

Family: *Lecythidaceae*

Taxon: *Barringtonia edulis*

Synonym: *Butonica edulis* (Seem.) Miers
Huttum edule (Seem.) Britten

Common Name: cut nut

Questionnaire :	current 20090513	Assessor:	Patti Clifford	Designation: L
Status:	Assessor Approved	Data Entry Person:	Patti Clifford	WRA Score 0
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	n
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	n
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205	n
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	n
406	Host for recognized pests and pathogens		y=1, n=0	y
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		y=1, n=0	
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		y=1, n=0	
411	Climbing or smothering growth habit		y=1, n=0	n

412	Forms dense thickets	y=1, n=0	
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
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	y
706	Propagules bird dispersed	y=1, n=-1	
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
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: L

WRA Score 0

Supporting Data:

101	2012. WRA Specialist. Personal Communication.	[s the species highly domesticated? No] No evidence of domestication that reduces invasive traits.
102	2012. WRA Specialist. Personal Communication.	[Has the species become naturalized where grown? NA]
103	2012. WRA Specialist. Personal Communication.	[Does the species have weedy races? NA]
201	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"? 2 - High] Native to Melanesia - Papua New Guinea, Solomon Islands and Vanuatu.
202	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Quality of climate match data? 2 - High] Native to Melanesia - Papua New Guinea, Solomon Islands and Vanuatu.
203	2012. Learn Grow. Food plants of Solomon Islands a compendium - part 2. Learn Grow, http://www.learn-grow.org/uploads/file/Food%20Plants%20of%20Solomon%20Islands%20-%20a%20compendium%20-%20Part%202.pdf	[Broad climate suitability (environmental versatility)? No] <i>Barringtonia edulis</i> occurs in forest, woodland and grassland up to 400 m above sea level.
203	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Broad climate suitability (environmental versatility)? No] <i>Barringtonia edulis</i> is a lowland tropical species occurring naturally in dense and open forest, or on the edge of forests in mature fallow forest from sea level to 400 m.
204	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Native or naturalized in regions with tropical or subtropical climates? Yes] Native to Melanesia - Papua New Guinea, Solomon Islands and Vanuatu.
205	2012. WRA Specialist. Personal Communication.	[Does the species have a history of repeated introductions outside its natural range? No] No evidence.
301	2012. WRA Specialist. Personal Communication.	[Naturalized beyond native range? No] No evidence.
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. WRA Specialist. Personal Communication.	[Congeneric weed? No] The Global Compendium of Weeds (2012) states that <i>Barringtonia asiatica</i> is invasive. The references necessary to document impact or economic costs are not available.
401	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Produces spines, thorns or burrs? No] Evergreen, monocious tree with obovate-oblong to oblanceolate, simple leaves with slightly undulating margin.
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Parasitic? No] Lecythidaceae.
404	2012. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]

405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL http://books.google.com/books?id=h7tbd-5ZAQ8C&pg=PA17&lpg=PA17&dq=International+poisonous+plants+checklist:+an+evidence-based+reference&	[Toxic to animals? No] No evidence.
405	2012. National Center for Biotechnology Information. PubMed. http://www.ncbi.nlm.nih.gov/sites/entrez	[Toxic to animals? No] No evidence.
405	2012. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/	[Toxic to animals? No] No evidence.
406	2012. Crcplantbiosecurity.com. Rose beetle (Adoretus versutus) [Accessed 26 November 2012]. http://legacy.crcplantbiosecurity.com.au/sites/all/files/file/Threat%20data%20-%20Rose%20beetle.pdf	[Host for recognized pests and pathogens? Yes] <i>Barringtonia edulis</i> is a host for rose beetle (<i>Adoretus versutus</i>). <i>A. versutus</i> is a quarantine pest in the South Pacific region. Its control is difficult as much of its life cycle is completed underground.
407	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Causes allergies or is otherwise toxic to humans? No] The species has medicinal uses with the leaves used to treat ear inflammation. The bark sap is used as a treatment for ciguatera poisoning, for coughs and urinary infection.
407	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Causes allergies or is otherwise toxic to humans? No] Seed kernels are eaten raw or cooked or roasted.
408	2012. WRA Specialist. Personal Communication.	[Creates a fire hazard in natural ecosystems? No] No evidence.
409	2012. WRA Specialist. Personal Communication.	[Is a shade tolerant plant at some stage of its life cycle? Unknown]
410	2012. WRA Specialist. Personal Communication.	[Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Unknown]
411	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Climbing or smothering growth habit? No] An evergreen tree 6-20 m high.
412	2012. WRA Specialist. Personal Communication.	[Forms dense thickets? Unknown]
501	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Aquatic? No] Terrestrial; tree.
502	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Grass? No] Tree.
503	2010. www.nationmaster.com. Encyclopedia Nitrogen fixation. Nationmaster.com, http://www.nationmaster.com/encyclopedia/Nitrogen-fixation	[Nitrogen fixing woody plant? No] Not a nitrogen-fixing family.
503	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Nitrogen fixing woody plant? No] Lecythydaceae.
504	2012. Lim, T.K.. <i>Barringtonia edulis</i> - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] Tree; woody.

601	2012. WRA Specialist. Personal Communication.	[Evidence of substantial reproductive failure in native habitat? No] No evidence.
602	2001. Yaplito, M.A.. Barringtonia J.R. Forster & J.G. Forster [Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation. http://proseanet.org/prosea/e-prosea_detail.php?frt=&id=937	[Produces viable seed? Yes] Barringtonia can be propagated by seeds or cuttings.
602	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Produces viable seed? Yes] Plants are propagated by seeds and cuttings, with some success at air layering.
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2012. WRA Specialist. Personal Communication.	[Self-compatible or apomictic? Unknown]
605	2008. Janick, J./Paull, R.E.. The Encyclopedia of Fruit & Nuts. Cabi Publishing, Wallingford, UK	[Requires specialist pollinators? No] Bats are suggested as the pollinator. The flowers are visited by ants and bees during the day.
606	2012. WRA Specialist. Personal Communication.	[Reproduction by vegetative fragmentation? Unknown]
607	2012. WRA Specialist. Personal Communication.	[Minimum generative time (years)? Unknown]
701	2012. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] No evidence.
702	2001. Yaplito, M.A.. Barringtonia J.R. Forster & J.G. Forster [Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation. http://proseanet.org/prosea/e-prosea_detail.php?frt=&id=937	[PROSEA dispersed intentionally by people? Yes] Barringtonia edulis is cultivated in Vanuatu and other Pacific Islands for its edible fruit.
703	2012. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence.
704	2012. Lim, T.K.. Barringtonia edulis - Edible medicinal and non-medicinal plants - volume 3, fruits. Springer, http://link.springer.com/chapter/10.1007%2F978-94-007-2534-8_8	[Propagules adapted to wind dispersal? No] Fruit is ovoid, oblong, or elongate green, purplish or red, indehiscent, sessile or shortly pedicellate containing one white kernel 2.5 cm by 1.5-3 cm.
705	1906. Guppy, H.B.. Observations of a naturalist in the Pacific between 1896 and 1899: Plant dispersal volume 2. Macmillan and co., limited, London	[Propagules water dispersed? Yes] According to Guppy (1906), the seeds of Barringtonia edulis are buoyant for a month.
705	1950. Razi, B.A.. A contribution towards the study of the dispersal mechanisms in flowering plants of Mysore (South India). Ecology. 31: 282-286.	[Propagules water dispersed? Yes] The Barringtonia genus is dispersed by water.
706	2012. WRA Specialist. Personal Communication.	[Propagules bird dispersed? Unknown]
707	2012. WRA Specialist. Personal Communication.	[Propagules dispersed by other animals (externally)? No] No means of external attachment.
708	2012. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown]
801	2012. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m ²)? No] Based on images on Google images.
802	2012. WRA Specialist. Personal Communication.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]
803	2012. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown]
804	2012. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risk / Undesirable Traits

- Tropical tree
- Host for rose beetle (*Adoretus versutus*), a quarantine pest
- Water and human dispersed

Low Risk / Desirable Traits

- Not naturalized
- Not a known weed
- Non-toxic
- Limited dispersal mechanisms
- Is not a prolific seed producer