

Taxon: <i>Litsea glutinosa</i> (Lour.) C. B. Rob.	Family: Lauraceae
Common Name(s): bolly-beech bollygum bollywood brown beech brown bolly-gum brown bollywood Indian laurel soft bollygum	Synonym(s): <i>Litsea laurifolia</i> (Jacq.) F. M. Bailey <i>Sebifera glutinosa</i> Lour. <i>Tetranthera laurifolia</i> Jacq.

Assessor: Chuck Chimera	Status: Assessor Approved	End Date: 2 Dec 2021
WRA Score: 7.0	Designation: H(HPWRA)	Rating: High Risk

Keywords: Dioecious Tree, Naturalized Elsewhere, Environmental Weed, Bird-Dispersed, Coppices

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
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		
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)	y
305	Congeneric weed		
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	n

Qsn #	Question	Answer Option	Answer
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens	y=1, n=0	n
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		
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		
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		
604	Self-compatible or apomictic	y=1, n=-1	n
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)		
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		
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
801	Prolific seed production (>1000/m ²)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	n
803	Well controlled by herbicides		
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)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Lemmens, R.H.M.J., Soerianegara, I. & Wong, W.C. (Eds.). (1995). Plant Resources of South-East Asia. No 5(2). Timber Trees: Minor Commercial Timbers. Backhuys Publishers, Leiden, The Netherlands	[No evidence] "From India through Indo-China towards the Malesian area where it occurs in all parts, and northern Australia; sometimes planted."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2021). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2021). Personal Communication	NA

201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 30 Nov 2021]	"Native Asia-Temperate CHINA: China [Fujian Sheng, Guangdong Sheng, Yunnan Sheng (s.), Guangxi Zhuangzu Zizhiqu, Hainan Sheng] Asia-Tropical INDIAN SUBCONTINENT: Bangladesh, Bhutan, India, Sri Lanka, Nepal INDO-CHINA: Myanmar, Thailand, Vietnam MALESIA: Indonesia, Malaysia, Philippines Australasia AUSTRALIA: Australia [Queensland (n.), Northern Territory (n.)]"

202	Quality of climate match data	High
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 30 Nov 2021]	

203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes

Qsn #	Question	Answer
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"L. glutinosa grows at an altitude of 500-1900 m above sea level in China (Huang et al., 2008; Flora of China Editorial Committee, 2019), at low altitudes (up to 1000 m) in Sri Lanka (Dassanayake, 1995) and at mid-altitudes in the Philippines and the islands of Mauritius (PIER, 2019). The altitudinal range in Australia is from sea level to 600 m and L. glutinosa is well adapted to different soil types (Australian Tropical Rainforest Plants, 2010). It colonizes all open areas but also survives in more shaded areas (Vos, 2008). In Mayotte, it is mostly found on the wetter (rainfall >1500 mm/year), northern part of the Island (Jacq et al., 2005)."
	Lemmens, R.H.M.J., Soerianegara, I. & Wong, W.C. (Eds.). (1995). Plant Resources of South-East Asia. No 5(2). Timber Trees: Minor Commercial Timbers. Backhuys Publishers, Leiden, The Netherlands	"L. glutinosa is found in mixed primary and secondary forest and thickets, up to 1300 m altitude."
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). Flora of China. Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Elevation range >1000 m] "Forest margins, streamsides, sparse forests or thickets; 500–1900 m. Fujian, Guangdong, Guangxi, Hainan, S Yunnan [Bhutan, India, Myanmar, Nepal, Philippines, Thailand, Vietnam]."

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). Flora of China. Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	"Forest margins, streamsides, sparse forests or thickets; 500–1900 m. Fujian, Guangdong, Guangxi, Hainan, S Yunnan [Bhutan, India, Myanmar, Nepal, Philippines, Thailand, Vietnam]."
	USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 1 Dec 2021]	"Native Asia-Temperate CHINA: China [Fujian Sheng, Guangdong Sheng, Yunnan Sheng (s.), Guangxi Zhuangzu Zizhiqu, Hainan Sheng] Asia-Tropical INDIAN SUBCONTINENT: Bangladesh, Bhutan, India, Sri Lanka, Nepal INDO-CHINA: Myanmar, Thailand, Vietnam MALESIA: Indonesia, Malaysia, Philippines Australasia AUSTRALIA: Australia [Queensland (n.), Northern Territory (n.)] Naturalized Africa SOUTHERN AFRICA: South Africa WESTERN INDIAN OCEAN: Comoros, Mauritius, Reunion, Mayotte Pacific SOUTHWESTERN PACIFIC: New Caledonia"
	Imada, C. (2019). Hawaiian Naturalized Vascular Plants Checklist (February 2019 update). Bishop Museum Technical Report 69. Bishop Museum, Honolulu, HI	No evidence

205	Does the species have a history of repeated introductions outside its natural range?	y
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Qsn #	Question	Answer
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Dispersed by: Humans, Escapee References: pantropics-W-22, South Africa-X-63, Global-N-85, South Africa- W-95, South Africa-CX-283, Global-I-629, Global-E-649, South Africa-I-759, Mozambique-E-1076, La Reunion-E-1077, South Africa-X-1112, Africa-X-1127, western Indian Ocean-I-1144, western Indian Ocean-I-1146, South Africa-NX- 1247, La Reunion-I-1321, Global-W-1376, Global-I-1404, Global-E-1449, New Caledonia-I-1507, Mauritius-A-87, South Africa-E-1646, Global-CD-1611, Seychelles-N-1925, -I-, -I-, -I-, South Africa-N-1991, Comoros-W-1977, Seychelles-W-1977, South Africa-W-1977."
	USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 1 Dec 2021]	"Naturalized Africa SOUTHERN AFRICA: South Africa WESTERN INDIAN OCEAN: Comoros, Mauritius, Reunion, Mayotte Pacific SOUTHWESTERN PACIFIC: New Caledonia"

301	Naturalized beyond native range	Y
	Source(s)	Notes
	Dlamini, P., Zachariades, C., & Downs, C. T. (2018). The effect of frugivorous birds on seed dispersal and germination of the invasive Brazilian pepper tree (<i>Schinus terebinthifolius</i>) and Indian laurel (<i>Litsea glutinosa</i>). <i>South African Journal of Botany</i> , 114, 61-68	"Indian laurel, <i>Litsea glutinosa</i> (Lour.) C.B. Rob. (Lauraceae) is an invasive species in South Africa (NEMBA Category 1b) that is especially problematic in KwaZulu-Natal Province, particularly in the vicinity of Durban. It has a native range extending from the Himalayas, through South-East Asia to Oceania (Heuzé et al., 2015), and was introduced into South Africa for cultivation (Ross, 1972)."
	USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 1 Dec 2021]	"Naturalized Africa SOUTHERN AFRICA: South Africa WESTERN INDIAN OCEAN: Comoros, Mauritius, Reunion, Mayotte Pacific SOUTHWESTERN PACIFIC: New Caledonia"
	Imada, C. (2019). Hawaiian Naturalized Vascular Plants Checklist (February 2019 update). Bishop Museum Technical Report 69. Bishop Museum, Honolulu, HI	No evidence
	Simpson, A., Turner, R., Blake, R., Liebhold, A., and Dorado, M. (2021). United States Register of Introduced and Invasive Species: U.S. Geological Survey data release, https://doi.org/10.5066/P95XL09Q . [Accessed 1 Dec 2021]	No evidence from the United States

302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Henderson, L. (2001). Alien Weeds and Invasive Plants. Alien weeds and invasive plants: A Complete Guide to Declared Weeds and Invaders in South Africa. Agricultural Research Council, Pretoria	"Invades: Disturbed forest and forest margins. Origin: Tropical Asia (Himalayas and SE Asia). Invasive status: Transformer. Declared weed"

Qsn #	Question	Answer
	Kueffer, C. & Vos, P. (2004). Case Studies on the Status of invasive Woody Plant Species in the Western Indian Ocean: 5. Seychelles. Forest Health & Biosecurity Working Papers FBS/4-5E. FAO Forestry Dept., Rome, Italy	" <i>Litsea glutinosa</i> can often been found along roads and on some small islands (e.g. Sainte Anne)."
	Kueffer, C. & Vos, P. (2004). Case Studies on the Status of invasive Woody Plant Species in the Western Indian Ocean: 4. Reunion. Forest Health & Biosecurity Working Papers FBS/4-4E. FAO Forestry Dept., Rome, Italy	[A weed of disturbed areas on Reunion] "The main invasive woody plant species in the coastal zone are <i>Casuarina equisetifolia</i> , <i>Prosopis juliflora</i> and <i>Schinus terebinthifolius</i> (especially along the east coast) and, to a lesser extent, <i>Litsea glutinosa</i> ." ... "The main woody weeds invading agricultural land and secondary plantation forests are <i>Acacia mearnsii</i> , <i>Clidemia hirta</i> , <i>Dichrostachys cinerea</i> , <i>Hiptage benghalensis</i> , <i>Lantana camara</i> , <i>Leucaena leucocephala</i> , <i>Litsea glutinosa</i> , <i>Psidium cattleianum</i> , <i>Rubus alceifolius</i> , <i>Schinus terebinthifolius</i> and <i>Syzygium jambos</i> " ... " <i>Boehmeria penduliflora</i> and <i>Casuarina equisetifolia</i> are the most prominent invasive species in the early successional stages on volcanic lava flows (Macdonald et al. 1991). On older flows <i>Psidium cattleianum</i> , <i>Rubus alceifolius</i> and, to a lesser degree, <i>Leucaena leucocephala</i> and <i>Litsea glutinosa</i> are also abundant."
	WRA Specialist. (2021). Personal Communication	A disturbance-adapted weed with detrimental environmental impacts in some locations

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"There is no evidence that <i>L. glutinosa</i> affects crops or plants in its introduced range."
	Kueffer, C. & Vos, P. (2004). Case Studies on the Status of invasive Woody Plant Species in the Western Indian Ocean: 4. Reunion. Forest Health & Biosecurity Working Papers FBS/4-4E. FAO Forestry Dept., Rome, Italy	[Invades agricultural land. Impacts not described] "The main woody weeds invading agricultural land and secondary plantation forests are <i>Acacia mearnsii</i> , <i>Clidemia hirta</i> , <i>Dichrostachys cinerea</i> , <i>Hiptage benghalensis</i> , <i>Lantana camara</i> , <i>Leucaena leucocephala</i> , <i>Litsea glutinosa</i> , <i>Psidium cattleianum</i> , <i>Rubus alceifolius</i> , <i>Schinus terebinthifolius</i> and <i>Syzygium jambos</i> "

304	Environmental weed	y
	Source(s)	Notes
	Dlamini, P., Zachariades, C., & Downs, C. T. (2018). The effect of frugivorous birds on seed dispersal and germination of the invasive Brazilian pepper tree (<i>Schinus terebinthifolius</i>) and Indian laurel (<i>Litsea glutinosa</i>). South African Journal of Botany, 114, 61-68	"Indian laurel, <i>Litsea glutinosa</i> (Lour.) C.B. Rob. (Lauraceae) is an invasive species in South Africa (NEMBA Category 1b) that is especially problematic in KwaZulu-Natal Province, particularly in the vicinity of Durban. It has a native range extending from the Himalayas, through South-East Asia to Oceania (Heuzé et al., 2015), and was introduced into South Africa for cultivation (Ross, 1972)."
	Henderson, L. (2001). Alien Weeds and Invasive Plants. Alien weeds and invasive plants: A Complete Guide to Declared Weeds and Invaders in South Africa. Agricultural Research Council, Pretoria	"Invades: Disturbed forest and forest margins. Origin: Tropical Asia (Himalayas and SE Asia). Invasive status: Transformer. Declared weed"
	Handa, A. K., et al. (2019). Successful Agroforestry Models for Different Agro-Ecological Regions in India. Central Agroforestry Research Institute (CAFRI), Jhansi, and the South Asia Regional Programme, New Delhi, of World Agroforestry (ICRAF)	" <i>L. glutinosa</i> has a high invasion potential and replaces regenerating native plant species in disturbed environments. Its utilization as fodder somewhat alleviates its pest status. The invasive properties of the tree can also be used for restoration of damaged soils."

Qsn #	Question	Answer
	Higgins, H. (2017). Surveying the Distributions of <i>Melaleuca quinquenervia</i> , <i>Psidium cattleianum</i> , and <i>Litsea glutinosa</i> at Analalava Special Reserve. Independent Study Project (ISP) Collection. 2573	" <i>L. glutinosa</i> is occurs in humid tropical and subtropical forests at a wide range of altitudes, especially in forest edge and riparian habitats (Vos). Therefore, it well-suited to the open and degraded/edge areas of Analalava Reserve. <i>L. glutinosa</i> is recognizable at Analalava by its pale, whitish bark and its leaves' wavy margins (Figure 5). This species often becomes invasive in introduced ranges due to its ability to rapidly proliferate and displace native vegetation. It grows quickly, and regenerates both vegetatively and with seeds. Seeds can germinate under a variety of conditions, although they do best in open areas (Vos)."
	Fenouillas, P. et al. (2021). Quantifying invasion degree by alien plants species in Reunion Island. <i>Austral Ecology</i> 46: 1125–1137	"The five most widespread invasive species in native vegetation were <i>Psidium cattleianum</i> Afzel. ex Sabine, <i>Litsea glutinosa</i> (Lour.) C.B. Rob., <i>Ardisia crenata</i> Sims, <i>Rubus alceifolius</i> Poir. and <i>Syzygium jambos</i> (L.) Alston."
	Lorence, D. H., & Sussman, R. W. (1986). Exotic species invasion into Mauritius wet forest remnants. <i>Journal of Tropical Ecology</i> , (02): 147-162	"The tremendous disparity in regeneration rates between exotic and native species is clearly leading to a destabilization of forest composition, and it is likely that even the forests we sampled will gradually be replaced in time by dense thickets of exotics, especially <i>Ligustrum robustum</i> var. <i>walkerii</i> , <i>Psidium cattleianum</i> var. <i>cattleianum</i> , <i>Rubus moluccanus</i> , <i>Litsea glutinosa</i> , and <i>Ardisia crenata</i> in the ground flora."
	CABI. (2021). <i>Invasive Species Compendium</i> . Wallingford, UK: CAB International. www.cabi.org/isc	[An environmental weed in some locations where introduced] " <i>L. glutinosa</i> is considered invasive in South Africa (Henderson, 2001) and in the Indian Ocean: the Comoros Islands (Anjouan Island, Comoro, Grande Comore, Mohéli island) (PIER, 2019), La Réunion (MacDonald et al., 1991; ISSG, 2015; PIER, 2019), the islands of Mauritius (Mauritius Island and Rodrigues Island) (PIER, 2019) and Mayotte Island (Vos, 2004; ISSG, 2015; PIER, 2019). On Mayotte Island, <i>L. glutinosa</i> covers more than 9% of the space in regenerating forest, and occupies the northern two-thirds of Mayotte (Pascal, 1997). It could lead to a specific loss of biodiversity in natural areas, but is not considered as invasive by local inhabitants because it is used as fodder (Jacq et al., 2005), amongst other things, and plays an important economic role in Mahoran society (Mayotte Islands) (Vos, 2004). <i>L. glutinosa</i> is not considered to be an invasive species on other islands where it is established, for example, in New Caledonia (Grand Terre Islands), where it is quite common in the state of Dumbea, rare elsewhere, and little planted (MacKee, 1994), and on the Seychelles Islands (PIER, 2019). Jacq et al. (2005) does not consider <i>L. glutinosa</i> to be invasive globally, and ISSG (2015) consider this small tree to have high invasion potential, displacing native plant species in disturbed environments, although there is no evidence available yet of its impact."

305	Congeneric weed	
	Source(s)	Notes
	Randall, R.P. (2017). <i>A Global Compendium of Weeds</i> . 3rd Edition. Perth, Western Australia. R.P. Randall	<i>Litsea cubeba</i> cited as an agricultural weed. Impacts uncorroborated

401	Produces spines, thorns or burrs	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). Flora of China. Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[No evidence] "Evergreen or deciduous trees, 3–15 m tall. Young branchlets gray-yellow tomentose. Leaves alternate; petiole 1–2.6 cm, gray-yellow tomentose; leaf blade obovate, obovate-oblong, or elliptic-lanceolate, 3.5–10(–26) × 1.5–11 cm, tomentose on both surfaces when young, tomentose or subglabrous abaxially and only midrib slightly tomentose adaxially when old, pinninerved, lateral veins 5–12 pairs, base cuneate, obtuse, or rotund, apex obtuse or rounded."

402	Allelopathic	n
	Source(s)	Notes
	WRA Specialist. (2021). Personal Communication	Unknown. No evidence found

403	Parasitic	n
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). Flora of China. Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	"Evergreen or deciduous trees, 3–15 m tall." [No evidence]

404	Unpalatable to grazing animals	n
	Source(s)	Notes
	Lemmens, R.H.M.J., Soerianegara, I. & Wong, W.C. (Eds.). (1995). Plant Resources of South-East Asia. No 5(2). Timber Trees: Minor Commercial Timbers. Backhuys Publishers, Leiden, The Netherlands	"The young leaves are eaten by livestock."

405	Toxic to animals	n
	Source(s)	Notes
	Lemmens, R.H.M.J., Soerianegara, I. & Wong, W.C. (Eds.). (1995). Plant Resources of South-East Asia. No 5(2). Timber Trees: Minor Commercial Timbers. Backhuys Publishers, Leiden, The Netherlands	"The young leaves are eaten by livestock." [No evidence]
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	No evidence

406	Host for recognized pests and pathogens	n
	Source(s)	Notes
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"There is no evidence that <i>L. glutinosa</i> affects crops or plants in its introduced range."

407	Causes allergies or is otherwise toxic to humans	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Lemmens, R.H.M.J., Soerianegara, I. & Wong, W.C. (Eds.). (1995). Plant Resources of South-East Asia. No 5(2). Timber Trees: Minor Commercial Timbers. Backhuys Publishers, Leiden, The Netherlands	"The wood is used as medang, mainly in the Philippines, e.g. for house construction and agricultural implements. The fruits have a sweet creamy edible pulp. The seeds contain an aromatic oil which has been used to make candles and soap. The pounded seeds are also applied medicinally against boils. The leaves and the mucilage in the gum from the bark have been used for poultices. The bark also acts as a demulcent and mild astringent in diarrhoea and dysentery. The young leaves are eaten by livestock. Cut leaves release a mucilage which can be mixed with lime and sand to obtain a useful cement for general construction. The roots yield fibres used for rope manufacture and for paper pulp."
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	[Medicinal uses] "Used in Ayurveda and Sidha. Bark demulcent, mucilaginous, mildly astringent, analgesic, used in diarrhea and dysentery; stem bark made into a paste applied over the knife injuries and wounds; bark decoction applied in boils, taken for chest pain; bark paste given against blood dysentery and in vomiting; stem bark given for leucorrhea; bark powder given against snakebite and bone fracture; stem bark paste mixed with goat milk and plastered over bone fracture; inner bark chewed to get relief from stomachache and dysentery. Leaves mucilaginous, emollient, antispasmodic, used in infusion or as a poultice for bruises and wounds; macerated leaves in dysentery. Root astringent, tonic, decoction used as emmenagogue. Root bark and leaves antipyretic, for swellings, boils, diarrhea, tuberculosis. Branches hung over the roof of the cattle-shed to keep away insects. Veterinary medicine, stem bark paste applied and bandaged over bone fractured area; bark decoction fed to cows to cure diarrhea; crushed leaves given to treat indigestion."

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Jacq, F. A., Hladik, A., & Bellefontaine, R. (2005). Dynamics of the introduced tree <i>Litsea glutinosa</i> (Lauraceae) in Mayotte Island: is it an invasive species? <i>Revue d Ecologie</i> , 60, 21–32	[Not a fire risk on Mayotte Island] "This tree, ranging from 10 to 15 meters in height, is mostly found on the wetter (rainfall > 1 500 mm/year) northern part of the island."
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	[Not considered a fire risk in this review] " <i>L. glutinosa</i> grows at an altitude of 500-1900 m above sea level in China (Huang et al., 2008; Flora of China Editorial Committee, 2019), at low altitudes (up to 1000 m) in Sri Lanka (Dassanayake, 1995) and at mid-altitudes in the Philippines and the islands of Mauritius (PIER, 2019). The altitudinal range in Australia is from sea level to 600 m and <i>L. glutinosa</i> is well adapted to different soil types (Australian Tropical Rainforest Plants, 2010). It colonizes all open areas but also survives in more shaded areas (Vos, 2008). In Mayotte, it is mostly found on the wetter (rainfall >1500 mm/year), northern part of the Island (Jacq et al., 2005)."

409	Is a shade tolerant plant at some stage of its life cycle	

Qsn #	Question	Answer
	Source(s)	Notes
	Handa, A. K., et al. (2019). Successful Agroforestry Models for Different Agro-Ecological Regions in India. Central Agroforestry Research Institute (CAFRI), Jhansi, and the South Asia Regional Programme, New Delhi, of World Agroforestry (ICRAF)	"It occurs in agricultural land, coastland, natural forests and urban areas. It colonizes all open areas but also survives in more shaded areas and undisturbed forests."
	Jacq, F. A., Hladik, A., & Bellefontaine, R. (2005). Dynamics of the introduced tree <i>Litsea glutinosa</i> (Lauraceae) in Mayotte Island: is it an invasive species? <i>Revue d Ecologie</i> , 60, 21–32	" <i>L. glutinosa</i> proliferates in protected forests, particularly in semi-dry forests where it can take advantage of the more open forest structure. Because of its light-demanding temperament, <i>L. glutinosa</i> needs an opening in the forest canopy to settle down and grow."
	Mavimbela, L. Z., Sieben, E. J., & Procheş, Ş. (2018). Invasive alien plant species, fragmentation and scale effects on urban forest community composition in Durban, South Africa. <i>New Zealand Journal of Forestry Science</i> , 48(1), 1-14	[Light-demanding] "The tree IAP <i>Litsea glutinosa</i> (Lour.) C.B.Rob. establishes vigorously in humid areas of sub-tropical forests. This light-demanding plant takes advantage of small canopy gaps in the forest, and its vegetative reproduction by root-suckering makes it an aggressive invader that poses a threat to biodiversity loss under canopy (Jacq et al. 2005)."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Plants for a Future. (2021). <i>Litsea glutinosa</i> . https://pfaf.org/user/Plant.aspx?LatinName=Litsea+glutinosa . [Accessed 1 Dec 2021]	"Suitable for: light (sandy), medium (loamy) and heavy (clay) soils and prefers well-drained soil. Suitable pH: acid, neutral and basic (alkaline) soils. It cannot grow in the shade. It prefers moist soil."
	CABI. (2021). <i>Invasive Species Compendium</i> . Wallingford, UK: CAB International. www.cabi.org/isc	"The altitudinal range in Australia is from sea level to 600 m and <i>L. glutinosa</i> is well adapted to different soil types (Australian Tropical Rainforest Plants, 2010)."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). <i>Flora of China</i> . Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	"Evergreen or deciduous trees, 3–15 m tall."

412	Forms dense thickets	
	Source(s)	Notes

Qsn #	Question	Answer
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	[Not described as forming dense stands] "L. glutinosa is considered invasive in South Africa (Henderson, 2001) and in the Indian Ocean: the Comoros Islands (Anjouan Island, Comoro, Grande Comore, Mohéli island) (PIER, 2019), La Réunion (MacDonald et al., 1991; ISSG, 2015; PIER, 2019), the islands of Mauritius (Mauritius Island and Rodrigues Island) (PIER, 2019) and Mayotte Island (Vos, 2004; ISSG, 2015; PIER, 2019). On Mayotte Island, L. glutinosa covers more than 9% of the space in regenerating forest, and occupies the northern two-thirds of Mayotte (Pascal, 1997). It could lead to a specific loss of biodiversity in natural areas, but is not considered as invasive by local inhabitants because it is used as fodder (Jacq et al., 2005), amongst other things, and plays an important economic role in Mahoran society (Mayotte Islands) (Vos, 2004)."
	Jacq, F. A., Hladik, A., & Bellefontaine, R. (2005). Dynamics of the introduced tree <i>Litsea glutinosa</i> (Lauraceae) in Mayotte Island: is it an invasive species? <i>Revue d'Ecologie</i> , 60, 21–32	[Not described as forming thickets] "The tree's invading nature, however, is due partially to its capability to reproduce vegetatively; over half of the stems are produced by vegetative reproduction, mostly root-suckering. This species could lead to a specific loss of biodiversity in « natural » areas, but is not considered as a pest by local inhabitants, because of its frequent utilization, especially as fodder."

501	Aquatic	n
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). <i>Flora of China</i> . Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Terrestrial] "Forest margins, streamsides, sparse forests or thickets; 500–1900 m."

502	Grass	n
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 30 Nov 2021]	Family: Lauraceae

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 30 Nov 2021]	Family: Lauraceae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n

Qsn #	Question	Answer
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). Flora of China. Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	"Evergreen or deciduous trees, 3–15 m tall."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	de Kok, R. (2021). <i>Litsea glutinosa</i> . The IUCN Red List of Threatened Species 2021: e.T145824211A153621601. https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T145824211A153621601.en . [Accessed 1 Dec 2021]	[Least Concern] "This species is known from at least 500 localities from India, Sri Lanka, Nicobar Islands, Nepal, Bangladesh, Myanmar, China, Thailand, Viet Nam, Cambodia, Laos, Malaysia, Indonesia, Philippines, New Guinea and Australia. It is also introduced into South Africa, Madagascar, Mauritius, Rodrigues, Réunion, Seychelles and Trinidad-Tobago. It has a very large extent of occurrence (EOO of 24,527,564 km ²) and area of occupancy (minimum AOO of 2,512 km ² based on point records but this is likely to be an underestimate). It grows in forests and thickets between 0–1,450 m altitude. There is a decline in area of occupancy and extent of occurrence as well as loss of quality of habitat. However, given the large extent of occurrence and the number of known localities, and that it can grow in secondary vegetations, it is considered as Least Concern."

602	Produces viable seed	y
	Source(s)	Notes
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"In both sexes, leaf fall and flushing events occur almost simultaneously in April-May. Full leaf flushing occurs by the end of June (Ramana and Raju, 2019). The flowering period is May to June and fructification occurs from September to October (Flora of China Editorial Committee, 2019; Hong Kong Herbarium, 2019). <i>L. glutinosa</i> flowers between March and June in India, although in some parts of the country the flowering period is shorter during July-August with individual plants only flowering for about 2-3 weeks (Ramana and Raju, 2019). Seed germination is not very rapid; approximately 85% of germination is achieved in 15-45 days (World Agroforestry, 2019). The rate of seed germination is 17% in natural habitats (Ramana and Raju, 2019)."

603	Hybridizes naturally	
	Source(s)	Notes
	WRA Specialist. (2021). Personal Communication	Unknown. No evidence found

604	Self-compatible or apomictic	n
	Source(s)	Notes

Qsn #	Question	Answer
	Ramana, K. V., & Raju, A. J. S. (2019). Pollination ecology of <i>Litsea glutinosa</i> (Lour.) CB Robinson (Lauraceae): A commercially and medicinally important semi-evergreen tree species. <i>Songklanakarin Journal of Science and Technology</i> , 41(1), 30-36	" <i>Litsea glutinosa</i> is a semi-evergreen wet season blooming tree species. It is dioecious characterized by separate staminate and pistillate trees occurring in 3:1 ratio."
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). <i>Flora of China</i> . Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	"Trees or shrubs, evergreen or deciduous, dioecious."

605	Requires specialist pollinators	n
	Source(s)	Notes
	Ramana, K. V., & Raju, A. J. S. (2019). Pollination ecology of <i>Litsea glutinosa</i> (Lour.) CB Robinson (Lauraceae): A commercially and medicinally important semi-evergreen tree species. <i>Songklanakarin Journal of Science and Technology</i> , 41(1), 30-36	"The florets display myophilous pollination syndrome and are pollinated by flies as well as other insects. Natural fruit set did not exceed 30%."

606	Reproduction by vegetative fragmentation	y
	Source(s)	Notes
	Mavimbela, L. Z., Sieben, E. J., & Procheş, Ş. (2018). Invasive alien plant species, fragmentation and scale effects on urban forest community composition in Durban, South Africa. <i>New Zealand Journal of Forestry Science</i> , 48(1), 1-14	"The tree IAP <i>Litsea glutinosa</i> (Lour.) C.B.Rob. establishes vigorously in humid areas of sub-tropical forests. This light-demanding plant takes advantage of small canopy gaps in the forest, and its vegetative reproduction by root-suckering makes it an aggressive invader that poses a threat to biodiversity loss under canopy (Jacq et al. 2005)."
	Jacq, F. A., Hladik, A., & Bellefontaine, R. (2005). Dynamics of the introduced tree <i>Litsea glutinosa</i> (Lauraceae) in Mayotte Island: is it an invasive species? <i>Revue d'Ecologie</i> , 60, 21-32	"The tree's invading nature, however, is due partially to its capability to reproduce vegetatively; over half of the stems are produced by vegetative reproduction, mostly root-suckering."

607	Minimum generative time (years)	
	Source(s)	Notes
	CABI. (2021). <i>Invasive Species Compendium</i> . Wallingford, UK: CAB International. www.cabi.org/isc	[Unknown] "In both sexes, leaf fall and flushing events occur almost simultaneously in April-May. Full leaf flushing occurs by the end of June (Ramana and Raju, 2019). The flowering period is May to June and fructification occurs from September to October (Flora of China Editorial Committee, 2019; Hong Kong Herbarium, 2019). <i>L. glutinosa</i> flowers between March and June in India, although in some parts of the country the flowering period is shorter during July-August with individual plants only flowering for about 2-3 weeks (Ramana and Raju, 2019). Seed germination is not very rapid; approximately 85% of germination is achieved in 15-45 days (World Agroforestry, 2019). The rate of seed germination is 17% in natural habitats (Ramana and Raju, 2019)."

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n

Qsn #	Question	Answer
	Source(s)	Notes
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"The propagules of <i>L. glutinosa</i> can be dispersed by gravity (Ramana and Raju, 2019) but dispersal is mainly by endozoochory."
702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Henderson, L. (2001). Alien Weeds and Invasive Plants. Alien weeds and invasive plants: A Complete Guide to Declared Weeds and Invaders in South Africa. Agricultural Research Council, Pretoria	"Cultivated for: Ornament."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Major Pathway/s: Crop, Herbal, Ornamental Dispersed by: Humans, Escapee"
703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"Accidental Introduction. There is no evidence that propagules of <i>L. glutinosa</i> have any means of causing accidental introductions through contamination."
704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"The propagules of <i>L. glutinosa</i> can be dispersed by gravity (Ramana and Raju, 2019) but dispersal is mainly by endozoochory."
705	Propagules water dispersed	
	Source(s)	Notes
	Wu, Z.Y., Raven, P.H. & Hong, D.Y. (eds.). (2008). Flora of China. Vol. 7 (Menispermaceae through Capparaceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Could possibly be moved by water when occurring along streams] "Forest margins, streamsides, sparse forests or thickets; 500–1900 m."
706	Propagules bird dispersed	y
	Source(s)	Notes
	Jacq, F. A., Hladik, A., & Bellefontaine, R. (2005). Dynamics of the introduced tree <i>Litsea glutinosa</i> (Lauraceae) in Mayotte Island: is it an invasive species? <i>Revue d'Ecologie</i> , 60, 21–32	"Efficiently dispersed by the Brown Lemur (<i>Eulemur fulvus</i>) and by numerous birds, this Lauraceae species now spreads into the humid area and it is present in the last remaining natural fragmented forests of the island."
	Dlamini, P., Zachariades, C., & Downs, C. T. (2018). The effect of frugivorous birds on seed dispersal and germination of the invasive Brazilian pepper tree (<i>Schinus terebinthifolius</i>) and Indian laurel (<i>Litsea glutinosa</i>). <i>South African Journal of Botany</i> , 114, 61-68	"Most of the avian species consumed <i>L. glutinosa</i> fruit (though not as much as <i>S. terebinthifolius</i>), with speckled mousebirds being the only exception. However, ingestion of <i>L. glutinosa</i> fruit had no positive effect on germination as none of the seeds germinated (including the control seeds)."

Qsn #	Question	Answer
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"The propagules of <i>L. glutinosa</i> can be dispersed by gravity (Ramana and Raju, 2019) but dispersal is mainly by endozoochory. Vector Transmission (Biotic). The Indian giant squirrel (<i>Ratufa indica</i>) feeds on the fruits regularly during the fruit-ripening period; defecation after feeding on the fleshy part of the fruit is one of the main means by which seeds are dispersed (Ramana and Raju, 2019). In its non-native range (Mayotte Island), seeds are efficiently dispersed by the brown lemur (<i>Eulemur fulvus</i>) and by numerous birds (Jacq et al., 2005)."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"The Indian giant squirrel (<i>Ratufa indica</i>) feeds on the fruits regularly during the fruit-ripening period; defecation after feeding on the fleshy part of the fruit is one of the main means by which seeds are dispersed (Ramana and Raju, 2019). In its non-native range (Mayotte Island), seeds are efficiently dispersed by the brown lemur (<i>Eulemur fulvus</i>) and by numerous birds (Jacq et al., 2005)." [Internally dispersed]

708	Propagules survive passage through the gut	y
	Source(s)	Notes
	Dlamini, P., Zachariades, C., & Downs, C. T. (2018). The effect of frugivorous birds on seed dispersal and germination of the invasive Brazilian pepper tree (<i>Schinus terebinthifolius</i>) and Indian laurel (<i>Litsea glutinosa</i>). <i>South African Journal of Botany</i> , 114, 61-68	"As mentioned above, none of the <i>L. glutinosa</i> fruit germinated (including the control treatments). Though it is unclear why this is, it may be (at least partially) due to seed predation by rodents after the seeds had been planted as the germination trials were conducted in a shade house that could possibly be accessed by rodents. We placed rodent live traps in the shade house to catch any possible rodent predators, however we were unsuccessful in catching any, and so we were unable to confirm if rodents were seed predators. Attempts to germinate seed elsewhere have met with mixed success, with low germination at times (Ratree, 2006; Rabena, 2010; C. Zachariades, pers. obs.) however in the field, many seedlings are sometimes found (C. Zachariades, pers. obs.). It is possible that larger native avian frugivores, such as hornbills, disperse the seeds of <i>L. glutinosa</i> as found in Thailand (Ratree, 2006)."
	Jacq, F. A., Hladik, A., & Bellefontaine, R. (2005). Dynamics of the introduced tree <i>Litsea glutinosa</i> (Lauraceae) in Mayotte Island: is it an invasive species? <i>Revue d'Ecologie</i> , 60, 21-32	"Efficiently dispersed by the Brown Lemur (<i>Eulemur fulvus</i>) and by numerous birds, this Lauraceae species now spreads into the humid area and it is present in the last remaining natural fragmented forests of the island."

801	Prolific seed production (>1000/m ²)	n
	Source(s)	Notes

Qsn #	Question	Answer
	CABI. (2021). Invasive Species Compendium. Wallingford, UK: CAB International. www.cabi.org/isc	"In both sexes, leaf fall and flushing events occur almost simultaneously in April-May. Full leaf flushing occurs by the end of June (Ramana and Raju, 2019). The flowering period is May to June and fructification occurs from September to October (Flora of China Editorial Committee, 2019; Hong Kong Herbarium, 2019). <i>L. glutinosa</i> flowers between March and June in India, although in some parts of the country the flowering period is shorter during July-August with individual plants only flowering for about 2-3 weeks (Ramana and Raju, 2019). Seed germination is not very rapid; approximately 85% of germination is achieved in 15-45 days (World Agroforestry, 2019). The rate of seed germination is 17% in natural habitats (Ramana and Raju, 2019)."
	Dlamini, P., Zachariades, C., & Downs, C. T. (2018). The effect of frugivorous birds on seed dispersal and germination of the invasive Brazilian pepper tree (<i>Schinus terebinthifolius</i>) and Indian laurel (<i>Litsea glutinosa</i>). <i>South African Journal of Botany</i> , 114, 61-68	"The fruits are pea-sized shiny black berries with a single seed inside"

802	Evidence that a persistent propagule bank is formed (>1 yr)	n
	Source(s)	Notes
	Tiwari, S. K., Shweta, M., Ram, P., Amit, P., Goswami, M. P. & Awadhesh, S. (2010). Standardization of clonal propagation techniques of <i>Litsea glutinosa</i> (Maida lakdi) through stem branch cuttings. <i>Journal of Tropical Forestry</i> , 26(3), 23-25	" <i>Litsea glutinosa</i> (Maida lakdi) is a commercially important medicinal plant of family lauraceae. The bark of tree is commercially in use for the treatment of several ailments as well as agarbati industries because of its good adhesive nature. The plant is highly recalcitrant in nature and its propagation through seeds and vegetative part is very difficult."
	Royal Botanic Gardens Kew. (2021) Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/ . [Accessed 1 Dec 2021]	"Storage Behaviour: No data available for species. Of 4 known taxa of genus <i>Litsea</i> , 100.00% Recalcitrant(?)"

803	Well controlled by herbicides	
	Source(s)	Notes
	Weber, E. (2017). <i>Invasive Plant Species of the World</i> , 2nd Edition: A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	"No specific control methods are available for this species. If saplings and young trees are manually removed, the root system should be removed as completely as possible to prevent regrowth."
	Higgins, H. (2017). Surveying the Distributions of <i>Melaleuca quinquenervia</i> , <i>Psidium cattleianum</i> , and <i>Litsea glutinosa</i> at Analalava Special Reserve. Independent Study Project (ISP) Collection. 2573	"No types of physical, chemical, or biological control are known to be effective against <i>L. glutinosa</i> at Analalava (Tilahimena)."

804	Tolerates, or benefits from, mutilation, cultivation, or fire	y
	Source(s)	Notes
	Weber, E. (2017). <i>Invasive Plant Species of the World</i> , 2nd Edition: A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	"No specific control methods are available for this species. If saplings and young trees are manually removed, the root system should be removed as completely as possible to prevent regrowth."

Qsn #	Question	Answer
	Handa, A. K., et al. (2019). Successful Agroforestry Models for Different Agro-Ecological Regions in India. Central Agroforestry Research Institute (CAFRI), Jhansi, and the South Asia Regional Programme, New Delhi, of World Agroforestry (ICRAF)	"Propagation Technology a. Natural: Seeds, Coppice b. Artificial: Seeds, Coppice"

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. (2021). Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Broad climate suitability and elevation range
- Thrives, and can spread in regions with tropical climates
- Naturalized in South Africa, Comoros, Mauritius, Reunion, Mayotte, and New Caledonia (no evidence in the Hawaiian Islands to date)
- A weed of open, disturbed habitats and an environmental weed in some locations
- Tolerates many soil types (not substrate limited)
- Reproduces by seeds and vegetatively by root suckers
- Seeds dispersed by birds, other fruit eating animals, and intentionally by people
- Able to coppice and resprout after cutting

Low Risk Traits

- Unarmed (no spines, thorns, or burrs)
- Young leaves provide fodder for livestock
- Not reported to be toxic
- A light-demanding tree (dense shade may inhibit ability to establish and spread)
- Dioecious
- Recalcitrant seeds unlikely to persist in the seed bank