

Family: *Salicaceae*

Taxon: *Oncoba spinosa*

Synonym: NA

Common Name: African dog-rose
snuff box tree
fried egg tree
fried egg flower

Questionnaire :	current 20090513	Assessor:	Assessor	Designation: L
Status:	Assessor Approved	Data Entry Person:	Assessor	WRA Score 6
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	
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	n
406	Host for recognized pests and pathogens		y=1, n=0	
407	Causes allergies or is otherwise toxic to humans		y=1, n=0	n
408	Creates a fire hazard in natural ecosystems		y=1, n=0	
409	Is a shade tolerant plant at some stage of its life cycle		y=1, n=0	
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		y=1, n=0	y

411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	y
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	y
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	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m2)	y=1, n=-1	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	y
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 **6**

Supporting Data:

101	2001. Hanelt, P. (ed.). Mansfeld's Encyclopedia of Agricultural and Horticultural Crops (except Ornamentals), Volume 1. Springer-Verlag, Berlin, Heidelberg, New York	[Is the species highly domesticated? No] No evidence
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Species suited to tropical or subtropical climate(s) 2-High] "Range: Arabia; Transvaal; Widely distributed throughout tropical Africa"
202	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Quality of climate match data 2-High]
203	1996. Bein, E./Habte, B./Jaber, A./Birnie, A./Tengnas, B.. Useful Trees and Shrubs in Eritrea. Identification, Propagation and Management for Agricultural and Pastoral Communities. Regional Soil Conservation Unit, Nairobi, Kenya	[Broad climate suitability (environmental versatility)? Yes] "A small spiny tree well distributed throughout tropical Africa over a wide range of altitude north to Arabia and south to South Africa. In Eritrea, it grows on the eastern escarpment and in the northern part of the central highlands, e.g. around Semenawibahri and Mensa, 700-1,800 m, being most common in riverine forests or in bushland."
203	2013. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, http://www.tropicos.org/	[Broad climate suitability (environmental versatility)? Possibly. Collected over an elevation range exceeding 1000 m, but primarily located at lower latitudes of the tropics] Collected from 5 m elevation at 25°41'00"N [Florida] up to 1700 m at 08°35'00"S [Tanzania]
204	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Range: Arabia; Transvaal; Widely distributed throughout tropical Africa"
205	2003. McLaughlin, J.. A Guide to Planting an African-American/African Focused Yard in Miami-Dade County: A Selection of Ornamental African Plants Suitable for the Miami-Dade Landscape. University of Florida IFAS Extension, Homestead, FL	[Does the species have a history of repeated introductions outside its natural range? Florida]
205	2005. de Lange, P.J./de Lange, T.J.P./de Lange, F.J.T.. New exotic plant records, and range extensions for naturalised plants, in the northern North Island, New Zealand. Auckland Botanical Society Journal. 60: 130-147.	[Does the species have a history of repeated introductions outside its natural range? New Zealand] "Cultivation escape. Numerous seedlings of this distinctive shrub occur beneath and around a single planted specimen on the northern side of the Old Biological Sciences Building, University of Auckland. The only thing preventing their further establishment is their periodic removal by University grounds staff. <i>Oncoba</i> is often placed in the Flacourtiaceae (see Mabberly 1997)."
205	2005. Imada, C.T./Staples, G.W./Herbst, D.R.. Annotated Checklist of Cultivated Plants of Hawai'i. The Bishop Museum, http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/	[Does the species have a history of repeated introductions outside its natural range? Oahu, Hawaiian Islands] "Locations: Harold L. Lyon Arboretum"
205	2007. Wu, Z.Y./Raven, P.H./Hong, D.Y. (eds.). Flora of China. Vol. 13 (Clusiaceae through Araliaceae). Science Press and Missouri Botanical Garden Press, Beijing & St. Louis	[Does the species have a history of repeated introductions outside its natural range? China] " <i>Oncoba spinosa</i> Forsskal and <i>Dovyalis hebecarpa</i> (Gardner) Warburg are occasionally cultivated."
301	2005. de Lange, P.J./de Lange, T.J.P./de Lange, F.J.T.. New exotic plant records, and range extensions for naturalised plants, in the northern North Island, New Zealand. Auckland Botanical Society Journal. 60: 130-147.	[Naturalized beyond native range? Cultivation Escape] " <i>Oncoba spinosa</i> Forsk. NEW RECORD: AK 288949, P. J. de Lange 6290 & T. J. de Lange, 27 Nov 2004, Auckland City, University of Auckland, Symond Street Campus, near Thomas Building. NOTES: Cultivation escape. Numerous seedlings of this distinctive shrub occur beneath and around a single planted specimen on the northern side of the Old Biological Sciences Building, University of Auckland. The only thing preventing their further establishment is their periodic removal by University grounds staff. <i>Oncoba</i> is often placed in the Flacourtiaceae (see Mabberly 1997)."

302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? No] No evidence
303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No] No evidence
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No] No evidence
305	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Congeneric weed? No] "Oncoba echinata Oliv. Flacourtiaceae = Caloncoba echinata (Oliver) Gilg Cultivated Refs: 3 1201-N, 707-N, 261-CW" [Listed as naturalized and perhaps a weed in Puerto Rico, although impacts have not been documented]
401	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Produces spines, thorns or burrs? Yes] "Glabrous shrub or small tree up to c. 5 m. tall; branches with pale lenticels and very sharp, spreading, axillary spines up to 5 cm. long."
402	2013. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Parasitic? No] "Glabrous shrub or small tree up to c. 5 m. tall;"
404	2001. Eman, A.. State of Forest Genetic Resources in Eritrea. Working papers FGR/23E. Forestry Department, FAO, Rome, Italy	[Unpalatable to grazing animals? Unknown] "Table 2. Endangered trees and shrubs species" ... "Oncoba spinosa - Common Uses = Firewood, timber, medicine, fodder" [Whether fruit or foliage is used as fodder is unspecified]
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No evidence]
405	2011. Sher, H./Alyemeni, M.N.. Pharmaceutically important plants used in traditional system of Arab medicine for the treatment of livestock ailments in the kingdom of Saudi Arabia. African Journal of Biotechnology. 10(45): 9153-9159.	[Toxic to animals? No evidence] "Oncoba spinosa" ... "Powdered fruit is mixed with wheat or corn flour and is given to cattle for the treatment of urinary tract diseases."
406	2005. Weaver, Jr., R.E.. Botany Section. TRI- OLOGY. 44(1): .Florida Department of Agriculture and Consumer Services, Division of Plant Industry,	[Host for recognized pests and pathogens?] "Oncoba spinosa (oncoba, fried-egg tree) -- Myllocerus undatus Marshall, a weevil: A severe infestation was found at the DPI office in Miami (Miami-Dade County; E2004-6428; Haydee L. Escobar; 14 September 2004)."
407	1996. Bein, E./Habte, B./Jaber, A./Birnie, A./Tengnas, B.. Useful Trees and Shrubs in Eritrea. Identification, Propagation and Management for Agricultural and Pastoral Communities. Regional Soil Conservation Unit, Nairobi, Kenya	[Causes allergies or is otherwise toxic to humans? No evidence] "Firewood, timber (furniture), food (fruit), medicine (roots), ornamental."
407	2002. Amponsah, K./Crensil, O'R./Odamtten, G.T./Ofusohene-Djan, W.. Manual for the Propagation and Cultivation of Medicinal Plants of Ghana. Aburi Botanic Garden, Aburi, Ghana	[Causes allergies or is otherwise toxic to humans? No evidence. Medicinal uses] "Leaves used to treat wounds, roots for coughs."
407	2004. South African National Biodiversity Institute. PlantzAfrica.com - <i>Oncoba spinosa</i> . http://www.plantzafrika.com/plantnop/oncobspin.htm [Accessed 04 Nov 2013]	[Causes allergies or is otherwise toxic to humans? No evidence] "The pulp of the fruit is edible, but is seldom used for that purpose. In African medicine the roots are used in the treatment of dysentery and bladder complaints. The hard-shelled fruits are used as snuff boxes. If the fruit are left to dry with the seeds inside they it make amusing rattles for children and are also used as anklets and armlets for dancers to add rhythm when performing."
407	2005. Woube, M.. Effects of Resettlement Schemes on the Biophysical and Human Environments: The Case of the Gambela Region, Ethiopia. Universal Publishers, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No evidence] "The tree produces significant quantities of edible fruits. These fruits are useful as supplementary food for the local people."

408	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Creates a fire hazard in natural ecosystems? Unknown] "Usually found in the hotter and drier types of woodland and sometimes thicket forming, particularly in river valleys." [Thicket formation in drier habitat might facilitate the spread of fire]
408	2011. Sambaré, O./Bognounou, F./Wittig, R./Thiombiano, A.. Woody species composition, diversity and structure of riparian forests of four watercourses types in Burkina Faso. <i>Journal of Forestry Research</i> . 22(2): 145-158.	[Creates a fire hazard in natural ecosystems? No evidence] "Tropical riparian forests survive as elongated forest fragments along rivers, where moisture supply is more continuous, fire frequency is lower, and soil fertility probably higher than elsewhere in the landscape (Veneklaas et al. 2005; Ceperley et al. 2010)."
409	1989. Keay, R.W.J.. <i>Trees of Nigeria</i> . Clarendon Press, Oxford, UK	[Is a shade tolerant plant at some stage of its life cycle? Possibly Yes] "Habitat: understorey of forest." [Presence in understory suggests tolerance of shade]
409	2003. McLaughlin, J.. A Guide to Planting an African-American/African Focused Yard in Miami-Dade County: A Selection of Ornamental African Plants Suitable for the Miami-Dade Landscape. University of Florida IFAS Extension, Homestead, FL	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "The tree should receive full sun, but is not particular to soil, adapting well to the limestone rock of south Miami-Dade."
409	2013. Dave's Garden. PlantFiles: Fried Egg Tree - <i>Oncoba spinosa</i> . http://davesgarden.com/guides/pt/go/167088/ [Accessed 07 Nov 2013]	[Is a shade tolerant plant at some stage of its life cycle?] "Sun Exposure: Full Sun; Sun to Partial Shade"
409	2013. Trees 4 Zambia. <i>Oncoba spinosa</i> . http://www.trees-4-zambia.com/index.php?option=com_sobi2&sobi2Task=sobi2Details&catid=7&sobi2Id=47&Itemid=54 [Accessed 04 Nov 2013]	[Is a shade tolerant plant at some stage of its life cycle? Possibly No] "Aspect: Plant in full sun."
410	2003. McLaughlin, J.. A Guide to Planting an African-American/African Focused Yard in Miami-Dade County: A Selection of Ornamental African Plants Suitable for the Miami-Dade Landscape. University of Florida IFAS Extension, Homestead, FL	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] "The tree should receive full sun, but is not particular as to soil adapting well to the limestone rock of south Miami Dade."
411	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Climbing or smothering growth habit? No] "Glabrous shrub or small tree up to c. 5 m"
412	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Forms dense thickets? Yes] "Usually found in the hotter and drier types of woodland and sometimes thicket forming, particularly in river valleys."
412	1996. Morris, B.. <i>Chewa Medical Botany: A Study of Herbalism in Southern Malawi</i> . LIT Verlag Münster, Hamburg, Germany	[Forms dense thickets? Yes] "Widely distributed throughout tropical Africa, noted in Malawi below 900m, usually in riparian tracts and often forming thickets."
501	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Aquatic? No] "Usually found in the hotter and drier types of woodland and sometimes thicket forming, particularly in river valleys."
502	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Grass? No] "Family: Salicaceae. Also placed in: Flacourtiaceae"
503	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Nitrogen fixing woody plant? No] "Family: Salicaceae. Also placed in: Flacourtiaceae"

504	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Glabrous shrub or small tree up to c. 5 m. tall; branches with pale lenticels and very sharp, spreading, axillary spines up to 5 cm. long. Leaf-lamina 3.5–12 x 2–10 cm., usually rather membranous, elliptic, ovate-elliptic or oblong elliptic, acuminate at the apex, abruptly cuneate at the base, serrate or serrate crenate except near the base or serrations almost obsolete, with 7–11 pairs of lateral nerves, venation reticulate but not very conspicuous; petiole up to 8 mm. long. Flowers scented, solitary and terminal or lateral on short, axillary shoots."
601	2005. Loffler, L./Loffler, P.. Swaziland Tree Atlas—including selected shrubs and climbers. Southern African Botanical Diversity Network Report No. 38. SABONET, Pretoria, S.A.	[Evidence of substantial reproductive failure in native habitat? No] "Abundance: Common to rare." ... "Conservation Status: Least Concern."
602	1996. Bein, E./Habte, B./Jaber, A./Birnie, A./Tengnas, B.. Useful Trees and Shrubs in Eritrea. Identification, Propagation and Management for Agricultural and Pastoral Communities. Regional Soil Conservation Unit, Nairobi, Kenya	[Produces viable seed? Yes] "Propagation: Seedlings, wildings."
602	2004. South African National Biodiversity Institute. PlantzAfrica.com - <i>Oncoba spinosa</i> . http://www.plantzafrika.com/plantnop/oncobspin.htm [Accessed 04 Nov 2013]	[Produces viable seed? Yes] "Cultivation is not difficult and fresh seeds, collected from the tree, can be pushed into river sand flush with the surface and kept moist."
603	2013. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2013. Trees 4 Zambia. <i>Oncoba spinosa</i> . http://www.trees-4-zambia.com/index.php?option=com_sobi2&sobi2Task=sobi2Details&catid=7&sobi2Id=47&Itemid=54 [Accessed 04 Nov 2013]	[Self-compatible or apomictic? Possibly Yes] "Problems and Drawbacks: Can get straggly and self-seed."
605	2004. South African National Biodiversity Institute. PlantzAfrica.com - <i>Oncoba spinosa</i> . http://www.plantzafrika.com/plantnop/oncobspin.htm [Accessed 04 Nov 2013]	[Requires specialist pollinators?] "It bears large (90 mm wide) showy, sweet scented, white flowers with masses of yellow, overlapping stamens in the centre . Flowers somewhat resemble a fried egg and in Zimbabwe it is called the fried-egg flower. The flowers are bisexual and are borne at in the base of the leaves or at the end of the branches. It flowers from September to January. The ovary is one-chambered. "
605	2006. Omoloye, A.A./Akinsola, P.A.. Foraging sources & effects of selected plant characters & weather variables on the visitation intensity of honeybee, <i>Apis mellifera adansonii</i> (Hymenoptera: Apidae) in the southwest Nigeria. J. Apic. Sci. 50: 39-48.	[Requires specialist pollinators? No] "Table 2 . Botanical characteristics of selected foraging sources in relation to visitation intensity of the honeybee, <i>Apis mellifera adansonii</i> in Ibadan and Ogbomosho, Southwest Nigeria." [<i>Oncoba spinosa</i> visited by honeybees]
605	2013. Trees 4 Zambia. <i>Oncoba spinosa</i> . http://www.trees-4-zambia.com/index.php?option=com_sobi2&sobi2Task=sobi2Details&catid=7&sobi2Id=47&Itemid=54 [Accessed 04 Nov 2013]	[Requires specialist pollinators?] "Notes: <i>O. spinosa</i> attracts butterflies."
606	2003. McLaughlin, J.. A Guide to Planting an African-American/African Focused Yard in Miami-Dade County: A Selection of Ornamental African Plants Suitable for the Miami-Dade Landscape. University of Florida IFAS Extension, Homestead, FL	[Reproduction by vegetative fragmentation? Yes] " Encourage a central leader (main trunk) in order to develop a tree – like form; otherwise there is a tendency to develop multiple trunks. Allowed to develop as a large shrub and regularly pruned, it is sometimes used as a tall impenetrable hedge." ... "Root suckers can be a problem (they can form a thicket if not promptly removed), and often arise from damaged surface roots."
607	2005. Woube, M.. Effects of Resettlement Schemes on the Biophysical and Human Environments: The Case of the Gambela Region, Ethiopia. Universal Publishers, Boca Raton, FL	[Minimum generative time (years)? Unknown] "This is a fast-growing tree growing mostly on flatter areas in central and western Gambela together with scattered shrubs."
701	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No. No evidence, and fruits and seeds relatively large and lack means of external attachment] "Fruit dark green or finally brown, c. 5 cm. in diam., globose, smooth, with a hard shell marked with c. 8 rather faint longitudinal lines, the old calyx persistent at the base, many-seeded. Seeds c. 6 x 4 mm., the shape of a somewhat flattened apple pip, with a shiny, rich brown testa."
702	2001. Hanelt, P. (ed.). Mansfeld's Encyclopedia of Agricultural and Horticultural Crops (except Ornamentals), Volume 1. Springer-Verlag, Berlin, Heidelberg, New York	[Propagules dispersed intentionally by people? Yes] "Here and in India cultivated as hedge for ornamental purposes and the edible fruits."

703	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Propagules likely to disperse as a produce contaminant? No. No evidence, and fruits and seeds relatively large and unlikely to contaminate produce] d "Fruit dark green or finally brown, c. 5 cm. in diam., globose, smooth, with a hard shell marked with c. 8 rather faint longitudinal lines, the old calyx persistent at the base, many-seeded. Seeds c. 6 x 4 mm., the shape of a somewhat flattened apple pip, with a shiny, rich brown testa."
704	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Propagules adapted to wind dispersal? No] "Fruit dark green or finally brown, c. 5 cm. in diam., globose, smooth, with a hard shell marked with c. 8 rather faint longitudinal lines, the old calyx persistent at the base, many-seeded. Seeds c. 6 x 4 mm., the shape of a somewhat flattened apple pip, with a shiny, rich brown testa."
705	1992. Hughes, R.H./Hughes, J.S.. A directory of African wetlands. IUCN, Gland, Switzerland	[Propagules water dispersed?] "Rocky areas on the banks and in the rivers are dominated by <i>Oncoba spinosa</i> ."
705	2005. Loffler, L./Loffler, P.. Swaziland Tree Atlas—including selected shrubs and climbers. Southern African Botanical Diversity Network Report No. 38. SABONET, Pretoria, S.A.	[Propagules water dispersed? Possibly Yes] "Habitat: Bushveld and low-lying riverine fringe thicket."
706	2012. Alem, S./Pavlis, J.. Native Woody Plants Diversity and Density under <i>Eucalyptus camaldulensis</i> Plantation, in Gibie Valley, South Western Ethiopia. <i>Open Journal of Forestry</i> . 2(4): 232-239.	[Propagules bird dispersed? No] "Table 1. List of the woody species found in <i>E. camaldulensis</i> plantation and the neighboring native woodland. (B = Birds, M = Mammals and W = Wind)." [<i>Oncoba spinosa</i> - Prevailing dispersal agents = Mammals]
707	1960. Wild, H.. <i>Oncoba spinosa</i> Forsk.: Flora Zambesiaca Vol. 1 part:1. Flacourtiaceae. http://apps.kew.org/efloras/namedetail.do?flora=fz&taxon=527&nameid=1470 [Accessed 04 Nov 2013]	[Propagules dispersed by other animals (externally)? No] "Fruit dark green or finally brown, c. 5 cm. in diam., globose, smooth, with a hard shell marked with c. 8 rather faint longitudinal lines, the old calyx persistent at the base, many-seeded. Seeds c. 6 x 4 mm., the shape of a somewhat flattened apple pip, with a shiny, rich brown testa." [No evidence, and no means of external attachment]
708	2000. Nishida, T./Ohigashi, H./Koshimizu, K.. Tastes of Chimpanzee Plant Foods. <i>Current Anthropology</i> . 41(3): 431-438.	[Propagules survive passage through the gut? Possibly Yes] "Table 1. Chimpanzee Food Plants Tasted" [Includes ripe fruit of <i>Oncoba spinosa</i>]
708	2007. Kirika, J.M.. Frugivores, seed dispersal and tree regeneration along a human disturbance gradient in East African tropical rainforests. PhD Dissertation. Johannes Gutenberg University.	[Propagules survive passage through the gut? Yes] "Appendix 7.2: List of tree and seedling species recorded during the study. Given for each species are means of dispersal, succession type and where present (+) or absent (-) in the three forests. PF = primary forest, LD = little disturbed and HD = heavily disturbed." [<i>Oncoba spinosa</i> - Mode of dispersal = animal]
708	2009. Wieczkowski, J.. Brief communication: Puncture and crushing resistance scores of Tana River Mangabey (<i>Cercocebus galeritus</i>) diet items. <i>American Journal of Physical Anthropology</i> . 140(3): 572-577.	[Propagules survive passage through the gut? Yes] "TABLE 1. Puncture and crushing resistance scores of diet items in the Tana River mangabey diet" [<i>Oncoba spinosa</i> - Frequency in diet = 167] ... " <i>Oncoba spinosa</i> fruit are so hard-shelled that I found it impossible to puncture i with the agricultural fruit tester. I, therefore, used the spring tester."
708	2011. Bertolani, P./Pruetz, J.D.. Seed Reingestion in Savannah Chimpanzees (<i>Pan troglodytes verus</i>) at Fongoli, Senegal. <i>International Journal of Primatology</i> . 32(5): 1123-1132.	[Propagules survive passage through the gut? Yes] "Table I Diet of Fongoli chimpanzees during the study period (March 2005–June 2005; October 2005–January 2006)" [<i>Oncoba spinosa</i> - Part eaten = Fruit]
708	2011. Majid, K./Gilbert, B.I./Jeremiah, L.S.. Role of Acacia and Erythrina trees in forest regeneration by vertebrate seed dispersers in Kibale National Park, Uganda. <i>African Journal of Ecology</i> . 49(2): 189-198.	[Propagules survive passage through the gut? Yes] "During this study, we observed a number of forest tree seedlings including <i>Aeglopsis eggelingii</i> , <i>Dovyalis spinosissima</i> , <i>Oncoba spinosa</i> , <i>Prunus Africana</i> , <i>Chrysophyllum albidum</i> , <i>Dasylepis eggelingii</i> and <i>Balanites wilsoniana</i> germinating from elephant dung."
708	2012. Kimuyu, D.M./Wahungu, G.M./Otieno, D.O.. Seed dispersal by Tana River mangabeys in fragmented gallery forests. <i>Open Journal of Ecology</i> . 2(1): 12-20.	[Propagules survive passage through the gut? Yes] "Table 1. Plant species, fruit type, number of intact seeds, and number of seedlings that germinated after one month of rain." [<i>Oncoba spinosa</i> - Total number of seeds extracted from dung = 22]
708	2013. Trees 4 Zambia. <i>Oncoba spinosa</i> . http://www.trees-4-zambia.com/index.php?option=com_sobi2&sobi2Task=sobi2Details&catid=7&sobi2Id=47&Itemid=54 [Accessed 04 Nov 2013]	[Propagules survive passage through the gut? Presumably Yes] "Giraffe enjoy the fruit."
801	2002. Amponsah, K./Crensil, O'R./Odamtten, G.T./Ofusohene-Djan, W.. Manual for the Propagation and Cultivation of Medicinal Plants of Ghana. Aburi Botanic Garden, Aburi, Ghana	[Prolific seed production (>1000/m ²)? Potentially Yes] "Tree or bushy shrub; bark pale green-brown, slash greybrown, granular and yellow beneath. Spines 2.5-5cm long or more; leaves elliptic, sharply pointed. Flowers short and stalked; fruits more or less round. Wood light brown and hard." ... "One fruit may contain as many as 2,000 seeds."

801	2005. Woube, M.. Effects of Resettlement Schemes on the Biophysical and Human Environments: The Case of the Gambela Region, Ethiopia. Universal Publishers, Boca Raton, FL	[Prolific seed production (>1000/m2)? Potentially Yes] "The tree produces significant quantities of edible fruits."
802	1996. Bein, E./Habte, B./Jaber, A./Birnie, A./Tengnas, B.. Useful Trees and Shrubs in Eritrea. Identification, Propagation and Management for Agricultural and Pastoral Communities. Regional Soil Conservation Unit, Nairobi, Kenya	[Evidence that a persistent propagule bank is formed (>1 yr)? Yes] "It can be stored for some years if kept dry, cool and free from insects."
802	2005. Woube, M.. Effects of Resettlement Schemes on the Biophysical and Human Environments: The Case of the Gambela Region, Ethiopia. Universal Publishers, Boca Raton, FL	[Evidence that a persistent propagule bank is formed (>1 yr)? Yes] "Its dormant seeds remain in the soil for many years if they are not affected either by fire or animals."
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown, but possibly] "Storage Behaviour: Orthodox"
803	2013. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	2003. McLaughlin, J.. A Guide to Planting an African-American/African Focused Yard in Miami-Dade County: A Selection of Ornamental African Plants Suitable for the Miami-Dade Landscape. University of Florida IFAS Extension, Homestead, FL	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes. Tolerates pruning and forms suckers from damaged roots] "Allowed to develop as a large shrub and regularly pruned, it is sometimes used as a tall impenetrable hedge. Once established this is an extremely tough, drought tolerant plant, and apart from pruning (when not in active growth) requires little care. Root suckers can be a problem (they can form a thicket if not promptly removed), and often arise from damaged surface roots."
804	2013. Trees 4 Zambia. <i>Oncoba spinosa</i> . http://www.trees-4-zambia.com/index.php?option=com_sobi2&sobi2Task=sobi2Details&catid=7&sobi2Id=47&Itemid=54 [Accessed 04 Nov 2013]	[Tolerates, or benefits from, mutilation, cultivation, or fire? Possibly. Tolerates pruning] "Maintenance and Pruning: Grows about 60cm per annum and needs pruning if used in shrubbery."
805	2013. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risk / Undesirable Traits

- Thrives in tropical climates
- Elevation range exceeds 1000 m
- Cultivation escape in New Zealand
- Spiny
- Tolerates many soil types
- Can form thickets
- Spreads vegetatively by suckering
- Seeds spread by mammals (possibly pigs in Hawaiian Islands)
- Can resprout from roots if cut or damaged

Low Risk Traits

- No reports of invasiveness or negative impacts outside native range
- Medicinal and ornamental uses, and used as a barrier plant
- Seeds not documented to be bird-dispersed