

Key Words: Evaluate. Possibly Naturalized, Tropical Tree, Timber, Bird-Dispersed, Arillate

Family: *Meliaceae*

Taxon: *Aphanamixis polystachya*

Synonym: *Aglaia polystachya* Wall. (*basionym*)
Amoora rohituka (Roxb.) Wight & Arn.
Andersonia rohituka Roxb.
Ricinocarpodendron polystachyum (Wall.) M

Common Name: shan lian
 amoora
 Pithraj tree

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation:	EVALUATE
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score	3
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		?
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		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		y

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	y
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	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	y
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	n
706	Propagules bird dispersed	y=1, n=-1	y
707	Propagules dispersed by other animals (externally)	y=1, n=-1	
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	n
803	Well controlled by herbicides	y=-1, n=1	
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: EVALUATE

WRA Score 3

Supporting Data:

101	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Is the species highly domesticated? No evidence] "Aphanamixis polystachya is a moderate sized (up to 18 m height and 50 cm dbh), evergreen tree with a spreading crown, of wide distribution throughout south and southeast Asia. It is adaptable to a broad range of environmental conditions and can tolerate drought, water-logging, wind, and shade. More research is needed on provenance selection and tree improvement (Troup and Joshi, 1981)."
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Species suited to tropical or subtropical climate(s) 2-High] "Dense or sparse mixed evergreen broad leaved and deciduous forests in mountainous regions; low to middle elevations. Fujian, Guangdong, Guangxi, Hainan, Taiwan (Lan Yu), Yunnan [Bhutan, India, Indonesia, Laos, Malaysia, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Pacific islands (Solomon Islands)]."
201	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Species suited to tropical or subtropical climate(s) 2-High] "Native: ASIA-TEMPERATE China: China [tropical] ASIA-TROPICAL Indian Subcontinent: Bhutan; India [peninsula & n.e.]; Sri Lanka Indo-China: Indochina; Myanmar; Thailand Malesia: Indonesia; Malaysia; Papua New Guinea; Philippines"
202	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Quality of climate match data 2-High]
203	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Broad climate suitability (environmental versatility)? Yes] "- Altitude range: 0 - 1800 m - Mean annual rainfall: 2000 - 5000 mm - Rainfall regime: summer; uniform - Dry season duration: 0 - 4 months - Mean annual temperature: 21 - 24°C - Mean maximum temperature of hottest month: 37 - 41°C - Mean minimum temperature of coldest month: 18 - 22°C - Absolute minimum temperature: 3 - 6°C"
203	2012. Biodiversity Informatics & co-Operation in Taxonomy for Interactive shared Knowledge bas (BIOTIK). Aphanamixis polystachya (Wall.) Parker - Meliaceae [Accessed 22 Aug 2012]. http://www.biotik.org/india/species/a/aphapoly/aphapoly_en.html	[Broad climate suitability (environmental versatility)? Yes. Elevation range exceeds 1000 m] "Understorey to subcanopy trees in evergreen forests, up to 1300 m."
204	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Native: ASIA-TEMPERATE China: China [tropical] ASIA-TROPICAL Indian Subcontinent: Bhutan; India [peninsula & n.e.]; Sri Lanka Indo-China: Indochina; Myanmar; Thailand Malesia: Indonesia; Malaysia; Papua New Guinea; Philippines"
205	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Does the species have a history of repeated introductions outside its natural range?] "Brazil planted"
205	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Does the species have a history of repeated introductions outside its natural range? Hawaii] "...rarely grown as an ornamental in Hawaii."
301	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Naturalized beyond native range? Possibly] "nc - unconfirmed naturalisation" [Mozambique]
302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? 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 evidence]
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence]

305	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Congeneric weed? No evidence]
401	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Produces spines, thorns or burrs? No] "Trees or shrubs, (2-)20-30 m tall. Leaves odd- or evenpinnate, 30-60(-90) cm; leaflets (5-)9-21, opposite; petiolules (2-)6-12 mm; leaflet blades oblong elliptic, elliptic, or ovate, (7-)17-26 x 4-10 cm with basal pair smallest, membranous when young, subleathery to leathery when mature, with visible transparent tiny spots under sunlight, both surfaces glabrous, secondary veins (8-)11-20 on each side of midvein and slender, base oblique and cuneate to broadly cuneate or sometimes one side rounded, margin entire, apex caudateacuminate to obtuse."
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Parasitic? No] "Trees or shrubs, (2-)20-30 m tall."
404	2003. Islam, S.S.. State of forest genetic resources conservation and management in Bangladesh. Working Paper FGR/68E. FAO, Rome, Italy	[Unpalatable to grazing animals? Unknown. Of all the uses for trees of Bangladesh in the following Appendix, Aphanamixis is only listed for timber and non-wood products, but not fodder] "Appendix 1. Value and use of main forest species in Bangladesh" ... "UTILIZATION: ti = timber production; po = posts, poles, roundwood; wo = fuelwood, charcoal; nw = non-wood products (gums, resins, oils, tannins, medicines, dyes, etc.); pu = pulp and paper; fo = food; fd = fodder; sh = shade, shelter; ag = agroforestry systems; so = soil and water conservators; am = amenity, antithetic, ethical values; xx** other: v = veneer; pw = plywood; cw = cartwheel; pb = particle board; c = construction work; k = Kapok; irs = railway sleepers; mb = mast of boat; p = planking; t = toys; n = novelties; d = decorative; tc = tea chest; va = varnish; agi = agricultural implements; bb = boat building; pc = packing cages; ab = agar batti; m = match splints and boxes; r = rubber"
405	1994. Talukder, F.A./Howse, P.E.. Repellent, toxic, and food protectant effects of pithraj, <i>Aphanamixis polystachya</i> extracts against pulse beetle, <i>Callosobruchus chinensis</i> in storage. Journal of Chemical Ecology. 20(4): 899-908.	[Toxic to animals? Toxicity to invertebrates. Toxicity to vertebrates unknown] "Ground leaves, bark, seeds, and four seed extracts of pithraj, <i>Aphanamixis polystachya</i> (family Meliaceae), a locally grown plant in Bangladesh, were evaluated for their repellency, contact toxicity, and food protectant efficacy against adult pulse beetle (<i>Callosobruchus chinensis</i> L.). The seed extracts showed poor repellent effects, but high contact toxicity to adults at 72 hr after application. The ground leaves, bark, and seeds provided good protection for mung beans against pulse beetles, and the seed powder greatly reduced the F1 progeny and seed damage rates."
405	1994. Talukdera, F.A./Howse, P.E.. Laboratory evaluation of toxic and repellent properties of the pithraj tree, <i>Aphanamixis polystachya</i> Wall & Parker, against <i>Sitophilus oryzae</i> (L.). International Journal of Pest Management. 40(3): 274-279.	[[Toxic to animals? Toxicity to invertebrates. Toxicity to vertebrates unknown] "Crude seed extracts of pithraj, <i>Aphanamixis polystachya</i> were evaluated for their repellency, feeding deterrency, contact toxicity and oviposition deterrency to rice weevils. The extracts had strong repellent and feeding deterrent effects on rice weevils. Pithraj seed extracts were moderately toxic to rice weevils. An ethanol extract was the most toxic of four extracts tested and showed the lowest LD50 and LT50 values. The ground leaves, bark and seeds at a 2.5% ratio provided good protection for rice grains by reducing the F1 progeny emergence and the grain infestation rates."
406	2012. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Causes allergies or is otherwise toxic to humans? No evidence, but seed oil may be toxic or cause problems If ingested] "The seed oil is used for making soap and lubricating oil. The very fine wood is used for construction and ship making."
407	2011. Kubitzki, K. (ed.). The Families and Genera of Vascular Plants. Vol. X. Flowering Plants. Eudicots: Sapindales, Cucurbitales, Myrtaceae. Springer, New York	[Causes allergies or is otherwise toxic to humans? No evidence, but flammable seed oil may be toxic or cause problems If ingested] "Seeds of a number of species of <i>Chisocheton</i> and <i>Aphanamixis</i> yield an oil which has been used as an illuminant."
408	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Creates a fire hazard in natural ecosystems? No evidence]
408	2008. Kodandapani, N./Cochrane, M.A./Sukumar, R.. A comparative analysis of spatial, temporal, and ecological characteristics of forest fires in seasonally dry tropical ecosystems in the Western Ghats, India. Forest Ecology and Management. 256: 607-617.	

408	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Creates a fire hazard in natural ecosystems? No evidence]
409	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Is a shade tolerant plant at some stage of its life cycle? Yes] "- Tolerates drought; waterlogging; wind; shade"
410	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Tolerates a wide range of soil conditions? Yes] "Soil descriptors - Soil texture: light; medium - Soil drainage: free; seasonally waterlogged - Soil reaction: acid; neutral - Special soil tolerances: shallow"
411	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Climbing or smothering growth habit? No] "Trees or shrubs, (2-)20-30 m tall."
412	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Forms dense thickets? No evidence]
412	2008. Datta, A./Rawat, G.S.. Dispersal modes and spatial patterns of tree species in a tropical forest in Arunachal Pradesh, northeast India. Tropical Conservation Science. 1(3): 163-185.	[Forms dense thickets? No evidence] "Appendix 1 continued" ... Aphanamixis polystachya - Tree density = 2.48/ha
412	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Forms dense thickets? No evidence. A component of dense forest vegetation] "Dense or sparse mixed evergreen broad leaved and deciduous forests in mountainous regions; low to middle elevations. Fujian, Guangdong, Guangxi, Hainan, Taiwan (Lan Yu), Yunnan [Bhutan, India, Indonesia, Laos, Malaysia, Papua New Guinea, Philippines, Sri Lanka, Thailand, Vietnam; Pacific islands (Solomon Islands)]."
501	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Aquatic? No] "Trees or shrubs, (2-)20-30 m tall."
502	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Grass? No] Meliaceae
503	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Nitrogen fixing woody plant? No] Meliaceae
504	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Trees or shrubs, (2-)20-30 m tall."
601	1998. World Conservation Monitoring Centre. Aphanamixis polystachya. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1. Downloaded on 22 August 2012. www.iucnredlist.org	[Evidence of substantial reproductive failure in native habitat? No evidence] "Least Concern"
602	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Produces viable seed? Yes] "- Seed storage intermediate - Stand establishment using natural regeneration; planting stock"
603	2011. Kubitzki, K. (ed.). The Families and Genera of Vascular Plants. Vol. X. Flowering Plants. Eudicots: Sapindales, Cucurbitales, Myrtaceae. Springer, New York	[Hybridizes naturally? Unknown] "Three very closely related spp. In Indomalesia from Ceylon and India to Bhutan, tropical China and Indochina, throughout Malesia, to the Solomon Is. Local timber, oil for soap-making and medicaments; leaf extracts are effective antifeedants."
604	1992. Naumova, T.N.. Apomixis in Angiosperms: Nucellar and Integumentary Embryony. CRC Press, Boca Raton, FL	[Self-compatible or apomictic? Yes] "A List of Species With Nucellar and Integumentary Embryony" [Aphanamixis polystachya reported to possess nucellar embryony ... During the development of seeds from plants that possess this genetic trait, the nucellar tissue which surrounds the megagametophyte can produce additional embryos (polyembryony) which are genetically identical to the parent plant.]
604	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Self-compatible or apomictic? Potentially Yes] "Trees or shrubs, polygamodioecious." [Although certain individuals may contain perfect flowers]

605	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Requires specialist pollinators? Floral structure suggests no] "Inflorescences axillary, less than 30 cm. Flowers 6–7 mm in diam., with 3 bracteoles. Sepals 5, suborbicular, 1–1.5 mm in diam., margin sometimes ciliate. Petals 3–7 mm in diam., concave. Staminal tube globose, glabrous; anthers 5 or 6, oblong. Ovary 3 locular, with thick trichomes."
605	2011. Kubitzki, K. (ed.). The Families and Genera of Vascular Plants. Vol. X. Flowering Plants. Eudicots: Sapindales, Cucurbitales, Myrtaceae. Springer, New York	[Requires specialist pollinators? Floral structure of Aphanamixis suggests insect pollination] "Flowers are globular in, e.g. Aphanamixis and Aglaia, tubular in many other genera." ... "Most species appear to be insectpollinated, the agents possibly being bees, sting-less sweatbees or syrphids in those cases examined (Aglaia spp., Xylocarpus spp.), while some species are strongly scented particularly in the evening, which, with their white flowers, suggests moth pollination, e.g. Chisocheton and Dysoxylum spp. of Asia, as recorded in neotropical Cedrela and Guarea spp. Some species of these two genera have long flagelliform inflorescences suggesting bat pollination, though the Bornean species are known to be visited by spiderhunters; whether these birds are efficacious pollinators is not known."
606	2011. Rahman, M.H./Khan, M.A.S.A./Roy, B./Fardusi, M.J.. Assessment of natural regeneration status and diversity of tree species in the biodiversity conservation areas of Northeastern Bangladesh. Journal of Forestry Research. 22(4): 551-559.	[Reproduction by vegetative fragmentation? No evidence] "Table 1. Species composition, species classification, mode of availability of regeneration, family relative density (FRD), family relative diversity (FRDI), and family importance value (FIV) index of recorded species in KNP and TGEP of Northeastern Bangladesh" [Aphanamixis polystachya regenerates by seedling and sapling establishment, but not coppicing or other vegetative means]
607	2012. WRA Specialist. Personal Communication.	[Minimum generative time (years)? Unknown]
701	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No evidence] "Seeds arillate." ... "Capsule spherical pyriform to nearly ovoid, 2–2.5 × 2.5–3 cm, orangish when mature. Seeds grayish brown, oblate, 1.3–1.5 × 1–1.2 cm." [Seeds relatively large and lack means of external attachment]
702	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Propagules dispersed intentionally by people? Yes] "The wood is moderately hard and heavy, widely used for construction works, furniture, and general utility. It is an attractive tree which is sometimes planted for ornament. Oil for soap is extracted from seeds and the bark has medicinal value. Extracts from twigs, bark, and seeds deter a range of insect pests."
703	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules likely to disperse as a produce contaminant? No evidence] "Seeds arillate." ... "Capsule spherical pyriform to nearly ovoid, 2–2.5 × 2.5–3 cm, orangish when mature. Seeds grayish brown, oblate, 1.3–1.5 × 1–1.2 cm." [Seeds relatively large and not grown with commercial crops or produce]
704	2008. Wu, Z.Y./Raven,P.H./Hong, D.Y. (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules adapted to wind dispersal? No evidence] "Seeds arillate." ... "Capsule spherical pyriform to nearly ovoid, 2–2.5 × 2.5–3 cm, orangish when mature. Seeds grayish brown, oblate, 1.3–1.5 × 1–1.2 cm."
705	2008. Datta, A./Rawat, G.S.. Dispersal modes and spatial patterns of tree species in a tropical forest in Arunachal Pradesh, northeast India. Tropical Conservation Science. 1(3): 163-185.	[Propagules water dispersed? No evidence]
705	2012. WRA Specialist. Personal Communication.	[Propagules water dispersed? No evidence] Although capsules or seeds may potentially float, species is adapted for vertebrate dispersal of seeds, primarily by birds
706	2002. Kitamura, S./Yumoto, T./Poonswad, P./Chuailua, P./Plongmai, K./Maruhashi, T./Noma, N.. Interactions between fleshy fruits and frugivores in a tropical seasonal forest in Thailand. Oecologia. 133: 559–572.	[Propagules bird dispersed? Yes] "Characteristics of 259 vertebrate-dispersed fruits and fruit consumers in Khao Yai National Park, Thailand" [pigeons and hornbills are actual or potential dispersers]
706	2003. Datta, A./Rawat, G.S.. Foraging Patterns of Sympatric Hornbills during the Nonbreeding Season in Arunachal Pradesh, Northeast India. Biotropica. 35(2): 208-218.	[Propagules bird dispersed? Yes] Table 1. Species, family and characteristics of fruits consumed by the three sympatric hornbills in Pakke Tiger Reserve, Arunachal Pradesh, India, during the non-breeding season" [Includes arillate seeds of Aphanamixis polystachya]
706	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules bird dispersed? Yes] "The pistillate flowers are followed by attractive, whitish to yellowish or pinkish, 3-valved capsules about 1-1.5" in diameter that open to reveal dark shiny seeds, 1 per cell, enclosed in a fleshy, Orange-red aril." [Arillate seeds are adapted for bird or possibly ant dispersal]

706	2008. Datta, A./Rawat, G.S.. Dispersal modes and spatial patterns of tree species in a tropical forest in Arunachal Pradesh, northeast India. <i>Tropical Conservation Science</i> . 1(3): 163-185.	[Propagules bird dispersed? Yes] "Appendix 1. List of identified tree species, fruit type and color, dispersal mode, major consumers and tree density (trees per ha). A total of 158 tree species are listed, of which 128 were represented in 21 vegetation plots and classified based on dispersal mode, 30 additional species were not recorded in sample plots, but observed to be consumed by animals." [Aphanamixis polystachya - Dispersal mode = Birds]
706	2008. Wu, Z.Y./Raven, P.H./Hong, D.Y. (eds.). <i>Flora of China</i> . Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Propagules bird dispersed? Yes] "Seeds arillate." ... "Capsule spherical pyriform to nearly ovoid, 2–2.5 × 2.5–3 cm, orangish when mature. Seeds grayish brown, oblate, 1.3–1.5 × 1–1.2 cm."
706	2011. Kubitzki, K. (ed.). <i>The Families and Genera of Vascular Plants</i> . Vol. X. Flowering Plants. Eudicots: Sapindales, Cucurbitales, Myrtaceae. Springer, New York	[Propagules bird dispersed? Brightly colored for bird dispersal] "There is a wide range of fleshy fruits, from the brightly coloured capsules of <i>Aphanamixis</i> and <i>Dysoxylum</i> to the dull berries of many <i>Aglaia</i> and <i>Lansium</i> species." ... "Those species of <i>Aglaia</i> , <i>Chisocheton</i> , <i>Dysoxylum</i> and <i>Aphanamixis</i> with dehiscent capsules and arillate or otherwise fleshy seeds are also known to be taken by birds, apparently attracted by the contrasting colours of seeds and/or pericarp..."
707	2002. Kitamura, S./Yumoto, T./Poonswad, P./Chuaihua, P./Plongmai, K./Maruhashi, T./Noma, N.. Interactions between fleshy fruits and frugivores in a tropical seasonal forest in Thailand. <i>Oecologia</i> . 133: 559–572.	[Propagules dispersed by other animals (externally)? Unknown] "Appendix Characteristics of 259 vertebrate-dispersed fruits and fruit consumers in Khao Yai National Park, Thailand" [Squirrels are listed as neutral consumers or predators of <i>Aphanamixis polystachya</i> seeds. May transport seeds externally as part of their foraging and predation. Similarly, introduced rodents may act as dispersers if seed predation results in caching of intact seeds for later consumption]
708	2005. Staples, G.W./Herbst, D.R.. <i>A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places</i> . Bishop Museum Press, Honolulu, HI	[Propagules survive passage through the gut? Presumably Yes] "The pistillate flowers are followed by attractive, whitish to yellowish or pinkish, 3-valved capsules about 1-1.5" in diameter that open to reveal dark shiny seeds, 1 per cell, enclosed in a fleshy, orange-red aril."
801	2008. Wu, Z.Y./Raven, P.H./Hong, D.Y. (eds.). <i>Flora of China</i> . Vol. 11 (Oxalidaceae through Aceraceae). Science Press & Missouri Botanical Garden Press, Beijing & St. Louis	[Prolific seed production (>1000/m ²)? Probably No] "Trees or shrubs, (2–)20–30 m tall." ... "Capsule spherical-pyriform to nearly ovoid, 2–2.5 × 2.5–3 cm, orangish when mature. Seeds grayish brown, oblate, 1.3–1.5 × 1–1.2 cm."
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)? No] "Storage Behaviour: Recalcitrant? Storage Conditions: Short-lived (Mensa & Acosta, 1990); viability is lost within 1 month in hermetic storage at room temperature with 13±2% mc (Kaul, 1979)" [Seeds that will not persist in storage under ideal preservation conditions are unlikely to form a soil seed bank]
803	2011. Kubitzki, K. (ed.). <i>The Families and Genera of Vascular Plants</i> . Vol. X. Flowering Plants. Eudicots: Sapindales, Cucurbitales, Myrtaceae. Springer, New York	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	2011. Rahman, M.H./Khan, M.A.S.A./Roy, B./Fardusi, M.J.. Assessment of natural regeneration status and diversity of tree species in the biodiversity conservation areas of Northeastern Bangladesh. <i>Journal of Forestry Research</i> . 22(4): 551-559.	[Tolerates, or benefits from, mutilation, cultivation, or fire? No evidence of coppicing] "Table 1. Species composition, species classification, mode of availability of regeneration, family relative density (FRD), family relative diversity (FRDI), and family importance value (FIV) index of recorded species in KNP and TGEF of Northeastern Bangladesh" [Aphanamixis polystachya regenerates by seedling and sapling establishment, but not coppicing]
805	2005. Staples, G.W./Herbst, D.R.. <i>A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places</i> . Bishop Museum Press, Honolulu, HI	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown] "...rarely grown as an ornamental in Hawaii."

Summary of Risk Traits

High Risk / Undesirable Traits

- Possibly naturalized in Mozambique (unconfirmed)
- Thrives in tropical climates
- Elevation range exceeds 1000 m (potential environmental versatility)
- Tolerates many soil conditions (and potentially able to exploit many different habitat types)
- Shade tolerant (could potentially invade intact forest)
- Self-compatible (possesses nucellar embryony)
- Seeds dispersed by birds and possible other vertebrates

Low Risk / Desirable Traits

- Despite ability to spread, no negative impacts have been documented to date
- Rarely cultivated in Hawaii with no reports of naturalization or escape
- Unarmed (no spines, thorns or burrs)
- Medicinal uses
- Landscaping and ornamental value
- Timber tree