

Family: *Sapotaceae*

Taxon: *Pouteria caimito*

Synonym: *Achras caimito* Ruiz & Pav. (*basionym*) **Common Name:** caimito
Lucuma caimito (Ruiz & Pav.) Roem. & Schui abiu
caimo
cauje

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation: L
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score -4
101	Is the species highly domesticated?		y=-3, n=0	y
102	Has the species become naturalized where grown?		y=1, n=-1	n
103	Does the species have weedy races?		y=1, n=-1	n
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	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)	y
401	Produces spines, thorns or burrs		y=1, n=0	n
402	Allelopathic		y=1, n=0	n
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	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	2
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	n
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	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: L

WRA Score -4

Supporting Data:

101	1987. Morton, J.. Fruits of warm climates - Abiu (<i>Pouteria caimito</i>). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/abiu.html	[Is the species highly domesticated? Yes] "There is much variation in the form, size and quality of the fruits of seedling trees, some having firm flesh, some soft; and some are insipid, while others have agreeable flavor. At Puerto Ospina, along the Putamayo River in Colombia, there is a type that fruits in 4 years. The fruit is round and large. Near the River Inirida, in Vaupés, Colombia, there is a type that bears in one year from seed, but the fruits are small with little pulp"
101	2004. Kubitzki, K. (ed.). The Families and genera of vascular plants. Volume VI. Flowering plants, Dicotyledons: Celastrales, Oxalidales, Rosales, Cornales, Ericales. Springer-Verlag, Berlin, Heidelberg, New York	[Is the species highly domesticated? Yes] "Virtually all species of Sapotaceae have edible fruit, and some of the better ones have been protected and improved by man over many centuries. Among the most well-known are <i>Pouteria caimito</i> (western Amazonia)..."
102	2011. Gardener, M./Guézou, A./Atkinson, R./Buddenhagen, C.. CDF Checklist of Galapagos Introduced Plants. In: Bungartz, F. et al. (eds.). Charles Darwin Foundation Galapagos Species Checklist. Charles Darwin Foundation, Puerto Ayora, Galapagos http://www .	[Has the species become naturalized where grown? No] No evidence
103	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pouteria caimito</i> [Online Database]. http://www.hear.org/gcw/species/pouteria_caimito/	IDoes the species have weedy races? No] No evidence
201	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Species suited to tropical or subtropical climate(s)? 2-high] "Distribution. Due to the extensive cultivation of this species, the true natural distribution is uncertain, but apparently wild collections are recorded from Costa Rica across N and NW tropical America to central Amazonia, and also in coastal Brazil from Pernambuco to Rio de Janeiro."
202	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Quality of climate match data? 2-high] "apparently wild collections are recorded from Costa Rica across N and NW tropical America to central Amazonia, and also in coastal Brazil"
203	1987. Morton, J.. Fruits of warm climates - Abiu (<i>Pouteria caimito</i>). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/abiu.html	[Broad climate suitability (environmental versatility)? Yes] "The abiu is strictly tropical or near-tropical. It thrives best in a year-around warm and moist climate, yet Popenoe noted that it does well in somewhat cooler Rio de Janeiro. In Peru it has not been found above 2,000 ft (650 m), though in Colombia, it can be grown up to an elevation of 6,000 ft (1,900 m)."
203	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Broad climate suitability (environmental versatility)? Yes] "It occurs in a wide range of forest types, but is especially common on periodically flooded land in lowland tropical rain forest, seasonal evergreen rain forest, and in wet montane forest. In coastal Brazil it is found in beach forest (restinga). Its altitudinal range is sea level to 1500 m, rarely to 1800 metres" [elevation range >1000 m, demonstrating environmental versatility]
204	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "apparently wild collections are recorded from Costa Rica across N and NW tropical America to central Amazonia, and also in coastal Brazil"
205	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Does the species have a history of repeated introductions outside its natural range? No] "Distribution. Due to the extensive cultivation of this species, the true natural distribution is uncertain, but apparently wild collections are recorded from Costa Rica across N and NW tropical America to central Amazonia, and also in coastal Brazil from Pernambuco to Rio de Janeiro."
301	2011. Gardener, M./Guézou, A./Atkinson, R./Buddenhagen, C.. CDF Checklist of Galapagos Introduced Plants. In: Bungartz, F. et al. (eds.). Charles Darwin Foundation Galapagos Species Checklist. Charles Darwin Foundation, Puerto Ayora, Galapagos http://www .	[Naturalized beyond native range? No] Not listed among the escaped plants [although the Global Compendium of Weeds lists this as naturalized in an older checklist of the Galapagos]
301	2011. Jaramillo Díaz, P./Guézou, A./Mauchamp, A./Tye, A.. CDF Checklist of Galapagos Flowering Plants. In: Bungartz, F. et al. (eds.). Charles Darwin Foundation Galapagos Species Checklist. Charles Darwin Foundation, Puerto Ayora, Galapagos http://www.dar	[Naturalized beyond native range? No] "Rejected Taxa... <i>Pouteria caimito</i> (Ruiz Pav.) Radlk. Syn.: <i>Achras caimito</i> Ruiz Pav. Pennington (1990) as <i>Achras guapeba</i> Casar." [Apparently not present in Galapagos]
302	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pouteria caimito</i> [Online Database]. http://www.hear.org/gcw/species/pouteria_caimito/	[Garden/amenity/disturbance weed? No] No evidence

303	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pouteria caimito</i> [Online Database]. http://www.hear.org/gcw/species/pouteria_caimito/	[Agricultural/forestry/horticultural weed? No] No evidence
304	2007. Randall, R.P.. Global Compendium of Weeds - <i>Pouteria caimito</i> [Online Database]. http://www.hear.org/gcw/species/pouteria_caimito/	[Environmental weed? No] No evidence
305	1976. Morton, J.F.. Pestiferous spread of many ornamental and fruit species in South Florida. Proceedings of the Florida State Horticultural Society. 89: 348-353.	[Congeneric weed? Yes] "Abstract. The massive invasion of large tracts of South Florida by <i>Melaleuca quinquenervia</i> and <i>Casuarina equisetifolia</i> from Australia and <i>Schinus terebinthifolius</i> from Brazil is an environmental problem now receiving serious attention. There are dozens of other introduced ornamental plants and fruit trees which have been multiplying spontaneously in our area for many years or have recently become conspicuous as weeds on private and public properties—some because of seed distribution by exotic birds new to our fauna. Outstanding examples are <i>Cestrum diurnum</i> , <i>Bischofia javanica</i> , <i>Washingtonia robusta</i> , <i>Ptychosperma elegans</i> , <i>Auraya paniculata</i> , <i>Eriobotrya japonica</i> , <i>Pouteria campechiana</i> and <i>Pithecellobium dulce</i> . We should try to discourage the planting of some undesirable species and warn of the need to control the spread of others, in order to reduce the maintenance load of cultivated grounds and the threat to undeveloped areas which are being overrun by vigorous alien vegetation."
305	2001. Langeland, K.A./Stocker, R.K.. Control of Non-native Plants in Natural Areas of Florida. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL http://mrec.ifas.ufl.edu/ldspmgmt/Ldsp%20Turf%20Mgmt/PDFfiles/WG20900.pdf	[Congeneric weed? Yes] " <i>Pouteria campechiana</i> ...Treatment: Hand pull seedlings; basal bark application of 10% Garlon 4...Comments: Small to medium tree; yellow, edible fruit; prolific invader of hammocks but local in distribution; fruit eaten by raccoons and opossums."
401	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Produces spines, thorns or burrs? No] "Tree; young shoots glabrous to coarsely pubescent, soon glabrous, pale greyish-white to dark brown, scaling, usually without lenticels. Leaves loosely clustered or spaced, spirally arranged, (3-)5-18(-25) x 1.7-5(-8) cm, oblanceolate or elliptic, apex narrowly attenuate, rarely acute or rounded, base narrowly attenuate or acute, sometimes decurrent, usually chartaceous, usually glabrous, rarely shortly pubescent; venation usually eucamptodromous, less frequently brochidodromous, marginal vein present, midrib flat or slightly raised on the upper surface, secondary veins 8-13(-16) pairs, nearly always convergent and arcuate; intersecondaries short or well-developed, or absent; tertiaries few, oblique to reticulate; fine quaternary reticulum conspicuous on lower surface (lens)."
402	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Allelopathic? No] No evidence
402	2009. Silva, C.A.M./Simeoni, L.A./Silveira, D.. Genus <i>Pouteria</i> : Chemistry and biological activity. Brazilian Journal of Pharmacognosy. 19(2A): 501-509.	[Allelopathic? No] "Allelopathy activity Aqueous extract from <i>P. torta</i> leaves presented germination and growth inhibition of lettuce in a dose-dependent way (Nascimento et al., 2007) and extract from <i>P. splendens</i> leaves promoted germination inhibition of <i>Triticum</i> spp. (Bustamante et al., 2007)." [No evidence of allelopathy in <i>Pouteria caimito</i>]
403	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Parasitic? No] "Sapotaceae...tree"
404	2011. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown] Literature discusses palatability of fruit, but not foliage.
405	2008. Janick, J./Paul, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Toxic to animals? No] No evidence
405	2009. Silva, C.A.M./Simeoni, L.A./Silveira, D.. Genus <i>Pouteria</i> : Chemistry and biological activity. Brazilian Journal of Pharmacognosy. 19(2A): 501-509.	[Toxic to animals? No] No evidence
406	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Host for recognized pests and pathogens? Yes] "Fruit flies (<i>Anastrepha</i> sp.) are considered to be the worst pests, sometimes affecting all fruit in a plantation. A trunk borer (<i>Cratosomus</i>) has been registered as causing damage, as have several leaf eating caterpillar (<i>Sibina</i> sp.). A small bee <i>Trigona ruficus</i> can damage the flowers to such an extent that production is reduced."

406	1987. Morton, J.. Fruits of warm climates - Abiu (Pouteria caimito). J.F. Morton, Miami, FL http://www.hort.purdue.edu/newcrop/morton/abiu.html	[Host for recognized pests and pathogens? Yes] "Actually, the fruit has little value commercially because it is commonly damaged by small insects (bichos in Spanish and Portuguese). In Brazil, the chief pests are said to be fruit flies."
406	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Host for recognized pests and pathogens? Yes] "Pests recorded; Insects: Anastrepha serpentina (sapodilla fruit fly) Bactrocera jarvisi (Jarvis' fruit fly) Bactrocera neohumeralis Bactrocera tryoni (Queensland fruit fly)"
406	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Host for recognized pests and pathogens? Yes] "Fruit flies are frequently a quarantine pest and limit the fruit's export potential."
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] No evidence
407	2009. Silva, C.A.M./Simeoni, L.A./Silveira, D.. Genus Pouteria: Chemistry and biological activity. Brazilian Journal of Pharmacognosy. 19(2A): 501-509.	[Causes allergies or is otherwise toxic to humans? No] "Table 2. Biological activity from Pouteria species investigated until 2008...Pouteria caimito...Biological activity...Antioxidant" [No evidence of toxicity to humans]
408	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Creates a fire hazard in natural ecosystems? No] "It occurs in a wide range of forest types, but is especially common on periodically flooded land in lowland tropical rain forest, seasonal evergreen rain forest, and in wet montane forest..." [no evidence, and unlikely in wet forest habitat]
409	2005. Benítez-Malvido, J./Martínez-Ramos, M./Camargo, J. L.C./Ferraz, I.D.K.. Responses of Seedling Transplants to Environmental Variations in Contrasting Habitats of Central Amazonia. Journal of Tropical Ecology. 21(4): 397-406.	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Conversely, Pouteria thrived in the high light environment of the pasture, independently of initial seedling size. Seedling species with larger seeds, such as Pouteria, have been shown to better tolerate the extreme conditions in pastures and open areas."
409	2011. Skyfield Tropical. Encyclopedia : Rare Fruit Trees - Pouteria caimito. http://www.skyfieldtropical.com/encyclopedia/abiu/	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Light: Light shade to full sun."
410	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Tolerates a wide range of soil conditions? Yes] "The abiu does best on loamy to clayey well-drained soils, with mildly acid to neutral pH and abundant organic matter, although it will survive and even produce in less favourable conditions."
411	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Climbing or smothering growth habit? No] "Tree"
412	1990. Pinedo-Vasquez, M./Zarin, D./Jipp, P./Chota-Inuma, J.. Use-Values of Tree Species in a Communal Forest Reserve in Northeast Peru. Conservation Biology. 4(4): 405-416.	[Forms dense thickets? No] "Table 5. Nontimber forest products marketed in Iquitos, their use categories, and the number of stems of each found in the sample area, communal forest reserve, San Rafael, Loreto, Peru...Pouteria caimito...No. of stems/7.5 ha = 1" [Does not form dense stands in the forests of this study]
501	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Aquatic? No] "Tree"
502	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Grass? No] Sapotaceae
503	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Nitrogen fixing woody plant? No] Sapotaceae
504	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Tree"
601	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Evidence of substantial reproductive failure in native habitat? No] No evidence
602	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Produces viable seed? Yes] "Seeds 1-4, 1.5-5 cm long..."
603	2011. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	1996. Bajaj, Y.P.S.. Biotechnology in agriculture and forestry: Trees IV. Springer-Verlag, Berlin, Heidelberg, New York	[Self-compatible or apomictic? Yes in some cases] "Its flowers are hermaphroditic; some trees are self-pollinated, others need cross-pollination."
604	2011. Skyfield Tropical. Encyclopedia : Rare Fruit Trees - Pouteria caimito. http://www.skyfieldtropical.com/encyclopedia/abiu/	[Self-compatible or apomictic? Yes in some cases] "Flowering/Pollination: Small white flowers on new growth, possible throughout most of the year. Trees are self fertile, but cross-pollination trees will significantly increase production."
605	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Requires specialist pollinators? No] "The abundant flowers are insect pollinated, probably by bees, but fruit set is poor (1.5-3 %) (Falcao and Clement, 1999)."

606	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Reproduction by vegetative fragmentation? No] "Vegetative propagation is used to achieve uniform planting material, but is difficult because of the abundant latex in the cortex, requiring considerable experience to achieve acceptable results. Hence, most trees are propagated by seed in Amazonia and the more advanced domesticated populations, like the landrace in western Amazonia, are relatively true from seed."
607	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Minimum generative time (years)? 2+] "Some of this species are extremely precocious (2 to 3 years) while others may take 6 to 8 years from seed."
607	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Minimum generative time (years)? 2+] "Seedlings take 2-8 years to fruit, with great variation in tree form, yield and fruit quality. Flowering occurs several times throughout the year, and it is not uncommon to find fruit of various ages on the same tree and sometimes on the same branches."
701	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Propagules likely to be dispersed unintentionally? No] "Seeds 1-4, 1.5-5 cm long...1-6 mm wide" [large seeds with no means of external attachment unlikely to be dispersed unintentionally]
702	2001. Hanelt, P. (ed.). Mansfeld's encyclopedia of agricultural and horticultural crops: (except ornamentals).. Angiospermae - monocotyledones: orchidaceae - pandanaceae, Volume 5. Springer-Verlag, Berlin, Heidelberg, New York	[Propagules dispersed intentionally by people? Yes] "Cultivated as a fruit tree in tropical parts of America."
703	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	"Seeds 1-4, 1.5-5 cm long...1-6 mm wide" [large seeds with no means of external attachment unlikely to be dispersed as a produce contaminant]
704	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Propagules adapted to wind dispersal? No] "Fruit 2.7-7.5 cm long, narrowly ellipsoid, ovoid or globose, apex acute to rounded, base rounded to truncate, smooth, pubescent, velutinous or glabrous. Seeds 1-4, 1.5-5 cm long, oblong to ellipsoid, often slightly laterally compressed, base and apex usually rounded or obtuse, testa smooth, usually glossy, 0.3-1 mm thick; scar adaxial, full length, 1-6 mm wide..."
705	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Propagules water dispersed? Unknown] "It occurs in a wide range of forest types, but is especially common on periodically flooded land in lowland tropical rain forest, seasonal evergreen rain forest, and in wet montane forest..." [potentially water dispersed in flooded forests]
706	1981. Pilz, G.E.. Sapotaceae of Panama. Annals of the Missouri Botanical Garden. 68(1): 172-203.	[Propagules bird dispersed? No] "Fruit yellow to brown, fleshy, 5-10 cm long, 4 8 cm wide, 1-4-seeded; seed scar extending the entire length of the seed, 3-4 mm wide" [Fruit too large. Dispersed by large primates. See Terborgh et al. 2008]
706	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Propagules bird dispersed? No] "Fruit 2.7-7.5 cm long, narrowly ellipsoid, ovoid or globose, apex acute to rounded, base rounded to truncate, smooth, pubescent, velutinous or glabrous. Seeds 1-4, 1.5-5 cm long, oblong to ellipsoid, often slightly laterally compressed, base and apex usually rounded or obtuse, testa smooth, usually glossy, 0.3-1 mm thick; scar adaxial, full length, 1-6 mm wide..." [Fruit too large. Dispersed by large primates. See Terborgh et al. 2008]

706	2008. Guimaraes, P.R. Jr./Galetti, M./Jordano, P.. Seed Dispersal Anachronisms: Rethinking the Fruits Extinct Megafauna Ate. PLoS ONE. 3(3): e1745. doi:10.1371/journal.pone.0001745.	[Propagules bird dispersed? No] "Background: Some neotropical, fleshy fruited plants have fruits structurally similar to paleotropical fruits dispersed by megafauna (mammals .103 kg), yet these dispersers were extinct in South America 10–15 Kyr BP. Anachronic dispersal systems are best explained by interactions with extinct animals and show impaired dispersal resulting in altered seed dispersal dynamics. Methodology/Principal Findings: We introduce an operational definition of megafaunal fruits and perform a comparative analysis of 103 Neotropical fruit species fitting this dispersal mode. We define two megafaunal fruit types based on previous analyses of elephant fruits: fruits 4–10 cm in diameter with up to five large seeds, and fruits .10 cm diameter with numerous small seeds. Megafaunal fruits are well represented in unrelated families such as Sapotaceae, Fabaceae, Solanaceae, Apocynaceae, Malvaceae, Caryocaraceae, and Arecaceae and combine an overbuilt design (large fruit mass and size) with either a single or few (.3 seeds) extremely large seeds or many small seeds (usually .100 seeds). Within-family and within-genus contrasts between megafaunal and non-megafaunal groups of species indicate a marked difference in fruit diameter and fruit mass but less so for individual seed mass, with a significant trend for megafaunal fruits to have larger seeds and seediness. Conclusions/Significance: Megafaunal fruits allow plants to circumvent the trade off between seed size and dispersal by relying on frugivores able to disperse enormous seed loads over long distances. Present-day seed dispersal by scatterhoarding rodents, introduced livestock, runoff, flooding, gravity, and human-mediated dispersal allowed survival of megafauna-dependent fruit species after extinction of the major seed dispersers. Megafauna extinction had several potential consequences, such as a scale shift reducing the seed dispersal distances, increasingly clumped spatial patterns, reduced geographic ranges and limited genetic variation and increased among-population structuring. These effects could be extended to other plant species dispersed by large vertebrates in present-day, defaunated communities." [Pouteria caimito listed as having an anachronistic megafaunal dispersal syndrome]
706	2008. Terborgh, J./Nuñez-Iturri, G./Pitman, N.C.A./Cornejo Valverde, F.H./Alvarez, P./Swamy, V./Pringle, C. E. Timothy Paine, E.G.. Tree Recruitment in an Empty Forest. Ecology. 89(6): 1757-1768.	[Propagules bird dispersed? No] "Table 3. Species included in the 25 top ranks of the adult tree stands at CC and BM and their respective dispersal modes...Pouteria caimito...Dispersal mode = LP...LP = Large primate" [Other species in this table listed as bird dispersed. Seeds presumably too large to be dispersed by birds effectively]
707	1981. Pilz, G.E.. Sapotaceae of Panama. Annals of the Missouri Botanical Garden. 68(1): 172-203.	[Propagules dispersed by other animals (externally)? No] "Fruit yellow to brown, fleshy, 5-10 cm long, 4 8 cm wide, 1-4-seeded; seed scar extending the entire length of the seed, 3-4 mm wide (Blackwell, 1968)." [No means of external attachment, although rodents may potentially carry & disperse seeds]
708	1990. Pennington, T.D.. Sapotaceae. Flora Neotropica. 52: 1-770.	[Propagules survive passage through the gut? Yes] "Fruit 2.7-7.5 cm long, narrowly ellipsoid, ovoid or globose, apex acute to rounded, base rounded to truncate, smooth, pubescent, velutinous or glabrous. Seeds 1-4, 1.5-5 cm long, oblong to ellipsoid, often slightly laterally compressed, base and apex usually rounded or obtuse, testa smooth, usually glossy, 0.3-1 mm thick; scar adaxial, full length, 1-6 mm wide..." [fleshy fruits adapted for internal dispersal, Probably able to be dispersed by feral pigs]
708	2000. Stevenson, P.R.. Seed Dispersal by Woolly Monkeys (<i>Lagothrix lagotrucha</i>) at Tinigua National Park, Colombia: Dispersal Distance, Germination Rates, and Dispersal Quantity. American Journal of Primatology. 50: 275–289.	[Propagules survive passage through the gut? Yes] "APPENDIX 1. List of Plant Species Dispersed by the Woolly Monkeys in Tinigua National Park, Colombia" [list includes <i>P. caimito</i>]
708	2008. Terborgh, J./Nuñez-Iturri, G./Pitman, N.C.A./Cornejo Valverde, F.H./Alvarez, P./Swamy, V./Pringle, C. E. Timothy Paine, E.G.. Tree Recruitment in an Empty Forest. Ecology. 89(6): 1757-1768.	[Propagules survive passage through the gut? Yes] "Table 3. Species included in the 25 top ranks of the adult tree stands at CC and BM and their respective dispersal modes ... Pouteria caimito...Dispersal mode = LP...LP = Large primate" [Could presumably be dispersed by pigs in the Hawaiian & other tropical Pacific islands with pigs]
801	1981. Pilz, G.E.. Sapotaceae of Panama. Annals of the Missouri Botanical Garden. 68(1): 172-203.	[Prolific seed production (>1000/m ²)? Unlikely] "Tree to 30 m. Leaves 5-24 cm long, 2-9 cm wide, obovate-oblongeolate to elliptic, acuminate, rarely acute; petioles 5 15 mm long. Flowers 1-5 per axil, subsessile to sessile; sepals 4(-5), 3-4.5 mm long; corolla 5-8 mm long, the lobes 4(-5), about as long as the tube; filaments attached near the middle of the tube; ovary 4(-6)-loculed. Fruit yellow to brown, fleshy, 5-10 cm long, 4-8 cm wide, 1-4-seeded; seed scar extending the entire length of the seed, 3-4 mm wide (Blackwell, 1968)." [large tree, but fruits and seeds fairly large size]

802	1986. FAO. Food and fruit-bearing forest species 3: Examples from Latin America. Food & Agriculture Organisation of the United Nations, Rome, Italy	[Evidence that a persistent propagule bank is formed (>1 yr)? No] "Germination is rapid (15 to 45 days), if the seed are sown upon removal from the fruit, however, since these are "recalcitrant" they lose viability extremely rapidly,"
802	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Evidence that a persistent propagule bank is formed (>1 yr)? No] "The seeds are short lived and considered to be recalcitrant (Villachica et al., 1996). About 90% germination occurs in about 50 days."
803	2001. Langeland, K.A./Stocker, R.K.. Control of Non-native Plants in Natural Areas of Florida. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL http://mrec.ifas.ufl.edu/ldspmgmt/Ldsp%20Turf%20Mgmt/PDFfiles/WG20900.pdf	[Well controlled by herbicides? Probably yes] "Pouteria campechiana...Treatment: Hand pull seedlings; basal bark application of 10% Garlon 4." [Although there is no evidence that Pouteria caimito is being controlled, the treatment for the related, and invasive Pouteria campechiana, would presumably be effective]
804	2008. Janick, J./Paull, R.E.. The encyclopedia of fruit & nuts. Cabi Publishing, Wallingford, UK	[Tolerates, or benefits from, mutilation, cultivation, or fire? Possibly] "Pruning of mature trees is limited to removal of dead and thin branches, and branches of the lower whorl that bend towards the ground." [Unknown if able to tolerate heavy pruning]
804	2011. Top Tropicals. Pouteria caimito. Top Tropicals Botanical Garden, https://toptropicals.com/cgi-bin/garden_catalog/cat.cgi?uid=Pouteria_caimito	[Tolerates, or benefits from, mutilation, cultivation, or fire? Possibly] "Pruning is common, and will shorten height and improve early yields." [Unknown if able to tolerate heavy pruning]
805	2011. WRA Specialist. Personal Communication.	[Effective natural enemies present locally? Unknown]