Family: ***Moraceae***

Taxon: ***Ficus cordata***

Synonym: *Ficus pretoriae Burtt Davy*
Ficus salicifolia Vahl (basionym)
Ficus salicifolia var. australis Warb.
) Ficus teloukat Batt. & Trab.

Common Name: willow-leaf fig

Questionaire : current 20090513 **Assessor:** Patti Clifford **Designation:** L
Status: Assessor Approved **Data Entry Person:** Patti Clifford **WRA Score 0**

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**	**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)**	**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**	**n**
405	**Toxic to animals**	**y=1, n=0**	**y**
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**	**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**	**y**
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**	**y**
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**	
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**	
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**	**y**
805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	**y=-1, n=1**	

Designation: L **WRA Score** **0**

Supporting Data:

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" 2 High] Native range: AFRICA Northern Africa: Algeria; Egypt [s.]; Libya [s.] Northeast Tropical Africa: Chad; Eritrea; Ethiopia; Somalia; Sudan [s.]; Yemen - Socotra East Tropical Africa: Kenya; Tanzania; Uganda West-Central Tropical Africa: Zaire [n.e.] South Tropical Africa: Malawi; Mozambique; Zambia; Zimbabwe Southern Africa: Botswana [s.s.e.]; South Africa - KwaZulu-Natal, Transvaal; Swaziland ASIA-TEMPERATE Arabian Peninsula: Oman; Saudi Arabia; United Arab Emirates; Yemen
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? 2 High] Native range: AFRICA Northern Africa: Algeria; Egypt [s.]; Libya [s.] Northeast Tropical Africa: Chad; Eritrea; Ethiopia; Somalia; Sudan [s.]; Yemen - Socotra East Tropical Africa: Kenya; Tanzania; Uganda West-Central Tropical Africa: Zaire [n.e.] South Tropical Africa: Malawi; Mozambique; Zambia; Zimbabwe Southern Africa: Botswana [s.s.e.]; South Africa - KwaZulu-Natal, Transvaal; Swaziland ASIA-TEMPERATE Arabian Peninsula: Oman; Saudi Arabia; United Arab Emirates; Yemen
203	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Broad climate suitability (environmental versatility)?] Ficus should be grown in a shadehouse with a temperature of 70 to 95°F and a relative humidity of 60 to 100%.
204	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	[Native or naturalized in regions with tropical or subtropical climates? Yes] Native range: AFRICA Northern Africa: Algeria; Egypt [s.]; Libya [s.] Northeast Tropical Africa: Chad; Eritrea; Ethiopia; Somalia; Sudan [s.]; Yemen - Socotra East Tropical Africa: Kenya; Tanzania; Uganda West-Central Tropical Africa: Zaire [n.e.] South Tropical Africa: Malawi; Mozambique; Zambia; Zimbabwe Southern Africa: Botswana [s.s.e.]; South Africa - KwaZulu-Natal, Transvaal; Swaziland ASIA-TEMPERATE Arabian Peninsula: Oman; Saudi Arabia; United Arab Emirates; Yemen
205	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Does the species have a history of repeated introductions outside its natural range?? Yes] Widely used bonsai species. Suggested as an interior landscaping plant for commercial production in Florida.
205	2012. Amazon.com. Ficus salicifolia. Amazon.com, http://www.amazon.com/Bamboo-Weeping-Bonsai-Ficus-salicifolia/dp/B00418RQ7W	[Does the species have a history of repeated introductions outside its natural range?? Yes] Amazon.com has Ficus salicifolia for sale.
301	2007. Randall, R.P.. Global Compendium of Weeds - Dovyalis hebecarpa [Online Database]. http://www.hear.org/gcw/species/dovyalis_hebecarpa/	[Naturalized beyond native range? No]

302	2007. Randall, R.P.. Global Compendium of Weeds - Dovyalis hebecarpa [Online Database]. http://www.hear.org/gcw/species/dovyalis_hebecarpa/	[Garden/amenity/disturbance weed? No]
303	2007. Randall, R.P.. Global Compendium of Weeds - Dovyalis hebecarpa [Online Database]. http://www.hear.org/gcw/species/dovyalis_hebecarpa/	[Agricultural/forestry/horticultural weed? No] No evidence.
304	2007. Randall, R.P.. Global Compendium of Weeds - Dovyalis hebecarpa [Online Database]. http://www.hear.org/gcw/species/dovyalis_hebecarpa/	[Environmental weed? No] No evidence.
305	2003. Starr, F./Starr, K./Loope, L.. Ficus cf. platypoda - Port Jackson fig -Moraceae. United States Geological Survey --Biological Resources Division Haleakala Field Station, Maui, Hawaii http://www.hear.org/starr/hiplants/reports/pdf/ficus_cf_platypoda.	[Congeneric weed? Yes] Ficus cf platypoda is capable of germinating in native host trees, such as koa (Acacia koa) and ohia (Metrosideros polymorpha), growing as epiphytes, sending down aerial roots, and eventually destroying the host tree. Control of this species is difficult due to epiphytic growth in usually steep and wet terrain."
401	2002. Schmidt, E./Lötter, M./McCleland, W.. Trees and shrubs of Mpumalanga and Kruger National Park. Jacana Media, Johannesburg, South Africa	[Produces spines, thorns or burrs? No] No spines, thorns, burrs.
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	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	[Parasitic? No] Moraceae.
404	1994. Paterson, R.T.. Use of trees by livestock. Natural Resources Institute, http://www.smallstock.info/research/reports/R5732/NR08UE/B1701_7.HTM	[Unpalatable to grazing animals? No] "In an early report from West Africa, Dalziel (1937) saw little economic merit in the genus Ficus, and of 35 species which he described, only F. iteophylla in N. Nigeria was considered to be of value as a fodder tree. More recently however, in Oyo State, Nigeria (humid forest and derived savannah zone), Carew et al. (1980) found F. exersperata compared very well with other indigenous browse species in terms of acceptibility. In northern Africa, in a Mediterranean climatic zone where browse is a more important component of rangeland than in the more tropical parts of the continent, Le Houerou (1980a) noted that F. carica, F. ligens, F. pseudosycomorus, F. salicifolia and F. teleukat were palatable to sheep, goats and camels."
405	1994. Myburgh, J.G./Fourie, N./van der Lugt, J.J./Kellerman, T.S./Cornelius, S.T./Ward, C.. A nervous disorder in cattle, caused by the plants Ficus ingens var. ingens and Ficus cordata subsp. Salicifolia. Onderstepoort Journal of Veterinarian Research. 6	[Toxic to animals? Yes] "Two outbreaks of neurotoxicoses are reported in cattle browsing on the leaves of Ficus spp. In the first outbreak, three animals died and one became ill. A sheep developed severe nervous signs, including tetanic spasms, when dosed with the leaves of Ficus ingens var. ingens from the toxic camp where the cattle had died. The second outbreak resulted in the death of 12 heifers within 48 h of ingestion of the leaves of F. cordata subsp. salicifolia. Clinical signs included hyperaesthesia, ataxia, muscle tremors and padding motions while in lateral recumbency. Similar signs were reproduced by drenching the incriminated leaves to a steer. The sheep dosed with F. ingens var. ingens and two cattle, one of which had died during the second outbreak and the steer drenched with F. cordata subsp. salicifolia, were necropsied. Light microscopical examination consistently revealed oedema of the central nervous system. In the steer, focal demyelination was evident in localized areas of the brain and spinal cord. Liver lesions ranged from mild degeneration to focal disseminated necrosis of hepatocytes."
406	2012. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2009. Tourenq, C./Khassim, A./Sawaf, M./Shuriqi, M.K./Smart, E./Ziolkowski, M./Brook, M./Selwan, R./Perry, L.. Characterisation of the Wadi Wurayah Catchment Basin, the first mountain protected area in the United Arab Emirates. International Journal of Ec	[Causes allergies or is otherwise toxic to humans? No] "Sap of new leaves used to treat bruises and scorpion stings. Milky juice from stem used to remove warts. Also applied on skin inflammations."
408	2012. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? No] No evidence of fire promotion.

409	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Is a shade tolerant plant at some stage of its life cycle? Yes] "Ficus should be grown in a shadehouse with a temperature of 70 to 95°F and a relative humidity of 60 to 100%. Ficus can grow at light levels varying from deep shade to full sun.
410	2008. Fawzi, N.M.. An introduction in the flora of the United Arab Emirates. Biology Department - The National Herbarium - United Arab Emirates, http://www.cos.uaeu.ac.ae/department/biology/biology_museum/video/introduction_to_flora_uae_2008.pdf	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] In the United Arab Emirates, Ficus salicifolia grows in mountain slopes and steppic hails, rocky limestone, gravel and sandstone soil.
410	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)?] "Sphagnum peat, pine bark, vermiculate, or perlite can be volumetrically combined to formulate media for Ficus production. Ficus requires media with good container capacity and aeration, pH of 5.5-7, and soluble salts of 1-2 dS/m. Media
411	2002. Schmidt, E./Lötter, M./McCleland, W.. Trees and shrubs of Mpumalanga and Kruger National Park. Jacana Media, Johannesburg, South Africa	[Climbing or smothering growth habit? No] Small tree to 12 m.
412	2012. WRA Specialist. Personal Communication.	[Forms dense thickets? Unknown]
501	2002. Schmidt, E./Lötter, M./McCleland, W.. Trees and shrubs of Mpumalanga and Kruger National Park. Jacana Media, Johannesburg, South Africa	[Aquatic? No] Small tree; terrestrial.
502	2002. Schmidt, E./Lötter, M./McCleland, W.. Trees and shrubs of Mpumalanga and Kruger National Park. Jacana Media, Johannesburg, South Africa	[Grass? No] Moraceae.
503	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	[Nitrogen fixing woody plant? No] Moraceae.
504	2002. Schmidt, E./Lötter, M./McCleland, W.. Trees and shrubs of Mpumalanga and Kruger National Park. Jacana Media, Johannesburg, South Africa	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Tree; woody.
601	2012. WRA Specialist. Personal Communication.	[Evidence of substantial reproductive failure
602	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Produces viable seed?] Rooting of cuttings, air layering, and tissue culture are primary methods of fig propagation.
602	2012. Being Plants. Ficus salicifolia. Being Plants, http://beingplants.com/zen/index.php?main_page=product_info&products_id=2431	[Produces viable seed? Yes] Being Plants online nursery has seeds for sale.
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2012. WRA Specialist. Personal Communication.	[Self-compatible or apomictic? Unknown]
605	2003. Moore, J.C./Greeff, J.M.. Resource defence in female pollinating wasps: two's a contest, three's a crowd. Animal Behavior. 66: 1101-1107.	[Requires specialist pollinators?] Platyscapa awekei, a fig wasp, pollinates Ficus salicifolia (Ficus cordata subsp. Salicifolia.

606	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Reproduction by vegetative fragmentation? No] Rooting of cuttings, air layering, and tissue culture are primary methods of fig propagation.
607	2003. Moore, J.C./Greeff, J.M.. Resource defence in female pollinating wasps: two's a contest, three's a crowd. Animal Behavior. 66: 1101-1107.	[Minimum generative time (years)? Unknown]
607	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Minimum generative time (years)?] Rooting of cuttings, air layering, and tissue culture are primary methods of fig propagation.
701	2012. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] No evidence of accidental dispersal.
702	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Propagules dispersed intentionally by people? Yes] Sold as a commercial crop in Florida.
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	2002. Schmidt, E./Lötter, M./McCleland, W.. Trees and shrubs of Mpumalanga and Kruger National Park. Jacana Media, Johannesburg, South Africa	[Propagules adapted to wind dispersal? No] Fruits are figs.
705	1991. Ghazanfar, S.A.. Vegetation structure and phytogeography of Jabal Shams, an arid mountain in Oman. Journal of Biogeography. 18: 299-309.	[Propagules water dispersed?] On the Jambal Shams Mountain in Oman, Ficus salicifolia is a tree of about 7 m, a typical wadi species and found near standing or flowing water. [possibly water dispersed]
706	1991. Kaufmann, S./McKey, D.B./Hossaert-McKey, M./Horvitz, C.C.. Adaptations for a two-phase seed dispersal system involving vertebrates and ants in a hemiepiphytic fig (Ficus microcarpa: Moraceae). American Journal of Botany. 78: 971-977.	[Propagules bird dispersed?] The exocarp of a Ficus microcarpa functions as an ant-attracting elaiosome, and that this attractiveness is unaffected by gut passage through a frugivorous bird.
706	2001. Shanahan, M./So, S./Compton, S.G./Corlett, R.. Fig-eating by vertebrate frugivores: a global review. Biological Reviews of the Cambridge Philosophical Society. 76: 529-572.	[Propagules bird dispersed?] The consumption of figs (the fruit of Ficus spp. ; Moraceae) by vertebrates is reviewed using data from the literature, unpublished accounts and new field data from Borneo and Hong Kong. Records of frugivory from over 75 countries are presented for 260 Ficus species. "We have accumulated records of frugivory for 260 Ficus species, a respectable proportion (approximately 30%) of the world's total Ficus flora. The animals known to eat figs include over 10% of the world's bird species (18% of genera) and over 6% of the world's mammals (14% of genera). Vertebrate frugivores are not the only agents of Ficus seed dispersal. Invertebrates, including ants, dung beetles, snails and hermit crabs are known to consume fig fruits or seeds, thereby having impacts on Ficus seed dispersal.
707	1991. Kaufmann, S./McKey, D.B./Hossaert-McKey, M./Horvitz, C.C.. Adaptations for a two-phase seed dispersal system involving vertebrates and ants in a hemiepiphytic fig (Ficus microcarpa: Moraceae). American Journal of Botany. 78: 971-977.	[Propagules dispersed by other animals (externally)] The exocarp of a Ficus microcarpa functions as an ant-attracting elaiosome, and that this attractiveness is unaffected by gut passage through a frugivorous bird.
707	2012. WRA Specialist. Personal Communication.	[Propagules dispersed by other animals (externally)? No] No means of external attachment. [no evidence of ant-attracting elaiosome]

708	1991. Kaufmann, S./McKey, D.B./Hossaert-McKey, M./Horvitz, C.C.. Adaptations for a two-phase seed dispersal system involving vertebrates and ants in a hemiepiphytic fig (Ficus microcarpa: Moraceae). American Journal of Botany. 78: 971-977.	[Propagules survive passage through the gut?] The exocarp of a Ficus microcarpa functions as an ant-attracting elaiosome, and that this attractiveness is unaffected by gut passage through a frugivorous bird.
708	2001. Shanahan, M./So, S./Compton, S.G./Corlett, R.. Fig-eating by vertebrate frugivores: a global review. Biological Reviews of the Cambridge Philosophical Society. 76: 529-572.	[Propagules survive passage through the gut?] The consumption of figs (the fruit of Ficus spp. ; Moraceae) by vertebrates is reviewed using data from the literature, unpublished accounts and new field data from Borneo and Hong Kong. Records of frugivory from over 75 countries are presented for 260 Ficus species. "We have accumulated records of frugivory for 260 Ficus species, a respectable proportion (approximately 30%) of the world's total Ficus flora. The animals known to eat figs include over 10% of the world's bird species (18% of genera) and over 6% of the world's mammals (14% of genera). Vertebrate frugivores are not the only agents of Ficus seed dispersal. Invertebrates, including ants, dung beetles, snails and hermit crabs are known to consume fig fruits or seeds, thereby having impacts on Ficus seed dispersal.
801	2012. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m2)? Unknown]
802	2012. WRA Specialist. Personal Communication.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown].
804	2009. Chen, J./McConnell, D.B./Henny, R.J./Everitt, K.C.. Cultural guidelines for commercial production of interiorscape Ficus. ENH879: .Environmental Horticulture Department, Institute of Food and Agricultural Sciences, University of Florida., http://e	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] Used as a bonsai tree.
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]