

Assessment date 25 March 2015

<i>Merremia dissecta</i> (Jacq.)(<i>Convolvulus dissectus</i>, <i>Ipomoea dissecta</i>, <i>Ipomoea sinuata</i>) Alamo vine: North and central Zones		Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high) North Zone: suited to Zones 8, 9 Central Zone: suited to Zones 9, 10 South Zone: suited to Zone 10	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)	y	1
2.04	Native or naturalized in habitats with periodic inundation North Zone: mean annual precipitation 50-70 inches Central Zone: mean annual precipitation 40-60 inches South Zone: mean annual precipitation 40-60 inches	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	2
3.02	Garden/amenity/disturbance weed		
3.03	Weed of agriculture		
3.04	Environmental weed	y	4
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic		
4.03	Parasitic		
4.04	Unpalatable to grazing animals		
4.05	Toxic to animals	y	1
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	unk	0
4.08	Creates a fire hazard in natural ecosystems		
4.09	Is a shade tolerant plant at some stage of its life cycle	n	0
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets		
5.01	Aquatic		
5.02	Grass		
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat		
6.02	Produces viable seed	y	1

6.03	Hybridizes naturally	n	-1
6.04	Self-compatible or apomictic	y	1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	y	1
6.07	Minimum generative time (years)		
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed		
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production	n	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in U.S.		
Total Score			12
Implemented Pacific Second Screening			n/a
Risk Assessment Results			High

section	# questions answered	satisfy minimum?
A		9 yes
B		5 yes
C		12 yes
total		26 yes

Assessment date 25 March 2015

<i>Merremia dissecta</i> (Jacq.)(<i>Convolvulus dissectus</i>, <i>Ipomoea dissecta</i>, <i>Ipomoea sinuata</i>) Alamo vine: South Zone		Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high) North Zone: suited to Zones 8, 9 Central Zone: suited to Zones 9, 10 South Zone: suited to Zone 10	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)	y	1
2.04	Native or naturalized in habitats with periodic inundation North Zone: mean annual precipitation 50-70 inches Central Zone: mean annual precipitation 40-60 inches South Zone: mean annual precipitation 40-60 inches	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	2
3.02	Garden/amenity/disturbance weed		
3.03	Weed of agriculture		
3.04	Environmental weed	y	4
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic		
4.03	Parasitic		
4.04	Unpalatable to grazing animals		
4.05	Toxic to animals	y	1
4.06	Host for recognised pests and pathogens		
4.07	Causes allergies or is otherwise toxic to humans	unk	0
4.08	Creates a fire hazard in natural ecosystems		
4.09	Is a shade tolerant plant at some stage of its life cycle	n	0
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	n	0
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets		
5.01	Aquatic		
5.02	Grass		
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat		
6.02	Produces viable seed	y	1

6.03	Hybridizes naturally	n	-1
6.04	Self-compatible or apomictic	y	1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	y	1
6.07	Minimum generative time (years)		
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed		
7.06	Propagules bird dispersed		
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)		
8.01	Prolific seed production	n	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)		
8.03	Well controlled by herbicides		
8.04	Tolerates, or benefits from, mutilation or cultivation		
8.05	Effective natural enemies present in U.S.		
Total Score		11	
Implemented Pacific Second Screening		n/a	
Risk Assessment Results		High	

section	# questions answered	satisfy minimum?
A		9 yes
B		5 yes
C		12 yes
total		26 yes

	Reference	Source data
1.01		cultivated, but no evidence of selection for reduced weediness
1.02		
1.03		
2.01	1. PERAL NAPPFAST Global Plant Hardiness (http://www.nappfast.org/Plant_hardiness/NAPPFAST%20Global%20zones/10-year%20climate/PLANT_HARDINESS_10YR%20lnd.tif). 2. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?409896 (17 March 2015). 2. Global Biodiversity Information Facility (http://www.gbif.org)	No computer analysis was performed. 1. Global hardiness zone: 7, 8, 9, 10, 11; equivalent to USDA Hardiness zones: USDA Zone 7b: to -14.9 °C (5 °F) USDA Zone 8a: to -12.2 °C (10 °F) USDA Zone 8b: to -9.4 °C (15 °F) USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11a: to USDA Zone (40 °F) USDA Zone 11b: to (45 °F). 2. Native to NORTHERN AMERICA Mexico SOUTHERN AMERICA Caribbean: Anguilla; Antigua and Barbuda - Antigua; Barbados; Cuba; Dominica; Grenada; Guadeloupe; Hispaniola; Jamaica; Martinique; Montserrat; Netherlands Antilles - Saba, South St. Martin, St. Eustatius; Puerto Rico; St. Kitts and Nevis - St. Kitts; St. Lucia; Trinidad and Tobago Mesoamerica: Belize; Costa Rica; El Salvador; Guatemala; Honduras; Nicaragua; Panama Northern South America: French Guiana; Guyana; Suriname; Venezuela Western South America: Colombia
2.02		See above source data
2.03	1. Köppen-Geiger climate map (http://www.hydrol-earth-syst-sci.net/11/1633/2007/hess-11-1633-2007.pdf).	1. Distribution in the native/cultivated range occurs in Af, Am, Aw, BSh, Bwh, Cfa
2.04	Climate Charts http://www.climate-charts.com/World-Climate-Maps.html#rain (3-18-2015) 2. Global Biodiversity Information Facility (http://www.gbif.org)	Native to areas with rainfall within this range.
2.05	1. Encyclopedia of Life http://eol.org/pages/580858/details (3-16-2015) 2. Austin, D.F. 2007. <i>Merremia dissecta</i> (Convolvulaceae)—a condiment, medicine, ornamental, and weed. <i>Econ. Bot.</i> 61:109–120. 3. Flora Qata http://www.floraofqatar.com/merremia_dissecta.htm (3-16-2015)	1. now in Sri Lanka, India and Malesia 2. <i>Merremia dissecta</i> is adventive in Alabama, Arizona, Louisiana, Mississippi, and Pennsylvania. 2b. These climbers are clearly alien in the Old World. By the 1900s or earlier the species was there and was included by some floras 3. Introduced to Qatar
3.01	1. The University of Queensland. Special edition of Environmental Weeds of Australia for Biosecurity Queensland http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Merremia_dissecta.htm (3-16-2015) 2. Smith, Albert C. 1991. <i>Flora Vitiensis nova: a new flora of Fiji</i> . National Tropical Botanical Garden, Lawai, Kauai, Hawaii. Volume 5. 626 pp 3. <i>Flora of Pakistan</i> http://www.efloras.org/florataxon.aspx?flora_id=5&taxon_id=200018871 (3-18-2015)	1a. Widely naturalised in northern Australia. Common in northern and central Queensland and the northern parts of the Northern Territory. Occasionally also naturalised in the northern parts of Western Australia, in the southern parts of the Northern Territory, in south-eastern and Queensland and in south-eastern South Australia. 1b. Can form virtual monocultures that exclude almost all other plants 2. Florida and the West Indies to Argentina and Uruguay; introduced elsewhere and sometimes naturalized 3. Undoubtedly from the Americas, this species is cultivated and naturalized in Africa, Asia and Malaysia.
3.02	Global Compendium of Weeds http://www.hear.org/gcw/species/merremia_dissecta/ (3-18-2015)	Listed as a "garden thug"
3.03		no evidence of crop yield loss

3.04	1.The University of Queensland. Special edition of Environmental Weeds of Australia for Biosecurity Queensland http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Merremia_dissecta.htm (3-16-2015) 2. PIER http://www.hear.org/pier/species/merremia_dissecta.htm (3-18-2015) 3. Weeds of Broome Brochure http://www.broome.wa.gov.au/comm/pdf/weedbrochure.pdf (3-18-2015)	1. White convolvulus creeper (<i>Merremia dissecta</i>) is regarded as an environmental weed in northern Western Australia, the Northern Territory and northern Queensland. 2. Invasive in Fiji and Tonga 3. Spreading rapidly these vines cover native plants, trees and fence lines.
3.05	Holm, LeRoy G. A Geographical Atlas of World Weeds. Malabar, FL: Krieger Pub., 1991. Print.	<i>Merremia aegyptia</i> is a principle weed in Venezuela, <i>Merremia emarginata</i> is a principle weed in Sudan, <i>Merremia quinquefolia</i> is a principle weed in Australia
4.01	Flora of China http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200018871 (3-16-2015)	These feeatures are not in the description of the species.
4.02		no evidence
4.03		no evidence
4.04		no evidence
4.05	1. Austin, D.F. 2007. <i>Merremia dissecta</i> (Convolvulaceae)—a condiment, medicine, ornamental, and weed. <i>Econ. Bot.</i> 61:109–120. 2. Mansur, M., 2001. <i>Merremia</i> Dennst. ex Endl.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 18-Mar-2015	For Trinidad and Tobago, Williams and Williams (1969) simply indicate that <i>M. dissecta</i> is poison- ous to cattle. Mansur (2001) found the same problem in India. Those problems must be caused by the prussic acid in foliage and seeds. 2. <i>Merremia dissecta</i> is poisonous to cattle in India
4.06	1. Mansur, M., 2001. <i>Merremia</i> Dennst. ex Endl.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 18-Mar-2015	<i>Merremia dissecta</i> and <i>Merremia emarginata</i> are highly susceptible to the fungus <i>Albugo ipomoeae</i> , resulting in irregular growth.
4.07	Dave's Garden http://davesgarden.com/guides/pf/go/53476/#b (3-16-2015)	Seed is poisonous if ingested
4.08		no evidence
4.09	1. Dave's Garden http://davesgarden.com/guides/pf/go/53476/#b (3-20-2015) 2. Lady Bird Johnson Wildflower Center http://www.wildflower.org/plants/result.php?id_plant=MEDI2 (3-20-2015) 3. Alabama Plant Atlas http://www.floraofalabama.org/Plant.aspx?id=1622 (3-20-2015)	1. Sun Exposure: Full Sun, Sun to Partial Shade 2. Light Requirement: Sun , Part Shade 3. Alamo Vine prefers full sun,
4.10	1. Austin, D.F. 2007. <i>Merremia dissecta</i> (Convolvulaceae)—a condiment, medicine, ornamental, and weed. <i>Econ. Bot.</i> 61:109–120. 2. Dave's Garden http://davesgarden.com/guides/pf/go/53476/#b (3-20-2015) 3. USDA Natural Resource Conservation Service Soils, Global Soil Regions Map http://www.nrcs.usda.gov/Internet/FSE_MEDIA/nrcs142p2_050722.jpg (3-11-2015)	1. <i>M. dissecta</i> grew in calcareous soils. 2. sandy, loamy, clay, caliche, shelly, and well-drained calcareous soils. 3. Native to areas with infertile soils, congruent with the the North and Central zones of Florida.

4.11	1.The University of Queensland. Special edition of Environmental Weeds of Australia for Biosecurity Queensland http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Merremia_dissecta.htm (3-16-2015) 2. Western Australian Herbarium http://florabase.dpaw.wa.gov.au/browse/profile/6646 (3-18-2015) 3. Lady Bird Johnson Wildflower Center http://www.wildflower.org/plants/result.php?id_plant=MEDI2 (3-20-2015)	1. It can cover native plants, including trees and shrubs, as well as fence lines 2. Climber 3. Alamo vine is a very attractive twining climber of the morning glory family.
4.12		no evidence
5.01		Family: Convolvulaceae
5.02		Family: Convolvulaceae
5.03		no evidence
5.04	Flora of China http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200018871 (3-16-2015)	no evidence of these features
6.01		no evidence
6.02	1. Mansur, M., 2001. <i>Merremia</i> Dennst. ex Endl.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 18-Mar-2015 2. Alabama Plant Atlas http://www.floraofalabama.org/Plant.aspx?id=1622 (3-20-2015)	1a. <i>Merremia</i> is mainly propagated by seed, sometimes from stem cuttings. 1b.The seeds of <i>Merremia dissecta</i> germinate within one week. 2. It can also be grown from seed or rooted from cuttings
6.03		no evidence of natural hybridization
6.04	1. Paz and Pigozzo (2013) <i>Biologia floral e polinização de Merremia dissecta</i> var. <i>edentata</i> (Meisn.) O'Donell (Convolvulaceae) em um fragmento urbano de Mata Atlântica, Bahia. <i>Lundiana</i> 11:9-16.	1. Appears to be both self and insect pollinated. "selfing is a well-reported behavior in the literature for <i>Merremia dissecta</i> "
6.05	1. Convolvulaceae Unlimited (http://convolvulaceae.myspecies.info/content/convolvulaceae-family-0)	no evidence 1. Bee pollinated "The stamens and styles are inserted on the corolla tube and often the filaments are broad and form channels at the base of the corolla leading to the nectar (common in <i>Convolvulus</i> , <i>Merremia</i> and <i>Operculina</i>)."
6.06	1. Smith, Albert C. 1991. <i>Flora Vitiensis nova: a new flora of Fiji</i> . National Tropical Botanical Garden, Lawai, Kauai, Hawaii. Volume 5. 626 pp. 2. Mansur, M., 2001. <i>Merremia</i> Dennst. ex Endl.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 18-Mar-2015	1. Plants spread by rooting at nodes and fragmentation. 2. <i>Merremia</i> is mainly propagated by seed, sometimes from stem cuttings
6.07		no evidence
7.01	1.The University of Queensland. Special edition of Environmental Weeds of Australia for Biosecurity Queensland http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Merremia_dissecta.htm (3-16-2015) 2. Archbold Biological Station http://www.archbold-station.org/html/linkpgs/nuisanceplants.html (3-18-2015) 3. Mansur, M., 2001. <i>Merremia</i> Dennst. ex Endl.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia. http://www.proseanet.org . Accessed from Internet: 18-Mar-2015	1. This vine has escaped from gardens and taken over roadsides, disturbed sites, riparian areas and coastal vine thickets in northern Australia. 2. In Highlands County, this plant is found in disturbed sites, old home sites, and along fence lines. 3. Grows on disturbed sites, such as roadsides, grasslands, cultivated areas, and along forest borders, sometimes covering entire shrubs and trees

7.02	1. Smith, Albert C. 1991. Flora Vitiensis nova: a new flora of Fiji. National Tropical Botanical Garden, Lawai, Kauai, Hawaii. Volume 5. 626 pp. 2. Alabama Plant Atlas http://www.floraofalabama.org/Plant.aspx?id=1622 (3-20-2015) 3. Lady Bird Johnson Wildflower Center http://www.wildflower.org/plants/result.php?id_plant=MEDI2 (3-20-2015)	1. Main spread has been intentionally as an ornamental creeper. 2a. The species has been transplanted around the world for its flowers 2b. it is available from many nurseries as either seed or plants 3. Available from nurseries in Texas
7.03		no evidence
7.04	1. Convolvulaceae Unlimited (http://convolvulaceae.myspecies.info/content/convolvulaceae-family-0)	1. Seeds are large and cannot be wind dispersed.
7.05	1. Lady Bird Johnson Wildflower Center http://www.wildflower.org/plants/result.php?id_plant=MEDI2 (3-20-2015) 2. Convolvulaceae Unlimited (http://convolvulaceae.myspecies.info/content/convolvulaceae-family-0) 3. Austin, D. F. 1997. Convolvulaceae (Morning Glory Family). Published on WWW at http://ag.arizona.edu/herbarium/personnel/daustin/convolv.html	1. Open and disturbed areas, stream banks, and dry soils in central Texas. 2. found on stream banks [species known to be found near waterways, however, no evidence of dispersal by evidence] 3. seeds of species in the Convolvulaceae family have large empty cells enabling them to float. 3. Congener M. discoidesperma has these structures.
7.06		no evidence
7.07		no evidence
7.08		no evidence
8.01	1. Flora of Pakistan http://www.efloras.org/florataxon.aspx?flora_id=5&taxon_id=200018871 (3-18-2015) 2. Alabama Plant Atlas http://www.floraofalabama.org/Plant.aspx?id=1622 (3-20-2015)	1. Fruit capsular, depressed-globose, 1-2 cm in diameter, 2. There are usually four seed per capsule. [unlikely to produce prolific seeds]
8.02	1. Southeast Early Detection Network http://www.eddmaps.org/southeast/distribution/point.cfm?id=2400115 (3-20-2015)	Likely but no direct evidence 1. Rangers removed the plant but with the high seed bank and difficulty to get to some of the roots, continued infestation is expected.
8.03		lack of evidence
8.04		no evidence
8.05		no evidence