n
705	Propagules water dispersed	y=1, n=-1	
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: EVALUATE

WRA Score 2

Supporting Data:

101	2011. WRA Specialist. Personal Communication.	No evidence
102	2011. WRA Specialist. Personal Communication.	NA
103	2011. WRA Specialist. Personal Communication.	NA
201	1989. Shetty, B.V./Singh, P.. Notes on Vitaceae in India and Some Neighbouring Regions. Kew Bulletin. 44(3): 469-478.	"Distribution: India (Andhra Pradesh, Assam, Bengal, Karnataka, Kerala, Orissa. Tamil Nadu, Uttar Pradesh), Bhutan, Malesia."
201	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Sri Lanka, Peninsula, NE India to Malay peninsula."
202	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Sri Lanka, Peninsula, NE India to Malay peninsula."
204	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Sri Lanka, Peninsula, NE India to Malay peninsula."
205	2011. WRA Specialist. Personal Communication.	No evidence
301	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	No evidence
302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	No evidence
303	2005. Basnet, D.B.. Some Common Weed Flora in Forest Plantation of Darjeeling Hill, West Bengal, India. Pp 39-52 in A. Kumar (ed.) Biodiversity & Conservation. APH Publishing, New Delhi	"A present study aimed to record the composition and structure of weed flora encountered in forest plantations of different altitudinal zones of Darjeeling hills...The observations were made inside the forest plantation up to 3 years old, planted in 2m x 2m spacing...The results obtained are presented in Table 5.1, 5.2 & 5.3." [Table 5.1 lists <i>T. lanceolarium</i> as a weed of "Lower Hill zone forest plantation" and Table 5.2 lists <i>T. lanceolarium</i> as a weed of "Middle Hill zone forest plantation", but in both cases, no indication of impacts is given]
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	No evidence
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/	No evidence
305	1999. Morisawa, T.L.. Weed Notes: <i>Tetrastigma</i> species. The Nature Conservancy, www.invasive.org/gist/moredocs/tetspp01.pdf	"Potential Threat: No information about how weedy this plant is was available from the literature, however, it seems to possess some characteristics of a weedy plant. <i>Tetrastigma</i> species have a high growth rate and its ability to propagate vegetatively are signs for caution. Shading out trees and breaking branches are a possibility. The vines grow from the ground and high into trees, suggesting that it could act as a fire ladder and change ground fires into tree crown fires. Dispersal of its fruit by animals could add to its threat. However, it has not yet shown itself to be a significant weed."
305	2000. Oppenheimer, H.L./Bartlett, R.T.. New plant records from Maui, O'ahu, and the Hawai'i Islands. Bishop Museum Occasional Papers. 64: 1-10.	"This is a new record for the genus <i>Tetrastigma</i> in the Hawaiian Islands, the only other naturalized Vitaceae being species of <i>Cissus</i> (Wagner et al., 1999: 1342, 1898). Although Maui Pineapple Co. records show the area as one of historic plantings of exotic species, <i>T. pubinerve</i> does not appear on any map or list of taxa. There are specimens at BISH from cultivated plants (Staples, Heywood, et al. 581, O'ahu; Flynn & Hume 1648, Kaua'i). It is a high-climbing liana with palmately lobed leaves; fleshy fruits are red to orange, globose, about 5-8 mm in dia. Although a complete survey of the area has not yet been made, the known infestation covers approximately 4 acres,"

305	2007. Frohlich, D./Lau, A.. New plant records from O'ahu for 2006. Bishop Museum Occasional Papers. 96: 8-13.	"No female plants of this species have been observed in Hawai'i (Staples & Herbst 2005), preventing seed production. However, if it continues to be cultivated here, lizard plant will likely become part of the Hawaiian flora by vegetative means. Although there are no vouchers at BISH to confirm the observation, Staples and Herbst (2005) reported that <i>T. voinieranum</i> has escaped cultivation near Onomea Bay on the Big Island, blanketing roadside trees. The following collection is from Waimea Botanical Garden on O'ahu, where park staff are working to remove the species. It has spread through the understory and has been difficult to control, often resprouting from root suckers."
305	2011. WRA Specialist. Personal Communication.	Some <i>Tetrastigma</i> species possess traits and are beginning to show signs of become weeds, but to date, no evidence of impacts from natural or agricultural settings have been documented.
401	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Vine to 6(12) m; branches tuberculate. Lvs 3(5)-foliolate, 4-15 cm; lflets oblanceolate, 4-12 x 2-5 cm, thick-coriaceous, nerves 7-9 pairs." [no spines, thorns or burrs]
402	2011. WRA Specialist. Personal Communication.	Unknown
403	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Vine to 6(12) m; branches tuberculate. Lvs 3(5)-foliolate, 4-15 cm; lflets oblanceolate, 4-12 x 2-5 cm, thick-coriaceous, nerves 7-9 pairs." [Vitaceae, no evidence of parasitism]
403	2000. Hidayati, S.N./Meijer, W./Baskin, J.M./Walck, J.L.. A Contribution to the Life History of the Rare Indonesian Holoparasite <i>Rafflesia patma</i> (Rafflesiaceae). <i>Biotropica</i> 32(3): 408-414. 32(3): 408-414.	" <i>Rafflesia patma</i> is parasitic on trailing stems and roots of the woody liana <i>Tetrastigma leucostaphylum</i> (Dennst.) Alston ex Mabb. [<i>T. lanceolarium</i> (Roxb.) Planch.] and possibly also on those of <i>T. glabratum</i> (Blume) Planch. (Vitaceae; Backer & Bakhuizen van den Brink 1963, Meijer 1997)."
404	2008. Singh, V./Gaur, R.D./Bohra, B.. A survey of fodder plants in mid-altitude Himalayan rangelands of Uttarakhand, India. <i>Journal of Mountain Science</i> . 5(3): 265-278.	"Table 1 Fodder species in the rangeland ecosystems of Uttarakhand Himalaya" [<i>T. lanceolarium</i> included in list of fodder plants for livestock]
405	1998. Riffle, R.L.. <i>The Tropical Look - An Encyclopedia of Dramatic Landscape Plants</i> . Timber Press, Portland, OR	No evidence from genus
405	2008. Singh, V./Gaur, R.D./Bohra, B.. A survey of fodder plants in mid-altitude Himalayan rangelands of Uttarakhand, India. <i>Journal of Mountain Science</i> . 5(3): 265-278.	Listed as fodder for livestock with no mention of toxicity to animals
406	2011. WRA Specialist. Personal Communication.	Unknown
407	1998. Riffle, R.L.. <i>The Tropical Look - An Encyclopedia of Dramatic Landscape Plants</i> . Timber Press, Portland, OR	No evidence from genus
407	2006. Sankaran, M./Prakash, J./Singh, N.P./Suklabaidya, A.. Wild edible fruits of Tripura. <i>Indian Journal of Natural Products and Resources</i> . 5(4): 302-305.	Edible fruit, with no evidence or reports of toxicity
408	2011. WRA Specialist. Personal Communication.	Unknown [it might be possible that smothering vines provide a continuous fuel load and ladder to carry fire into tree canopy]
409	2010. The Total Vascular Flora of Singapore Online. <i>Tetrastigma leucostaphylum</i> . http://floraofsingapore.wordpress.com/2010/08/07/tetrastigma-leucostaphylum/	"Habitat: Lowland and Hill dipterocarp forests fringe. Occurrence: Nee Soon Swamp Forest and other parts of Central Catchment Nature Reserve." [Shade tolerance unknown]
410	2011. WRA Specialist. Personal Communication.	Unknown
411	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Vine to 6(12) m"
412	2011. WRA Specialist. Personal Communication.	No evidence [but climbing]
501	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Vine to 6(12) m" [Vitaceae; terrestrial]

502	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	Vitaceae
503	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	Vitaceae [not a nitrogen fixing woody plant]
504	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Vine to 6(12) m" [Vitaceae, not a geophyte]
601	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	No evidence of substantial reproductive failure in native habitat
601	2008. Lalramnghinglova, H.. Ecological studies on plant diversity and productivity of herbaceous species in Mizoram University campus at Tanhril, Aizawl, Mizoram (n.e. India). PhD Dissertation. Dept. of Forest Ecology, Mizoram University, Aizawl, India	"Flowers unisexual, green. Berries globose, red when ripe. Flrs & Frts: February-September."
602	2010. The Total Vascular Flora of Singapore Online. <i>Tetrastigma leucostaphylum</i> . http://floraofsingapore.wordpress.com/2010/08/07/tetrastigma-leucostaphylum/	"Fruits: Berry globose, 15–20 mm across, 1–2 seeds per fruit; seed oblong ca. 12mm by 6 mm."
603	2011. WRA Specialist. Personal Communication.	Unknown
604	1893. Trimen, H.. A Hand-book to the Flora of Ceylon: Part I: Ranunculaceæ - Anacardiaceæ. Dulau & Co., London, UK	"fl. dioecious, male cymes lax, paniculate, longer than petiole, female cymes denser, corymbose, shorter than petiole..." [description for <i>Tetrastigma lanceolarium</i> , a synonym of <i>T. leucostaphylum</i>]
604	2010. The Total Vascular Flora of Singapore Online. <i>Tetrastigma leucostaphylum</i> . http://floraofsingapore.wordpress.com/2010/08/07/tetrastigma-leucostaphylum/	"Growth Form or Habit: Dioecious, woody climber"
605	1994. Zomlefer, W.B.. Guide to Flowering Plant Families. The University of North Carolina Press, Chapel Hill & London	"The small flowers secrete nectar from the disc and often are fragrant and usually entomophilous." [Family description. Unknown for <i>T. leucostaphylum</i>]
606	1999. Morisawa, T.L.. Weed Notes: <i>Tetrastigma</i> species. The Nature Conservancy, www.invasive.org/gist/moredocs/tetspp01.pdf	"Any piece of vine that breaks off can easily root. However, the plant may stay the same size for quite some time before establishing and growing rapidly (G. Roe, personal communication)." [description of genus. Assumed to be true for <i>T. leucostaphylum</i>]
607	2011. WRA Specialist. Personal Communication.	Unknown. Probably <2-3 years for a vine
701	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	Seed, spread by birds; also vegetatively [Description is for morphologically similar <i>T. voinianum</i> ; possible that plant cuttings could be inadvertently spread and root at nodes]
702	1998. Riffle, R.L.. The Tropical Look - An Encyclopedia of Dramatic Landscape Plants. Timber Press, Portland, OR	<i>Tetrastigma</i> species cultivated as ornamentals and for edible berries
703	2010. The Total Vascular Flora of Singapore Online. <i>Tetrastigma leucostaphylum</i> . http://floraofsingapore.wordpress.com/2010/08/07/tetrastigma-leucostaphylum/	Fruits: Berry globose, 15–20 mm across, 1–2 seeds per fruit; seed oblong ca. 12mm by 6 mm. [probably not. No evidence that this vine is grown with produce, and seeds are relatively large]
704	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Berry globose; seeds 2-4, oblong" [no adaptations for wind dispersal]
705	2011. WRA Specialist. Personal Communication.	Unknown
706	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Berry globose; seeds 2-4, oblong" [fleshy-fruited & presumably adapted for bird dispersal]
707	2010. The Total Vascular Flora of Singapore Online. <i>Tetrastigma leucostaphylum</i> . http://floraofsingapore.wordpress.com/2010/08/07/tetrastigma-leucostaphylum/	"Fruits: Berry globose, 15–20 mm across, 1–2 seeds per fruit; seed oblong ca. 12mm by 6 mm.: [external dispersal by animals possible but unlikely; relatively large seeds with no means of external attachment]

708	1995. Matthew, K.M.. An excursion flora of Central Tamilnadu, India. CRC Press, Boca Raton, FL	"Berry globose; seeds 2-4, oblong" [fleshy-fruited & presumably adapted for passage through guts of birds or other vertebrates]
801	2010. The Total Vascular Flora of Singapore Online. <i>Tetrastigma leucostaphylum</i> . http://floraofsingapore.wordpress.com/2010/08/07/tetrastigma-leucostaphylum/	"Fruits: Berry globose, 15–20 mm across, 1–2 seeds per fruit; seed oblong ca. 12mm by 6 mm." [unlikely, relatively large seeds & few per fruit]
802	2011. WRA Specialist. Personal Communication.	Unknown
803	2011. WRA Specialist. Personal Communication.	Unknown. No information on control of this species found in literature.
804	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	It requires vigorous pruning in order to keep it in bounds [description for <i>T. voinierianum</i> , but habit and biology are similar to <i>T. leucostaphylum</i>]
805	2011. WRA Specialist. Personal Communication.	Unknown