

**Family:** *Araliaceae*

**Taxon:** *Trevesia palmata*

**Synonym:** *Gastonia palmata* Roxb. ex Lindl. (basionym) *Gilibertia palmata* (Roxb. ex Lindl.) DC.  
**Common Name:** snowflake plant  
snowflake tree  
ci tong cao  
Schneeflockenbaum

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation:	EVALUATE
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score	5
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	n
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)	n
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	y
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	
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	y
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	n
412	Forms dense thickets	y=1, n=0	
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	
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	
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	
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 5

## Supporting Data:

101	2012. WRA Specialist. Personal Communication.	[Is the species highly domesticated? No] No evidence of domestication.
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. <i>Trevesia palmata</i> (Roxb. ex Lindl.) Vis. - Germplasm Resources Information Network - (GRIN) [Online Database].. National Germplasm Resources Laboratory, Beltsville, Maryland <a href="http://www.ars-grin.gov/cgi-b">http://www.ars-grin.gov/cgi-b</a>	[Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"? 2 - High] Native distribution: ASIA-TEMPERATE: China: China - Guangxi [s.], Guizhou, Yunnan [s.] ASIA-TROPICAL: Indian Subcontinent: Bangladesh; Bhutan; India - Assam, Manipur, Sikkim, West Bengal; Nepal North Indian Ocean: India - Andaman and Nicobar Indo-China: Cambodia; Laos; Myanmar; Thailand; Vietnam
202	2012. USDA, ARS, National Genetic Resources Program. <i>Trevesia palmata</i> (Roxb. ex Lindl.) Vis. - Germplasm Resources Information Network - (GRIN) [Online Database].. National Germplasm Resources Laboratory, Beltsville, Maryland <a href="http://www.ars-grin.gov/cgi-b">http://www.ars-grin.gov/cgi-b</a>	[Quality of climate match data? 2 - High] Native distribution: ASIA-TEMPERATE: China: China - Guangxi [s.], Guizhou, Yunnan [s.] ASIA-TROPICAL: Indian Subcontinent: Bangladesh; Bhutan; India - Assam, Manipur, Sikkim, West Bengal; Nepal North Indian Ocean: India - Andaman and Nicobar Indo-China: Cambodia; Laos; Myanmar; Thailand; Vietnam
203	1998. Jebb, M.H.P.. A revision of the genus <i>Trevesia</i> (Araliaceae). <i>Glasra</i> . 3: 85-113. <a href="http://www.botanicgardens.ie/glasra/ns3_5.pdf">http://www.botanicgardens.ie/glasra/ns3_5.pdf</a>	[Broad climate suitability (environmental versatility)? Yes] Evergreen forest; 250 - 1,500 m.
203	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. <a href="http://www.efloras.org">www.efloras.org</a> , <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Broad climate suitability (environmental versatility)? Yes] "Mixed forests on mountain slopes; 600-2000 m. S Guangxi, Guizhou, S Yunnan [Bangladesh, Cambodia, India, Laos, Nepal, Thailand, Vietnam]."
204	2012. USDA, ARS, National Genetic Resources Program. <i>Trevesia palmata</i> (Roxb. ex Lindl.) Vis. - Germplasm Resources Information Network - (GRIN) [Online Database].. National Germplasm Resources Laboratory, Beltsville, Maryland <a href="http://www.ars-grin.gov/cgi-b">http://www.ars-grin.gov/cgi-b</a>	[Native or naturalized in regions with tropical or subtropical climates ? Yes] Native distribution: ASIA-TEMPERATE: China: China - Guangxi [s.], Guizhou, Yunnan [s.] ASIA-TROPICAL: Indian Subcontinent: Bangladesh; Bhutan; India - Assam, Manipur, Sikkim, West Bengal; Nepal North Indian Ocean: India - Andaman and Nicobar Indo-China: Cambodia; Laos; Myanmar; Thailand; Vietnam
205	2012. WRA Specialist. Personal Communication.	[Does the species have a history of repeated introductions outside its natural range? No] No evidence of repeated introductions. [limited availability]
301	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Naturalized beyond native range? No] No evidence.
302	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Garden/amenity/disturbance weed? No] No evidence.
303	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Agricultural/forestry/horticultural weed? No] No evidence.
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Environmental weed? No] No evidence.
305	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Congeneric weed? No] No evidence.
401	1998. Jebb, M.H.P.. A revision of the genus <i>Trevesia</i> (Araliaceae). <i>Glasra</i> . 3: 85-113. <a href="http://www.botanicgardens.ie/glasra/ns3_5.pdf">http://www.botanicgardens.ie/glasra/ns3_5.pdf</a>	[Produces spines, thorns or burrs? Yes] "Trevesia are small trees with large leaves and thick axes. Whilst some species are well branched ( <i>T. arborea</i> , <i>T. sundaica</i> ) others appear to branch rarely except when injured ( <i>T. lateospina</i> , <i>T. palmata</i> , <i>T. valida</i> ). The stems bear sharp conical spines, and these are either numerous and borne in more or less precise semi-circular rings around the petiole base, or are sparser and somewhat randomly scattered."

402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2010. Nickrent, D.. The parasitic plant connection. Department of Plant Biology, Southern Illinois University, Carbondale <a href="http://www.parasiticplants.siu.edu/index.html">http://www.parasiticplants.siu.edu/index.html</a>	[Parasitic? No] Araliaceae.
403	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Parasitic? No] Araliaceae
404	2012. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown].
405	2012. WRA Specialist. Personal Communication.	[Toxic to animals? Unknown]
406	2012. Urban Forest Ecosystems Institute. Snowflake tree - <i>Trevesia palmata</i> . College of Agriculture at California Polytechnic State University, San Luis Obispo <a href="http://selectree.calpoly.edu/treedetail_all.lasso?rid=1424&amp;-session=selectree:42F9440F1e01f0C358">http://selectree.calpoly.edu/treedetail_all.lasso?rid=1424&amp;-session=selectree:42F9440F1e01f0C358</a>	[Host for recognized pests and pathogens? ] Pest & Disease: Susceptible to Mealy Bugs and Spider Mites
406	2012. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	1998. Jebb, M.H.P.. A revision of the genus <i>Trevesia</i> (Araliaceae). <i>Glasra</i> . 3: 85-113. <a href="http://www.botanicgardens.ie/glasra/ns3_5.pdf">http://www.botanicgardens.ie/glasra/ns3_5.pdf</a>	[Causes allergies or is otherwise toxic to humans?] "The young inflorescences of <i>Trevesia palmata</i> , and probably other species, are eaten by people in Thailand, as are those of some other Araliaceae." [food]
407	2012. WRA Specialist. Personal Communication.	[Causes allergies or is otherwise toxic to humans? Unknown].
408	2012. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? No] No evidence of biomass accumulation that would promote fire.
409	2012. Top Tropicals. <i>Trevesia palmata</i> . Top Tropicals Botanical Garden, <a href="http://toptropicals.com/catalog/uid/Trevesia_palmata.htm">http://toptropicals.com/catalog/uid/Trevesia_palmata.htm</a>	[Is a shade tolerant plant at some stage of its life cycle? Yes] Shade-tolerant.
409	2012. Urban Forest Ecosystems Institute. Snowflake tree - <i>Trevesia palmata</i> . College of Agriculture at California Polytechnic State University, San Luis Obispo <a href="http://selectree.calpoly.edu/treedetail_all.lasso?rid=1424&amp;-session=selectree:42F9440F1e01f0C358">http://selectree.calpoly.edu/treedetail_all.lasso?rid=1424&amp;-session=selectree:42F9440F1e01f0C358</a>	[Is a shade tolerant plant at some stage of its life cycle? Yes] Partial shade.
410	2012. Urban Forest Ecosystems Institute. Snowflake tree - <i>Trevesia palmata</i> . College of Agriculture at California Polytechnic State University, San Luis Obispo <a href="http://selectree.calpoly.edu/treedetail_all.lasso?rid=1424&amp;-session=selectree:42F9440F1e01f0C358">http://selectree.calpoly.edu/treedetail_all.lasso?rid=1424&amp;-session=selectree:42F9440F1e01f0C358</a>	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)?] Soil type: loam or sand. Soil pH: neutral to slightly alkaline.
411	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Climbing or smothering growth habit? No] Trees, evergreen to 8m tall.
412	2012. WRA Specialist. Personal Communication.	[Forms dense thickets? Unknown]
501	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Aquatic? No] Terrestrial; tree.
502	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Grass? No] Araliaceae; tree.
503	2010. www.nationmaster.com. Encyclopedia Nitrogen fixation. Nationmaster.com, <a href="http://www.nationmaster.com/encyclopedia/Nitrogen-fixation">http://www.nationmaster.com/encyclopedia/Nitrogen-fixation</a>	[Nitrogen fixing woody plant? No]

503	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Nitrogen fixing woody plant? No] Araliaceae.
504	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Tree; woody.
601	1998. Jebb, M.H.P.. A revision of the genus <i>Trevesia</i> (Araliaceae). <i>Glasra</i> . 3: 85-113. <a href="http://www.botanicgardens.ie/glasra/ns3_5.pdf">http://www.botanicgardens.ie/glasra/ns3_5.pdf</a>	[Evidence of substantial reproductive failure in native habitat? No] " <i>Trevesia palmata</i> is widespread throughout the Himalayan foothills, from Nepal and northern India, through Bhutan, Bangladesh, Burma, China, Thailand, Laos, Cambodia, and Vietnam. This distribution lies entirely within the seasonally more or less dry climatic core of south-east Asia, although the plant is only found in evergreen forests within this."
602	2012. San Marcos Growers. <i>Travesia palmata</i> - snowflake Aralia. www.smgrowers.com, <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?cat_id=11&amp;plant_id=2448&amp;page=7">http://www.smgrowers.com/products/plants/plantdisplay.asp?cat_id=11&amp;plant_id=2448&amp;page=7</a>	[Produces viable seed? Yes] San Marcos Growers has <i>Trevesia palmata</i> plants available that are grown from seed.
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2012. WRA Specialist. Personal Communication.	[Self-compatible or apomictic? Unknown]
605	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Requires specialist pollinators? No] "Inflorescence a panicle of umbels, ca. 45 cm, densely farinose stellate pubescent when young, glabrescent; peduncles 4-17 cm; umbels 4-5 cm in diam., 25-45-flowered; pedicels 1.5-2 cm. Calyx rim 1-2 mm, farinose stellate pubescent. Stamens 7-12. Ovary 7-12-carpellate."
606	2012. WRA Specialist. Personal Communication.	[Reproduction by vegetative fragmentation? Unknown]
607	2012. WRA Specialist. Personal Communication.	[Minimum generative time (years)? Unknown]
701	2012. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] No evidence of plants growing in heavily trafficked areas.
702	2012. San Marcos Growers. <i>Travesia palmata</i> - snowflake Aralia. www.smgrowers.com, <a href="http://www.smgrowers.com/products/plants/plantdisplay.asp?cat_id=11&amp;plant_id=2448&amp;page=7">http://www.smgrowers.com/products/plants/plantdisplay.asp?cat_id=11&amp;plant_id=2448&amp;page=7</a>	[Propagules dispersed intentionally by people? Yes] San Marcos Growers has <i>Trevesia palmata</i> for sale.
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Propagules adapted to wind dispersal? No] Fruit subglobose to compressed-globose, 1-1.8 cm in diam.
705	2012. WRA Specialist. Personal Communication.	[Propagules water dispersed? Unknown]
706	1998. Jebb, M.H.P.. A revision of the genus <i>Trevesia</i> (Araliaceae). <i>Glasra</i> . 3: 85-113. <a href="http://www.botanicgardens.ie/glasra/ns3_5.pdf">http://www.botanicgardens.ie/glasra/ns3_5.pdf</a>	[Propagules bird dispersed? Yes] Fruits spherical to 2.3 cm across. [fleshy fruit <3-4 cm diam.]
706	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Propagules bird dispersed? Yes] Fruit subglobose to compressed-globose, 1-1.8 cm in diam. [fleshy fruit <3-4 cm diam.]
707	2012. Xiang, Q./Lowry, P.P.. Flora of China Vol. 13 - Araliaceae. www.eFloras.org, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=10058</a>	[Propagules dispersed by other animals (externally)? No] Fruit subglobose to compressed-globose, 1-1.8 cm in diam. [no means of external attachment]
708	2012. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown]
801	2012. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m <sup>2</sup> )? Unknown]
802	2012. WRA Specialist. Personal Communication.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]

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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]

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