

Family: Actinidiaceae

Taxon: Actinidia polygama

Synonym: Trochostigma polygama Siebold & Zucc. (bas **Common Name:** cat-powder
silvervine
mata-tabi

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation:	EVALUATE
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	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)		Low
202	Quality of climate match data		(0-low; 1-intermediate; 2-high) (See Appendix 2)		Intermediate
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		n
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)		n
304	Environmental weed		n=0, y = 2*multiplier (see Appendix 2)		n
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		y=1, n=0		
403	Parasitic		y=1, n=0		n
404	Unpalatable to grazing animals		y=1, n=-1		
405	Toxic to animals		y=1, n=0		n
406	Host for recognized pests and pathogens		y=1, n=0		
407	Causes allergies or is otherwise toxic to humans		y=1, n=0		n
408	Creates a fire hazard in natural ecosystems		y=1, n=0		
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		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	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	n
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	
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	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	
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	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: EVALUATE

WRA Score 2

Supporting Data:

101	2011. Datson, P.M./Ferguson, A.R.. Actinidia. Wild Crop Relatives: Genomic and Breeding Resources. http://www.springerlink.com/content/r450hg2x028r7323/?MUD=MP	[Is the species highly domesticated? No] "Kiwifruit in comparison with most other crop plants have a very short history of cultivation. The two commercially important kiwifruit species, <i>Actinidia deliciosa</i> and <i>A. chinensis</i> , were introduced into cultivation in the last 110 years. Almost all current kiwifruit cultivars are either direct selections from the wild or only a few generations removed from the wild."
101	2012. WRA Specialist. Personal Communication.	[Is the species highly domesticated? No] No evidence of domestication that reduces invasive traits.
102	2012. WRA Specialist. Personal Communication.	[Has the species become naturalized where grown? NA]
103	2012. WRA Specialist. Personal Communication.	[Does the species have weedy races? NA]
201	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"? 0-low] Native distribution: Russian Far East: Russian Federation - Kurile Islands, Primorye [s.w.], Sakhalin [s.e.] China: China - Anhui, Gansu, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jilin, Liaoning, Shaanxi, Shandong, Sichuan, Yunnan Eastern Asia: Japan - Hokkaido, Honshu, Kyushu, Shikoku; Korea, North; Korea, South.
202	2012. Plants for a Future. <i>Actinidia polygama</i> - (Siebold.&Zucc.)Maxim.. http://www.pfaf.org/user/Plant.aspx?LatinName=Actinidia+polygama	[Quality of climate match data? 1 - intermediate] Seed - sow spring in a greenhouse. It is probably best if the seed is given 3 months stratification, either sow it in a cold frame as soon as it is ripe in November or as soon as it is received. Fresh seed germinates in 2 - 3 months at 10°C, stored seed can take longer.
202	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Quality of climate match data? 0 - low] Russian Far East: Russian Federation - Kurile Islands, Primorye [s.w.], Sakhalin [s.e.] China: China - Anhui, Gansu, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jilin, Liaoning, Shaanxi, Shandong, Sichuan, Yunnan Eastern Asia: Japan - Hokkaido, Honshu, Kyushu, Shikoku; Korea, North; Korea, South.
203	2007 [online]. <i>Actinidia polygama</i> - Flora of China Vol. 12. www.efloras.org , http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Broad climate suitability (environmental versatility)? Yes] Mountain forests, also widely cultivated; 500-1900 m. Anhui, Chongqing, Gansu, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jilin, Liaoning, Shaanxi, Shandong, Sichuan, Yunnan [Japan, Korea, Russia].
203	2007. Ferguson, A.R./Huang, H.. Genetic resources of kiwifruit: domestication and breeding. <i>Horticultural Reviews</i> . 33: .	[Broad climate suitability (environmental versatility)? Yes] <i>Actinidia polygama</i> can be found from altitudes of 150 m to 3500 m in its native distribution.
204	2012. WRA Specialist. Personal Communication.	[Native or naturalized in regions with tropical or subtropical climates? No] No evidence of naturalization.
205	2011. Dirr, M.A.. Dirr's encyclopedia of trees and shrubs. Timber Press, Portland	[Does the species have a history of repeated introductions outside its natural range? No] <i>Actinidia polygama</i> is extremely rare in cultivation.
205	2012. B & T World Seeds. <i>Actinidia polygama</i> . http://b-and-t-world-seeds.com/carth.asp?species=Actinidia%20polygama&sref=72222	[Does the species have a history of repeated introductions outside its natural range? No] B&T World Seeds has <i>Actinidia polygama</i> seeds for sale.
301	2012. WRA Specialist. Personal Communication.	[Naturalized beyond native range? No] No evidence.
302	2007. Randall, R.. <i>Actinidia polygama</i> - Global Compendium of Weeds. Department of Agriculture Australia, http://www.hear.org/gcw/species/actinidia_polygama/	[Garden/amenity/disturbance weed? No] No evidence.
303	2007. Randall, R.. <i>Actinidia polygama</i> - Global Compendium of Weeds. Department of Agriculture Australia, http://www.hear.org/gcw/species/actinidia_polygama/	[Agricultural/forestry/horticultural weed? No] No evidence of weediness.
304	2007. Randall, R.. <i>Actinidia polygama</i> - Global Compendium of Weeds. Department of Agriculture Australia, http://www.hear.org/gcw/species/actinidia_polygama/	[Environmental weed? No] No evidence of invasiveness in native environments.

305	2007. Sullivan, J.J./Mather, J./Stahel, W.. Control of wild kiwifruit (<i>Actinidia</i> species) in Bay of Plenty, New Zealand. http://www.actahort.org/books/753/753_77.htm	[Congeneric weed? Yes] <i>Actinidia deliciosa</i> has invaded the native forests and scrub ecosystems of the Bay of Plenty region of New Zealand. Control efforts indicate that herbicides, are a successful tool in containing the negative impacts of this species.
401	2007 [online]. <i>Actinidia polygama</i> - Flora of China Vol. 12. www.efloras.org , http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Produces spines, thorns or burrs? No] "Climbing shrubs, large, deciduous. Branchlets glabrous, lenticels inconspicuous; pith white, large, solid. Petiole purplish red, 1.5-3.5 cm, glabrous; leaf blade abaxially pale green, adaxially green to entirely white, sometimes only upper half white or yellowish, ovate to oblong-ovate, 7-14 x 4.5-8 cm, membranous to thinly papery, abaxially glabrous or sparsely curly-tomentose to strigillose on midvein and lateral veins, adaxially sparsely strigillose, veins conspicuous abaxially, subconspicuous adaxially, lateral veins 6 or 7 pairs, arcuate-ascending, veinlets reticulate, abaxially subconspicuous with parallel cross-bars, inconspicuous adaxially, base broadly cuneate to rounded, margin serrulate, apex acuminate to abruptly acuminate. Inflorescences 1-flowered, or 2- or 3-flowered in a fascicle; pedicels 6-8 mm, slightly puberulent. "
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown] Research on the allelopathic abilities of species is lacking.
403	2010. Nickrent, D.. The parasitic plant connection. Department of Plant Biology, Southern Illinois University, Carbondale http://www.parasiticplants.siu.edu/index.html	[Parasitic? No] Actinidiaceae. [non-parasitic plant family]
404	2012. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	2012. National Center for Biotechnology Information. PubMed. http://www.ncbi.nlm.nih.gov/sites/entrez	[Toxic to animals? No] No evidence of toxicity.
405	2012. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	[Toxic to animals? No] No evidence of toxicity.
406	2012. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2012. National Center for Biotechnology Information. PubMed. http://www.ncbi.nlm.nih.gov/sites/entrez	[Causes allergies or is otherwise toxic to humans? No] No evidence.
407	2012. Plants for a Future. <i>Actinidia polygama</i> - (Siebold.&Zucc.)Maxim.. http://www.pfaf.org/user/Plant.aspx?LatinName=Actinidia+polygama	[Causes allergies or is otherwise toxic to humans? No] Fruit - raw or cooked. Not very palatable, it is eaten salted. Some cultivars have nice flavoured fruits. The fruit contains up to 5 times the vitamin C. of blackcurrants. Fairly large fruits, up to 3cm across. The ovoid fruits are orange and hairless when fully ripe. It contains a number of small seeds, but these are easily eaten with the fruit. Leaves - raw or cooked. The leaves can also be roasted and mixed with tea. The leaves are hallucinogenic and sedative. The leaves contain substances that make them very attractive to cats and for this reason they are especially useful as a sedative for lions etc in zoos. When consumed in large quantities the leaves can have a mild hallucinatory effect. Polygamol, which is made from the fruits, is used as a heart tonic. A dry decoction is used to treat colic and rheumatism.
407	2012. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	[Causes allergies or is otherwise toxic to humans? No] No evidence.
408	2012. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? Unknown]
409	2009. Nelson, V.. Edibles you can grow in the shade. http://www.oregonlive.com/hg/index.ssf/2009/07/shade_edibles_you_can_grow.html	[Is a shade tolerant plant at some stage of its life cycle?] Part shade.
409	2012. Dave's Garden. PlantFiles: silver vine - <i>Actinidia polygama</i> . Dave's Garden, http://davesgarden.com/guides/pf/go/58338/	[Is a shade tolerant plant at some stage of its life cycle?] Full sun.
409	2012. Plants for a Future. <i>Actinidia polygama</i> - (Siebold.&Zucc.)Maxim.. http://www.pfaf.org/user/Plant.aspx?LatinName=Actinidia+polygama	[Is a shade tolerant plant at some stage of its life cycle?] Semi-shade to no shade.

410	2012. Dave's Garden. PlantFiles: silver vine - Actinidia polygama. Dave's Garden, http://davesgarden.com/guides/pf/go/58338/	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] Soil pH: 6.1 to 6.5 (mildly acidic), 6.6 to 7.5 (neutral)
410	2012. Plants for a Future. Actinidia polygama - (Siebold.&Zucc.)Maxim.. http://www.pfaf.org/user/Plant.aspx?LatinName=Actinidia+polygama	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] The plant prefers light (sandy), medium (loamy) and heavy (clay) soils. The plant prefers acid, neutral and basic (alkaline) soils.
410	2012. www.aussiegardening.com. Actinidia polygama - silver vine. http://www.aussiegardening.com.au/findplants/planet/Actinidia_polygama	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] Silver Vine will grow in light (sandy),medium (loamy),hard (clay) soil. It is not necessary for the soil to be well drained. The soil prefers the following PH / acid levels : - pH of less than 6, Acidic soils - pH between 6 and 8, Neutral soils - pH greater than 8, Basic soils Silver Vine prefers moist soils
411	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.eFloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Climbing or smothering growth habit? Yes] Climbing shrub.
412	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.eFloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Forms dense thickets? No] Climbing shrub.
501	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.eFloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Aquatic? No] Terrestrial; climbing shrub.
502	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.eFloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Grass? No] Actinidiaceae.
503	2010. www.nationmaster.com. Encyclopedia Nitrogen fixation. Nationmaster.com, http://www.nationmaster.com/encyclopedia/Nitrogen-fixation	[Nitrogen fixing woody plant? No] Actinidia is not a nitrogen-fixing genus.
504	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.eFloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Climbing shrub; woody.
601	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.eFloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Evidence of substantial reproductive failure in native habitat? No] No evidence.
602	2012. B & T World Seeds. Actinidia polygama. http://b-and-t-world-seeds.com/carth.asp?species=Actinidia%20polygama&sref=72222	[Produces viable seed? Yes] B & T World Seeds has seeds for sale.
602	2012. Plants for a Future. Actinidia polygama - (Siebold.&Zucc.)Maxim.. http://www.pfaf.org/user/Plant.aspx?LatinName=Actinidia+polygama	[Produces viable seed? Yes] Seed - sow spring in a greenhouse. It is probably best if the seed is given 3 months stratification, either sow it in a cold frame as soon as it is ripe in November or as soon as it is received. Fresh seed germinates in 2 - 3 months at 10°C, stored seed can take longer.
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2007. Ferguson, A.R./Huang, H.. Genetic resources of kiwifruit: domestication and breeding. Horticultural Reviews. 33: .	[Self-compatible or apomictic? No] Actinidia polygama is functionally dioecious.
604	2012. Plants for a Future. Actinidia polygama - (Siebold.&Zucc.)Maxim.. http://www.pfaf.org/user/Plant.aspx?LatinName=Actinidia+polygama	[Self-compatible or apomictic? No] Actinidia polygama is not self-fertile.
605	2004. Kawagoe, T./Suzuki, N.. Cryptic dioecy in Actinidia polygama: a test of the pollinator attraction hypothesis. Canadian Journal of Botany. 82: 214-218.	[Requires specialist pollinators? No] Pollinated by bumblebees, solitary bees and syrphid flies.

606	2012. WRA Specialist. Personal Communication.	[Reproduction by vegetative fragmentation? Unknown]
607	2012. Plants for a Future. Actinidia polygama - (Siebold.&Zucc.)Maxim.. http://www.pfaf.org/user/Plant.aspx?LatinName=Actinidia+polygama	[Minimum generative time (years)? 2] Fruits are formed on second year wood and also on fruit spurs on older wood.
701	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.efloras.org , http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] "Fruit orange when mature, ovoid to cylindrical-ovoid to oblong-ovoid, 2.5-3 cm, glabrous, lenticels absent, rostrate at apex. Seeds 1.5-2 mm."
702	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.efloras.org , http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Propagules dispersed intentionally by people? Yes] Widely cultivated in Japan, Korea, Russia.
702	2012. B & T World Seeds. Actinidia polygama. http://b-and-t-world-seeds.com/carth.asp?species=Actinidia%20polygama&sref=72222	[Propagules dispersed intentionally by people? Yes] B&T World Seeds has Actinidia polygama seeds for sale.
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.efloras.org , http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Propagules adapted to wind dispersal? No] "Fruit orange when mature, ovoid to cylindrical-ovoid to oblong-ovoid, 2.5-3 cm, glabrous, lenticels absent, rostrate at apex. Seeds 1.5-2 mm."
705	2012. WRA Specialist. Personal Communication.	[Propagules water dispersed? Unknown] "Fruit orange when mature, ovoid to cylindrical-ovoid to oblong-ovoid, 2.5-3 cm, glabrous, lenticels absent, rostrate at apex. Seeds 1.5-2 mm."
706	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.efloras.org , http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Propagules bird dispersed? Yes] "Fruit orange when mature, ovoid to cylindrical-ovoid to oblong-ovoid, 2.5-3 cm, glabrous, lenticels absent, rostrate at apex. Seeds 1.5-2 mm."
707	2007 [online]. Actinidia polygama - Flora of China Vol. 12. www.efloras.org , http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=10011	[Propagules dispersed by other animals (externally)? No] "Fruit orange when mature, ovoid to cylindrical-ovoid to oblong-ovoid, 2.5-3 cm, glabrous, lenticels absent, rostrate at apex. Seeds 1.5-2 mm." [no means of external attachment]
708	2005. Sakai, A./Sato, S./Sakai, T./Kuramoto, S./Tabuchi, R.. A soil seed bank in a mature conifer plantation and establishment of seedlings after clear-cutting in southwest Japan. <i>Journal of Forest Research</i> . 10: 295-304.	[Propagules survive passage through the gut? Yes] Frugivore dispersed.
801	2005. Sakai, A./Sato, S./Sakai, T./Kuramoto, S./Tabuchi, R.. A soil seed bank in a mature conifer plantation and establishment of seedlings after clear-cutting in southwest Japan. <i>Journal of Forest Research</i> . 10: 295-304.	[Prolific seed production (>1000/m ²)? No] In this research on the soil seed bank of a clear-cut conifer plantation in Japan, <i>Actinidia polygama</i> had an estimated density of 6.2 seeds per m ² .
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown]
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]

Risk Traits Summary:

High Risk Traits

- Broad climate suitability
- Congeneric weed
- Possibly shade tolerant (literature is unclear)
- Tolerates a wide-range of soil types
- Climbing shrub
- Viable seed
- Produces fruit in two years
- Bird dispersed seed

Low Risk Traits

- Not naturalized or weedy elsewhere (limited introductions outside native range)
- Not parasitic
- Not toxic to animals or humans
- Not an ecosystem transformer
- Not self-compatible
- No soil seed bank