

Key Words: High Risk, Naturalized, Disturbance weed, Edible, Elastically-projected Seeds

Family: Oxalidaceae

Taxon: Oxalis barrelieri

Synonym: NA

Common Name: lavender sorrel
oseille marron
oseille savane
trèfle

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation:	H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score	13
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	y
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)	y
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)	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	
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	n
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	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	
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	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	y
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	
704	Propagules adapted to wind dispersal	y=1, n=-1	
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	y
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	y
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: H(HPWRA)

WRA Score **13**

Supporting Data:

101	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Is the species highly domesticated? No evidence]
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Species suited to tropical or subtropical climate(s) 2-High] "This species occurs in tropical and subtropical America."
202	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Quality of climate match data 2-High]
203	1999. Chung, R.C.K./Budi Rahayu, S.S.. Oxalis L.[Internet] Record from Proseabase. de Guzman, C.C. and Siemonsma, J.S. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 10 Dec 2012]	[Broad climate suitability (environmental versatility)? Yes] "Oxalis barrelieri occurs from sea-level up to 1500 m altitude..." Elevation range exceeds 1000 m; environmental versatility]
204	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "This species occurs in tropical and subtropical America."
205	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Does the species have a history of repeated introductions outside its natural range? Yes] "This species occurs in tropical and subtropical America. It is introduced into some tropical places of the Old World."
205	1985. Smith, A.C.. Flora Vitiensis Nova: A New Flora of Fiji (Spermatophytes Only). Volume 3. National Tropical Botanical Garden, Lawai, HI	[Does the species have a history of repeated introductions outside its natural range? Yes] "...introduced into parts of Africa, Ceylon, and Malasia; it has been noted as an occasional weed in the Caroline and Mariana Islands and Samoa..."
301	1985. Smith, A.C.. Flora Vitiensis Nova: A New Flora of Fiji (Spermatophytes Only). Volume 3. National Tropical Botanical Garden, Lawai, HI	[Naturalized beyond native range? Fiji] "an infrequent weed of roadsides and cultivated areas"
301	1988. Corlett, R.T.. The Naturalized Flora of Singapore. Journal of Biogeography. 15(4): 657-663.	[Naturalized beyond native range? Yes. Singapore] "Exotic vascular plant species naturalized in Singapore, with habit, region of origin, probable reason for introduction (orn. =as ornamental), date of first record in Singapore (R=first record in Ridley (1922-25) and current status (c=common, l=local, r=rare)." [Oxalis barrelieri - common]
301	1994. Whistler, W.A.. Botanical Inventory of the Proposed Tutuila and Ofu Units of the National Park of American Samoa. Technical Report 87. Cooperative National Park Resources Studies Unit UH Manoa, Honolulu, HI	[Naturalized beyond native range? Yes] "Erect herb with opposite or alternate, trifoliate leaves, long-stalked axillary inflorescences of pink, 5-merous flowers, and a ribbed, cylindrical fruit with an acute tip. Occasional in disturbed places, reported only from the lowlands. A modern introduction, native to tropical America."
301	1998. Francis, J.K./Alemaii, S./Liogier, H.A./Proctor, G.R.. The Flora of Cañón de San Cristobal, Puerto Rico. General Technical Report IITF-4. USDA Forest Service International Institute of Tropical Forestry, Rio Piedras, PR	[Naturalized beyond native range? Yes. Malaysia] "Table 1. No. of sampling plots for each forest type and the total number of plots in which each non-native species was recorded" [Oxalis barrelieri in abandoned paddy field plot]
301	1998. Whistler, A.. A Study of the Rare Plants of American Samoa. US Fsh & Wildlife Service, Honolulu, HI	[Naturalized beyond native range? Yes. American Samoa] "Herb uncommon in disturbed places, reported from near sea level to 900 m elevation. A modern introduction, native to tropical America. TU, TA."
301	1999. Chung, R.C.K./Budi Rahayu, S.S.. Oxalis L.[Internet] Record from Proseabase. de Guzman, C.C. and Siemonsma, J.S. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 10 Dec 2012]	[Naturalized beyond native range? Yes] "Oxalis barrelieri is native to tropical South America, but has naturalized in many areas. It was first observed in Java in 1888. In South East Asia it is common in Indonesia (Sumatra, Bangka, Java, Irian Jaya), Peninsular Malaysia, and Papua New Guinea."

301	2012. Flora of Australia Online. <i>Oxalis barrelieri</i> . Australian Biological Resources Study, http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=55172 [Accessed 12 Dec 2012]	[Naturalized beyond native range? Christmas Island] "Christmas Is. Sometimes grown in gardens and has also been collected in secondary vegetation. A native of tropical S America. This species has been widely cultivated and has established itself in many places."
302	1985. Smith, A.C.. <i>Flora Vitiensis Nova: A New Flora of Fiji (Spermatophytes Only)</i> . Volume 3. National Tropical Botanical Garden, Lawai, HI	[Garden/amenity/disturbance weed?] "...it has been noted as an occasional weed in the Caroline and Mariana Islands and Samoa"
302	2000. Burkill, H.M.. <i>Useful Plants of West Tropical Africa Volume 4</i> . Royal Botanic Gardens, Kew	[Garden/amenity/disturbance weed?] "...open waste spaces and cultivations; on foothills to submontane altitude: native of tropical America and W Indies, and now recorded in Ivory Coast as a weed..."
302	2000. Liogier, A.H./ Martorell, L.F.. <i>Flora of Puerto Rico and adjacent islands: a systematic synopsis</i> . Second Edition Revised. La Editorial, UPR, San Juan, Puerto Rico	[Garden/amenity/disturbance weed?] "A weed at lower to middle elevations, mostly in wet districts, Puerto Rico; Hispaniola, Lesser Antilles,"
302	2008. Kiew, R.. <i>New weeds from Peninsular Malaysia</i> . <i>Flora Malesiana Bulletin</i> . 14(3): 183-185.	[Garden/amenity/disturbance weed? Yes. Disturbance weed] "This paper takes into account 14 species including their distribution" ... " <i>Oxalis corniculata</i> throughout the Peninsula; <i>Oxalis barrelieri</i> in cultivated areas, roadsides and waste ground..."
303	2000. Space, J.C./Waterhouse, B./Denslow, J.S./Nelson, D./Mazawa, T.R.. <i>Invasive plant species in Chuuk, Federated States of Micronesia</i> . USDA Forest Service, Honolulu, HI	[Agricultural/forestry/horticultural weed? Potentially] "Other invasive plant species, mostly of agricultural concern, reported to be present in Chuuk" [Includes <i>Oxalis barrelieri</i>]
303	2004. Prematilake, K.G./Froud-Williams, R J./Ekanayake, P.B.. <i>Weed infestation and tea growth under various weed management methods in a young tea (Camellia sinensis [L.] Kuntze) plantation</i> . <i>Weed Biology and Management</i> . 4: 239–248.	[Agricultural/forestry/horticultural weed? Potential weed of tea, but impacts on yield unspecified] "The dominant species in T4 were <i>Borreria latifolia</i> , <i>Eleutheranthera rudaralis</i> , <i>Paspalum conjugatum</i> , <i>Digitaria sanguinalis</i> , <i>Oxalis barrelieri</i> and <i>Axonopus compressus</i> and they have contributed greatly to the total weed biomass."
303	2007. Isaac, W.A.P./Brathwaite, R.A.I./Cohen, J.E./Bekele, I.. <i>Effects of alternative weed management strategies on Commelina diffusa Burm. infestations in Fairtrade banana (Musa spp.) in St. Vincent and the Grenadines</i> . <i>Crop Protection</i> . 26: 1219–1225.	[Agricultural/forestry/horticultural weed? Potential weed of banana orchards, but effects on yield not specified] "The common weeds were, six broadleaved weeds, <i>Pycreus polystachys</i> (Rottb) Beauv., <i>Phyllanthus tenellus</i> Roxb., <i>Oxalis barrelieri</i> L., <i>Peperomia pellucida</i> (L.) Kunth., <i>Spermacoce latifolia</i> Aubl., <i>Laportea aestuans</i> (L.) Chew and <i>C. diffusa</i> (Table 2)."
303	2012. PestNet. <i>Oxalis barrelieri</i> . http://www.pestnet.org/SummariesofMessages/Pests/PestsEntities/Weeds/Oxalisbarrelieri,identification,Samoa.aspx [Accessed 07 Dec 2012]	[Agricultural/forestry/horticultural weed? Yes] "August 2001. Common weed in taro gardens in Samoa, <i>Oxalis barrelieri</i> L. comes from South America, but is reported to be widely naturalised throughout the tropics. A member recorded it in Indonesia and PNG. Its seeds are spread by water, ants (and accidentally by people)."
304	2012. Randall, R.P.. <i>A Global Compendium of Weeds</i> . 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence]
305	2003. Weber, E.. <i>Invasive Plant Species of the World. A Reference Guide to Environmental Weeds</i> . CABI Publishing, Wallingford, UK	[Congeneric weed? Yes] " <i>Oxalis latifolia</i> ... although mainly a weed of agroecosystems, it invades natural plant communities and crowds out native plants due to the dense stands." ... " <i>Oxalis pes-caprae</i> ... although an important agricultural weed, it invades natural plant communities and displaces native plants by the dense stands." ... " <i>Oxalis purpurea</i> ... it builds up dense colonies that displace native vegetation and reduce species richness."
401	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. <i>Flora of Panama</i> . Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Produces spines, thorns or burrs? No] "Erect herb or shrub to 1 m tall, pubescent; stems green or violaceous, pubescence white or yellowish hirsute, in part retrorse, the apex finely pubescent; internodes to 8 cm long, sometimes almost obsolete resulting in subopposite leaves, hairs at the insertion of the petioles straight; roots fibrous, branched; petioles ascendent, to 4 cm long, canaliculate, enlarged to the base, the margin of the groove ciliate; rachis to 15 cm long pubescent; petiolule fleshy, ca. 1 mm long, pilose. Leaves with leaflets varying in shape on the same plant, suborbicular, oblong, ovate to elliptic, 10-55 mm long, 8-25 mm wide, obtuse, seldom acute, the base acute, roundish or subpeltate, asymmetric, discolorous, glaucous above, hairs irregularly scattered, below caducous, the margin or only the base ciliate."

402	2005. Shiraishi, S./Watanabe, I./Kuno, K./Fujii, Y.. Evaluation of the allelopathic activity of five Oxalidaceae cover plants and the demonstration of potent weed suppression by Oxalis species. Weed Biology and Management. 5: 128–136.	[Allelopathic? Documented for other species in the genus] "Laboratory and field experiments were conducted to evaluate the usefulness of Oxalis spp. as allelopathic ground-cover plants for weed management. Some Oxalis spp. Have previously been reported to possess strong allelopathic activities but few studies have been conducted on their activities in fields. This study aimed to investigate allelopathic activities and the possibility of weed suppression in five species of common Oxalis: shamrock oxalis (<i>Oxalis articulata</i> Savigny), Bowie's woodsorrel (<i>Oxalis bowiei</i> Lindl.), trefoil (<i>Oxalis brasiliensis</i> Lodd. ex Knowl. Et West.), lucky clover (<i>Oxalis deppei</i> Lodd. Ex Sweet) and <i>Oxalis hirta</i> L. The effects of the leachates from dry leaves and the exudates from living roots of these plant species were tested in laboratory experiments. The leachates from <i>O. articulata</i> , <i>O. bowiei</i> , <i>O. deppei</i> and <i>O. hirta</i> and the exudates from <i>O. deppei</i> caused >84% inhibition of the radicle elongation of lettuce seedlings, but no effect was observed on the seed germination of lettuce. In the field experiment, <i>O. deppei</i> significantly reduced the weed population in July. A significant relationship was observed between the weed population and the percentage ground coverage of <i>Oxalis</i> spp. In contrast to the weed population, a significant relationship was observed between the weed above-ground biomass and the allelopathic activity of exudates from <i>Oxalis</i> spp."
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Parasitic? No evidence] "Erect herb or shrub to 1 m tall..." [Oxalidaceae]
404	2010. Guglieri-Caporal, A./Machado Caporal, F.J./Pott, A.. Phytosociology of sown pasture weeds under two levels of degradation in Brazilian savanna areas, Mato Grosso do Sul State, Brazil. Pesquisa Agropecuária Tropical, Goiânia,. 40(3): 312-321.	[Unpalatable to grazing animals? Unknown] "Table 1. Weed species of two areas of <i>Brachiaria</i> spp. pastures in Cerrado, Nova Esperança ranch, Sidrolândia, Mato Grosso do Sul" [Oxalis barrelieri - Forage potential = No; Unknown if this is because plant is unpalatable to animals]
405	1999. Chung, R.C.K./Budi Rahayu, S.S.. Oxalis L.[Internet] Record from Proseabase. de Guzman, C.C. and Siemonsma, J.S. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 10 Dec 2012]	[Toxic to animals? Unknown. Species in genus may be toxic if consumed] "Uses In Indonesia, the leaves of Oxalis are used in salads, in particular for their sour or slightly acid taste. They are sometimes used as a substitute for tamarind. When consumed in large quantities, they are toxic."
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? Unknown] No evidence, but other Oxalis species may be toxic.
406	2009. Duyck, P.-F./Pavoine, S./Tixier, P./Chabrier, C./Queneherve, P.. Host range as an axis of niche partitioning in the plant-feeding nematode community of banana agroecosystems. Soil Biology & Biochemistry. 41: 1139–1145.	[Host for recognized pests and pathogens?] "Recorded host plants and relative abundance of six species of plant-feeding nematodes in banana agroecosystems from Martinique. Stars indicate introduced plant species in Martinique (according to Fournet (1978))." [Oxalis barrelieri is a nematode host]
407	1999. Chung, R.C.K./Budi Rahayu, S.S.. Oxalis L.[Internet] Record from Proseabase. de Guzman, C.C. and Siemonsma, J.S. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 10 Dec 2012]	[Causes allergies or is otherwise toxic to humans? Possibly. Generic description] "Uses In Indonesia, the leaves of Oxalis are used in salads, in particular for their sour or slightly acid taste. They are sometimes used as a substitute for tamarind. When consumed in large quantities, they are toxic."
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? Unknown] No evidence, but other Oxalis species may be toxic.
407	2012. Plants for a Future Database. Oxalis barrelieri. http://www.pfaf.org/user/Plant.aspx?LatinName=Oxalis+barrelieri [Accessed 07 Dec 2012]	[Causes allergies or is otherwise toxic to humans? No, but consumption may aggravate certain medical conditions] "The leaves contain oxalic acid, which gives them their sharp flavour. Perfectly all right in small quantities, the leaves should not be eaten in large amounts since oxalic acid can bind up the body's supply of calcium leading to nutritional deficiency. The quantity of oxalic acid will be reduced if the leaves are cooked. People with a tendency to rheumatism, arthritis, gout, kidney stones or hyperacidity should take especial caution if including this plant in their diet since it can aggravate their condition"
408	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Creates a fire hazard in natural ecosystems? No evidence] "Erect herb or shrub to 1 m tall, pubescent..." ... "This species occurs in tropical and subtropical America. It is introduced into some tropical places of the Old World." [No evidence of increased fire risk within native or introduced range]

409	2012. Flora of Indonesia. <i>Oxalis barrelieri</i> L.. http://herbariumbiologiunj.edublogs.org/2008/10/25/oxalis-barrelieri-l/ [Accessed 10 Dec 2012]	[Is a shade tolerant plant at some stage of its life cycle? No] "It cannot grow in the shade"
410	2012. Flora of Indonesia. <i>Oxalis barrelieri</i> L.. http://herbariumbiologiunj.edublogs.org/2008/10/25/oxalis-barrelieri-l/ [Accessed 10 Dec 2012]	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] "Habitat : The plant prefers light (sandy) and medium (loamy) soils and requires well drained soil. The plant prefers acid, neutral and basic (alkaline) soils."
411	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Climbing or smothering growth habit? No] "Erect herb or shrub to 1 m tall..."
412	1985. Smith, A.C.. Flora Vitiensis Nova: A New Flora of Fiji (Spermatophytes Only). Volume 3. National Tropical Botanical Garden, Lawai, HI	[Forms dense thickets? No evidence] "an infrequent weed of roadsides and cultivated areas"
412	1994. Whistler, W.A.. Botanical Inventory of the Proposed Tutuila and Ofu Units of the National Park of American Samoa. Technical Report 87. Cooperative National Park Resources Studies Unit UH Manoa, Honolulu, HI	[Forms dense thickets? No evidence] "Occasional in disturbed places, reported only from the lowlands."
412	2000. Liogier, A.H./ Martorell, L.F.. Flora of Puerto Rico and adjacent islands: a systematic synopsis. Second Edition Revised. La Editorial, UPR, San Juan, Puerto Rico	[Forms dense thickets? No evidence] "A weed at lower to middle elevations, mostly in wet districts, Puerto Rico; Hispaniola, Lesser Antilles,"
501	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Aquatic? No] "Erect herb or shrub to 1 m tall, pubescent;" [Terrestrial]
502	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Grass? No] Oxalidaceae
503	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Nitrogen fixing woody plant? No] Oxalidaceae
504	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Erect herb or shrub to 1 m tall, pubescent;..."
601	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Evidence of substantial reproductive failure in native habitat? No]
602	2012. Plants for a Future Database. <i>Oxalis barrelieri</i> . http://www.pfaf.org/user/Plant.aspx?LatinName=Oxalis+barrelieri [Accessed 07 Dec 2012]	[Produces viable seed? Yes] "Propagation - Seed"
603	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. <i>Annals of the Missouri Botanical Garden</i> . 67(4): 823-850.	[Hybridizes naturally? Unknown] " <i>Oxalis corniculata</i> ... It can become weedy and hybridize with autochthonous species of the same section." [No mention of natural hybrids of <i>O. barrelieri</i>]
604	1994. Williams, E.G./Clarke, A.E./Knox, R.B. (eds.). Genetic Control of Self-Incompatibility and Reproductive Development in Flowering Plants. Kluwer Academic Publishers, Dordrecht, The Netherlands	[Self-compatible or apomictic? Unknown for <i>Oxalis barrelieri</i>] "In several of the genera listed above, closely related species with stronger heteromorphic incompatibility systems occur (e.g. <i>Eichornia</i> , <i>Oplonia</i> , <i>Oxalis</i>). The self-incompatibility status of individual species has, therefore, usually been interpreted as the result of a weakening and eventual loss of diallelic incompatibility."
604	2012. Flora of Australia Online. <i>Oxalis barrelieri</i> . Australian Biological Resources Study, http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=55172 [Accessed 12 Dec 2012]	[Self-compatible or apomictic? Possibly] "In Malesia, only the variant with mid-length styles occurs, but fertile seed is set, indicating that there is no genetic incompatibility system linked to the heterostyly in this species."

605	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Requires specialist pollinators?] "Inflorescences of cymes taller than the foliage loosely 1-1 1(-30)-flowered; peduncles to 6.5 cm long, pubescent, bifid with branches to 3 cm long; bracts reddish, lanceolate or triangular, acuminate, ca. 2 mm long, pilose; pedicels to 2.5 mm long, articulate near the base; bracteoles smaller, appressed to the pedicel. Flowers with the sepals light green, sometimes red-veined, 3-3.5 mm long, 1-1.5 mm wide, linear to ovate or oblong, acute, mucronate, pubescent, the margin hyaline; petals white or yellowish at the throat and base, the limb pink, obovate-subspatulate, clawed, 7-9 mm long, 3.5 mm wide, slightly notched; longer stamens ca. 3 mm long, pubescent or glabrous, ligulate about the middle, the shorter stamens 1.5-2 mm long, glabrous; pistil 3.5-4 mm long, the ovary ovoid, glabrous, the carpels 3-4-ovuled, the styles pubescent, the stigma widened, bifid, subcapitate, papillose."
605	2012. Plants for a Future Database. Oxalis barrelieri. http://www.pfaf.org/user/Plant.aspx?LatinName=Oxalis+barrelieri [Accessed 07 Dec 2012]	[Requires specialist pollinators? No evidence] "The flowers are hermaphrodite (have both male and female organs) and are pollinated by Insects."
606	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Reproduction by vegetative fragmentation? Unknown, but other Oxalis spp, including O. latifolia, O. pes-caprae, and O. purpurea are able to spread vegetatively] "Oxalis latifolia ... The prolific production of bulbs and bulblets makes the plant a successful colonizer."
607	2007. Isaac, W.A.P./Brathwaite, R.A.I./Cohen, J.E./Bekele, I.. Effects of alternative weed management strategies on Commelina diffusa Burm. infestations in Fairtrade banana (Musa spp.) in St. Vincent and the Grenadines. Crop Protection. 26: 1219-1225.	[Minimum generative time (years)? 1] "Table 2 Weeds recorded at the trial Sites I-IV in Fairtrade banana fields in St. Vincent over the 2003/2004 growing season" [Oxalis barrelieri - Life history = annual]
701	1985. Smith, A.C.. Flora Vitiensis Nova: A New Flora of Fiji (Spermatophytes Only). Volume 3. National Tropical Botanical Garden, Lawai, HI	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Roadside distribution suggests Yes, or an adaptation to disturbance] "an infrequent weed of roadsides and cultivated areas"
701	1999. Chung, R.C.K./Budi Rahayu, S.S.. Oxalis L.[Internet] Record from Proseabase. de Guzman, C.C. and Siemonsma, J.S. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 10 Dec 2012]	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "Oxalis is primarily found in anthropogenic habitats: in gardens, along roads, in hedges, fields, village groves, estates, along rivers, and in grassy locations with shade."
701	2012. PestNet. Oxalis barrelieri. http://www.pestnet.org/SummariesofMessages/Pests/PestsEntities/Weeds/Oxalisbarrelieri,identification,Samoa.aspx [Accessed 07 Dec 2012]	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "Its seeds are spread by water, ants (and accidentally by people)."
702	2012. Flora of Australia Online. Oxalis barrelieri. Australian Biological Resources Study, http://www.anbg.gov.au/abrs/online-resources/flora/stdtdisplay.xsql?pnid=55172 [Accessed 12 Dec 2012]	[Propagules dispersed intentionally by people? Yes] "Grown for its sour-tasting leaves."
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? Unknown] Possible, as often found as a weed in cultivated fields. See 3.03
704	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Propagules adapted to wind dispersal? Projected, probably only for short distances] "Capsule globose, oblong to cylindrical, glabrous or pubescent, the carpels (1-)2-15-seeded, loculicidally dehiscent, the carpels connate to the central axis, persistent; seeds generally ovoid, apiculate or oblong, more or less flattened, the testa crustaceous, longitudinally zig-zag ribbed, transversally striate or sculptured densely verrucate, 2-tegmatic, the external integument fleshy, arilliform, breaking elastically and projecting the ripe seeds"
704	1999. Chung, R.C.K./Budi Rahayu, S.S.. Oxalis L.[Internet] Record from Proseabase. de Guzman, C.C. and Siemonsma, J.S. (Editors). PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 10 Dec 2012]	[Propagules adapted to wind dispersal? Possibly for short distances] "The seed-bearing Oxalis such as Oxalis barrelieri have a peculiar ejaculative aril originally enveloping the entire seed which at maturity is shot some distance away."
705	2012. PestNet. Oxalis barrelieri. http://www.pestnet.org/SummariesofMessages/Pests/PestsEntities/Weeds/Oxalisbarrelieri,identification,Samoa.aspx [Accessed 07 Dec 2012]	[Propagules water dispersed? Yes] "Its seeds are spread by water, ants (and accidentally by people)."

706	1980. Woodson, Jr.; R.E./Schery, R.W./Lourteig, A.. Flora of Panama. Part IV. Family 84. Oxalidaceae. Annals of the Missouri Botanical Garden. 67(4): 823-850.	[Propagules bird dispersed? No. Not fleshy-fruited] "Capsule ovoid 7-9 mm long; acute, rarely oblong, glabrous, membranous, calyx to ½ its length, the carpels (2-)3(-4)-seeded, inside setose pubescent; seeds brownish, ovoid compressed, apiculate, 1.5-2 mm long, 8-ribbed in zig-zag, deeply transversally striate, finely tuberculate at the intersections."
707	2012. PestNet. Oxalis barrelieri. http://www.pestnet.org/SummariesofMessages/Pests/PestsEntities/Weeds/Oxalisbarrelieri,identification,Samoa.aspx [Accessed 07 Dec 2012]	[Propagules dispersed by other animals (externally)? Yes] "Its seeds are spread by water, ants (and accidentally by people)."
708	2012. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown]
801	2012. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m ²)? Unknown]
802	2000. Singhakumara, B.M.P./Uduporuwa, S.J.P/Ashton, P.M.S.. Soil Seed Banks in Relation to Light and Topographic Position of a Hill Dipterocarp Forest in Sri Lanka. Biotropica. 32(1): 190-196.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "The objective of this study was to document the species composition of soil seed banks in late successional mixed-dipterocarp rain forest in relation to topographic position and to examine how those seed banks responded to high versus low light." [Oxalis barrelieri present in the seed bank, but longevity of seeds in soil unknown]
803	2006. Hauser, S./Ngoumbe, S./Nkongmeneck, B.A.. Effects on Plant Species Composition of Glyphosate Application in a Plantain System after Secondary Forest Clearing. Conference on Int. Agricultural Research for Development U. of Bonn, Oct 11-13, 2006.	[Well controlled by herbicides? Yes] "This study evaluates how herbicide use affects the species composition in a plantain field established in young secondary forest." ... "Weed species, were grouped into four categories of sensitivity to glyphosate: The highly susceptible species which were killed within 10 DAT (e.g. Ageratum conyzoides, Fleurya ovalifolia, Oxalis barrelieri, Emilia coccinea, Trema orientalis, Momordica cissoides, Physalis angulata, Chromolaena adorata, etc.) representing 25 to 28 % of the total..."
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]

Summary of Risk Traits

High Risk / Undesirable Traits

- Naturalized in several locations worldwide
- Thrives in tropical climates
- Disturbance and possible agricultural weed
- Genus with several weedy species
- Possible toxic effects if consumed in large quantities
- Tolerates many soil conditions (and potentially able to exploit many different habitat types)
- Able to reproduce in 1 year
- Small seeds dispersed from fleshy aril, breaking elastically and projecting the ripe seeds
- Small seeds also dispersed accidentally by people, water & possibly animals

Low Risk / Desirable Traits

- Unarmed
- Shade-intolerant
- Edible leaves (in moderation)