

**Family:** *Euphorbiaceae*

**Taxon:** *Sauropus androgynus*

**Synonym:** *Common Name* star gooseberry  
katuk

**Questionnaire :** current 20090513      **Assessor:** Chuck Chimera      **Designation:** EVALUATE  
**Status:** Assessor Approved      **Data Entry Person:** Chuck Chimera      **WRA Score** 4

101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?	y=1, n=-1	
103	Does the species have weedy races?	y=1, n=-1	
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed	n=0, y = 1*multiplier (see Appendix 2)	y
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	n
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	n
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	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	
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	y
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	
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	n
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	n

Designation: EVALUATE

WRA Score 4

## Supporting Data:

101	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.	Several cultivars are known in Asia, and the species has been identified as a candidate for wider cultivation throughout the Pacific islands. [Insufficient evidence that <i>S. androgynus</i> is highly domesticated]
101	2010. Flora Malesiana. Malesian Euphorbiaceae Descriptions - Sauropus. <a href="http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus">http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus</a>	<i>S. androgynus</i> is a widespread, often cultivated species, and, probably therefore, very variable. Usually the leaves are rather small, less than 5 cm long, but many exceptions exist; the apex usually gradually narrows into an acute acumen, the staminate flowers are usually hardly lobed (though often somewhat lobed in N. Thailand and Laos, and exceptionally in other areas), the pistillate sepals are somewhat dimorph, and the fruits are inflated and somewhat fleshy.
201	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Slopes with brushwood, sunny forest margins; 100-400 m. Guangdong, Guangxi, Hainan, Yunnan [Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam].
202	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Slopes with brushwood, sunny forest margins; 100-400 m. Guangdong, Guangxi, Hainan, Yunnan [Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam].
203	2007. Ecocrop. Sauropus androgynus. FAO, <a href="http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593">http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593</a>	It is well adapted to lowland tropical conditions and in Indonesia and Java it occurs from sea level to 1300 m in elevation. [elevation range >1000 m demonstrates environmental versatility]
203	2009. Educational Concerns For Hunger Organization (ECHO). Underutilized Food Plants - Katuk Selections. <a href="http://www.echonet.org/content/100underutilized/776">http://www.echonet.org/content/100underutilized/776</a>	<i>S. androgynus</i> has its origins in the hot, humid lowland rainforest of Borneo. It is more vigorous at lower altitudes but is grown in Malaysia and Indonesia at altitudes of up to 1300 m (4000 ft). Katuk can tolerate occasional flooding and will grow under very wet conditions, where annual rainfall reaches 3000 mm (120 inches). It also tolerates acidic soils.
204	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Slopes with brushwood, sunny forest margins; 100-400 m. Guangdong, Guangxi, Hainan, Yunnan [Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam]
205	2010. WRA Specialist. Personal Communication.	Introduced into several regions outside its native range, including Hawaiian Islands, Australia, and other islands in the Pacific
301	2008. Frohlich, D./Lau, A.. New plant records from O'ahu for 2007. Bishop Museum Occasional Papers. 100: 3-12.	Propagated in Hawai'i by seed (Staples & Herbst 2005) and possibly dispersed by birds, this relatively new arrival is spreading occasionally and has established itself in at least one location in Waimanalo.
301	2010. Flora of Australia Online. Sauropus androgynus. Australian Biological Resources Study (ABRS), <a href="http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=6961">http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=6961</a>	Christmas Is., Cocos (Keeling) Is. Uncommon on Christmas Is., having escaped from cultivation and become naturalised in a few areas. On Cocos (Keeling) Is. recorded as naturalised on Home Is. in disturbed strand forest. Distributed from India and S China, through Indo-China and Malesia, to the Philippines and New Guinea.
302	1979. Holm, L. G./Pancho, J. V./Herberger, J. P./Plucknett, D. L.. A Geographical Atlas of World Weeds. John Wiley and Sons, New York, NY	Listed as a weed in Indonesia [of unknown importance]
302	2010. Flora Malesiana. Malesian Euphorbiaceae Descriptions - Sauropus. <a href="http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus">http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus</a>	Monsoon (deciduous) forest, secondary forest, swamp forest, open areas and clearings, in scrubs and thickets, waste grounds, hedges, fruit gardens, gardens and house yards, along forest edges, rivers, and roads, near the beach, often a weed or cultivated [suggests plant grows unwanted in areas]...The plant is often cultivated in small fields, as hedges, or allowed as weed near the house.
303	2007. Randall, R.P.. Global Compendium of Weeds - Sauropus androgynus. Hawaii Ecosystems at Risk Project (HEAR), <a href="http://www.hear.org/gcw/species/sauropus_androgynus/">http://www.hear.org/gcw/species/sauropus_androgynus/</a>	No evidence that <i>S. androgynus</i> is a weed of agriculture or forestry
304	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.	No evidence of <i>S. androgynus</i> as an environmental weed
305	2007. Randall, R.. Global Compendium of Weeds. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	<i>Sauropus spatulifolius</i> listed as naturalized, but no other species in genus <i>Sauropus</i> listed as weeds

401	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Shrubs 1-3 m tall, erect, monoecious, glabrous throughout; branchlets angular when young, terete with age, slender, green. Stipules lanceolate or linear-lanceolate, 1.5-3 mm; petiole 2-4 mm; leaf blade ovate lanceolate, oblong-lanceolate, or lanceolate, 3-10 × 1.5-3.5 cm, submembranous or thinly papery, base cuneate, rounded, or truncate, apex acuminate; venation pinnate, lateral veins 5-7 pairs, elevated abaxially, flattened adaxially, reticulate veins obscure. [no spines, thorns, or burrs]
402	2010. WRA Specialist. Personal Communication.	No evidence of allelopathy found
403	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.	Not parasitic
404	2007. Ecocrop. Sauropus androgynus. FAO, <a href="http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593">http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593</a>	Leaves are used for dyeing food and they can also be used as feed for cattle and poultry.
405	2007. Ecocrop. Sauropus androgynus. FAO, <a href="http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593">http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593</a>	No evidence of toxicity to animals [although overconsumption may result in some problems, as has occurred with humans. See 4.07]
406	2009. Educational Concerns For Hunger Organization (ECHO). Underutilized Food Plants - Katuk Selections. <a href="http://www.echonet.org/content/100underutilized/776">http://www.echonet.org/content/100underutilized/776</a>	Katuk has minimal pest and disease problems. Minor pests include the Chinese rose beetle ( <i>Adoretus sinicus</i> ) and slugs, which both can damage young plants.
406	2009. Wong, W.. Gardening with Wilson - Getting to know Sauropus androgynus. <a href="http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/">http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/</a>	The plant is also relatively pest- and disease free. Beetles may chew on the leaves.
407	1998. Fletcher, R.. Sauropus androgynus (sweet leaf bush). The Australian New Crops Newsletter. 9: <a href="http://www.newcrops.uq.edu.au/newslett/ncnl9191.htm">http://www.newcrops.uq.edu.au/newslett/ncnl9191.htm</a>	Sauropus became a popular ingredient of an unconfirmed weight control method in Taiwan in 1995 and several cases of poisoning were reported. The most common form of consumption with the weight control method was as an extract, with fruit juice. Rapidly progressive obstructive lung disease resulted, persisting up to forty days after the method ceased. Those consuming high levels of Sauropus appeared to be worst affected, especially those consuming the plant as the uncooked extract. [toxic in high doses]
407	2009. Wong, W.. Gardening with Wilson - Getting to know Sauropus androgynus. <a href="http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/">http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/</a>	Although Sauropus androgynus is a nutritious vegetable, one should be cautioned from consuming excessive amounts, especially in the raw form as several cases of poisoning have been reported previously in Taiwan which resulted in progressive obstructive lung disease.
407	2010. Top Tropicals. Sauropus androgynus. Top Tropicals Botanical Garden, <a href="http://toptropicals.com/catalog/uid/Sauropus_androgynus.htm">http://toptropicals.com/catalog/uid/Sauropus_androgynus.htm</a>	It is one of the most popular leaf vegetables in South Asia and Southeast Asia and is notable for high yields and palatability. The shoot tips have been sold as tropical asparagus. In Vietnam, people cook it with crab meat, minced pork or dried shrimp to make soup. In Malaysia, it is commonly stir fried with egg and dried anchovies. It is among only a few flora containing vitamin K. It is a popular vegetable cultivated in India, Malaysia, Indonesia, southwest China. Delicious young shoots! Can be eaten raw or cooked. Antipyretic, remedy for mumps.
408	2010. Flora Malesiana. Malesian Euphorbiaceae Descriptions - Sauropus. <a href="http://www.nationaalherbarium.nl/euphorbs/specs/Sauropus.htm#Sauropus%20androgynus">http://www.nationaalherbarium.nl/euphorbs/specs/Sauropus.htm#Sauropus%20androgynus</a>	Monsoon (deciduous) forest, secondary forest, swamp forest, open areas and clearings, in scrubs and thickets, waste grounds, hedges, fruit gardens, gardens and house yards, along forest edges, rivers, and roads, near the beach [no evidence of fire hazards, and unlikely given habitat]
409	1998. Fletcher, R.. Sauropus androgynus (sweet leaf bush). The Australian New Crops Newsletter. 9: <a href="http://www.newcrops.uq.edu.au/newslett/ncnl9191.htm">http://www.newcrops.uq.edu.au/newslett/ncnl9191.htm</a>	In its natural state as an under-storey plant in lowland rainforest, Sauropus grows to 6m [understorey rainforest plant suggests shade tolerance]
409	2009. Herbs Are Special. Articles - Sweet Leaf. <a href="http://herbsarespecial.com.au/articles/sweet_leaf.pdf">http://herbsarespecial.com.au/articles/sweet_leaf.pdf</a>	The bush will grow in full sun, as well as 95% shade.
409	2009. Wong, W.. Gardening with Wilson - Getting to know Sauropus androgynus. <a href="http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/">http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/</a>	It tolerates a range of light conditions which range from semi-shade to full sunshine outdoors.

410	2009. Wong, W.. Gardening with Wilson - Getting to know Sauropus androgynus. <a href="http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/">http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/</a>	Sauropus androgynus is a low maintenance plant that is not exactly fussy about its growing conditions. Reported to be a plant that is highly mycorrhizal-dependent, it can be easily grown in moist, fertile and acid soils. It can also adapt to being grown in heavy clay soils.
411	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Shrubs 1-3 m tall, erect [does not have a climbing or smothering growth habit]
411	2010. Flora of Australia Online. Sauropus androgynus. Australian Biological Resources Study (ABRS), <a href="http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=6961">http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=6961</a>	In the Philippines and New Guinea, this species becomes a climbing shrub, rather than scrambling or trailing. [but no evidence that this plant smothers other vegetation]
412	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	No evidence that S. androgynus forms dense thickets in native habitats.
412	2010. Flora of Australia Online. Sauropus androgynus. Australian Biological Resources Study (ABRS), <a href="http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=6961">http://www.anbg.gov.au/abrs/online-resources/flora/stddisplay.xsql?pnid=6961</a>	No evidence that S. androgynus forms dense thickets in introduced habitats.
501	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Terrestrial
502	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Euphorbiaceae [not a grass]
503	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Euphorbiaceae [not a Nitrogen fixing woody plant]
504	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Shrubs 1-3 m tall, erect [not a geophyte]
601	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	No evidence of substantial reproductive failure in native habitat
602	2010. eFloras. Flora of China - Sauropus androgynus. Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	capsule white, depressed globose or globose, ca. 1.2 × 1.7 cm, thinly crustaceous. Seeds black, triquetrous, ca. 7 × 5 mm.
603	2010. WRA Specialist. Personal Communication.	Unknown if able to hybridize naturally
604	2009. Educational Concerns For Hunger Organization (ECHO). Underutilized Food Plants - Katuk Selections. <a href="http://www.echonet.org/content/100underutilized/776">http://www.echonet.org/content/100underutilized/776</a>	Our katuk, vegetatively propagated for some time, flowered but did not produce seed until we acquired plants from a different source (when they produced seed immediately); it is possible that separate plants are required for seed production or some varieties are selected for or against seed production. [potentially self-incompatible]
604	2010. WRA Specialist. Personal Communication.	Unknown if S. androgynus is self-compatible

605	2008. Kato, M./Kosaka, Y./Kawakita, A./Okuyama, Y./Kobayashi, C./Phimminith, T./Thongphan, D.. Plant–pollinator interactions in tropical monsoon forests in Southeast Asia. <i>American Journal of Botany</i> . 95: 1375-1394.	CL4 was composed of five plant species ( <i>Phyllanthus roseus</i> , <i>Sauropus quadrangularis</i> , <i>Dialium cochinchinensis</i> , <i>Mallotus barbatus</i> , and <i>Suregada multiflora</i> ), that were visited mainly by flies. These plants have small rotate flowers...Related species of <i>Phyllanthaceae</i> ( <i>Breynia retusa</i> , <i>Phyllanthus virgatus</i> , <i>P. amarus</i> , <i>P. roseus</i> , <i>Sauropus quadrangularis</i> , and <i>S. granulosis</i> ) were pollinated not by <i>gracillariid</i> moths but by dipterans, small bees, or ants, mainly during the wet season. [pollination of other <i>Sauropus</i> spp. Tends to be by generalist insect pollinators]
606	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.	propagated by cuttings, air layers, or seed [but no evidence of vegetative spread]
607	2007. Ecocrop. <i>Sauropus androgynus</i> . FAO, <a href="http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593">http://ecocrop.fao.org/ecocrop/srv/en/cropView?id=9593</a>	GROWING PERIOD Perennial, harvesting is carried on throughout the year. First harvest may be taken after 55-70 days. In Java, it flowers year round and fruiting is usually abundant. [probably under 2 years]
701	2010. eFloras. <i>Flora of China - Sauropus androgynus</i> . Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	capsule white, depressed globose or globose, ca. 1.2 × 1.7 cm, thinly crustaceous. Seeds black, triquetrous, ca. 7 × 5 mm. [no evidence of unintentional seed dispersal, and no means of external attachment for seeds]
702	2010. eFloras. <i>Flora of China - Sauropus androgynus</i> . Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	<i>Sauropus androgynus</i> is widely cultivated. The leaves are used as a medicine for coughs and to soothe the lungs, as a tonic, and as a febrifugal to relieve internal fever; they are also used as a vegetable ("Sweet Leaf Bush")
703	2010. WRA Specialist. Personal Communication.	No evidence that seeds have been dispersed as a produce contaminant
704	2010. <i>Flora Malesiana</i> . <i>Malesian Euphorbiaceae Descriptions - Sauropus</i> . <a href="http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus">http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus</a>	Fruits globose (to obovoid), inflated, somewhat fleshy but pergamentaceous when dry, 12–17 by 9–15 mm, white to finally maroon; column 8–10 mm long with apically heart-shaped remnants of the septae. Seeds triangular in transverse section, hollow adaxially, 7–10 by 4.5–6.5 by 3–4.5 mm, white to black. [no apparent adaptations for wind dispersal, although capsules may dehisce when dry and disperse seeds short distances]
705	2010. <i>Flora Malesiana</i> . <i>Malesian Euphorbiaceae Descriptions - Sauropus</i> . <a href="http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus">http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus</a>	Fruits globose (to obovoid), inflated, somewhat fleshy but pergamentaceous when dry, 12–17 by 9–15 mm, white to finally maroon; column 8–10 mm long with apically heart-shaped remnants of the septae. Seeds triangular in transverse section, hollow adaxially, 7–10 by 4.5–6.5 by 3–4.5 mm, white to black. [no apparent adaptations for water dispersal]
706	2009. Wong, W.. <i>Gardening with Wilson - Getting to know Sauropus androgynus</i> . <a href="http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/">http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/</a>	Mature <i>Sauropus androgynus</i> plants do produce flowers and fruits. The flowers are small and dark maroon in colour which occur individually and hang from the point where each pinnate leaflet joins the petiole. Small purplish fruits that resemble miniature mangosteens are produced after the flowers fade. Both flowers and fruits produced by the plant can be eaten. [fleshy fruits, adapted for bird or vertebrate dispersal?]
706	2010. <i>Flora Malesiana</i> . <i>Malesian Euphorbiaceae Descriptions - Sauropus</i> . <a href="http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus">http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus</a>	Fruits globose (to obovoid), inflated, somewhat fleshy but pergamentaceous when dry, 12–17 by 9–15 mm, white to finally maroon; column 8–10 mm long with apically heart-shaped remnants of the septae. Seeds triangular in transverse section, hollow adaxially, 7–10 by 4.5–6.5 by 3–4.5 mm, white to black. [possibly bird-dispersed, but no evidence found, and description of fruit as "pergamentaceous (i.e. like parchment) when dry" suggests that seeds are dehisced, rather than consumed by birds or other animals]
707	2010. eFloras. <i>Flora of China - Sauropus androgynus</i> . Missouri Botanical Garden and Harvard University Herbaria, <a href="http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609">http://www.efloras.org/florataxon.aspx?flora_id=2&amp;taxon_id=200012609</a>	Seeds with no means of external attachment [no evidence of external dispersal by animals]
708	2010. <i>Flora Malesiana</i> . <i>Malesian Euphorbiaceae Descriptions - Sauropus</i> . <a href="http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus">http://www.nationaalherbarium.nl/euphorbs/specS/Sauropus.htm#Sauropus%20androgynus</a>	Fruits globose (to obovoid), inflated, somewhat fleshy but pergamentaceous when dry, 12–17 by 9–15 mm, white to finally maroon; column 8–10 mm long with apically heart-shaped remnants of the septae. Seeds triangular in transverse section, hollow adaxially, 7–10 by 4.5–6.5 by 3–4.5 mm, white to black. [possibly adapted to survive passage through digestive tract of birds or other animals, but no evidence found, and description of fruit as "pergamentaceous (i.e. like parchment) when dry" suggests that seeds are dehisced, rather than consumed by birds or other animals]

801	2009. Herbs Are Special. Articles - Sweet Leaf. <a href="http://herbsarespecial.com.au/articles/sweet_leaf.pdf">http://herbsarespecial.com.au/articles/sweet_leaf.pdf</a>	In tropical climates, a capsule forms, with small, black seeds. We have experienced, in our sub-tropical conditions; the bush thrives, flowers, but does not set seed. [unlikely to produce high seed numbers even when plant does set seed]
802	1998. Fletcher, R.. Sauropus androgynus (sweet leaf bush). The Australian New Crops Newsletter. 9: <a href="http://www.newcrops.uq.edu.au/newslett/ncnl9191.htm">http://www.newcrops.uq.edu.au/newslett/ncnl9191.htm</a>	Seed longevity is poor, seeds remain viable for only a few months.
802	2009. Educational Concerns For Hunger Organization (ECHO). Underutilized Food Plants - Katuk Selections. <a href="http://www.echonet.org/content/100underutilized/776">http://www.echonet.org/content/100underutilized/776</a>	Seeds are viable for only 3-4 months when kept dry and cool. Even while seeds are still viable, germination will be probably 50% at best. Seeds should be removed just as the seedpod is beginning to crack open. Germination will be higher if the seed coats are pulled off just prior to planting. Seeds should germinate in 2-4 weeks, but they may take up to 5 months. We grow katuk as edible hedges around the ECHO farm. We have noticed that some seeds that have fallen around these hedges have sprouted on their own.
802	2009. Wong, W.. Gardening with Wilson - Getting to know Sauropus androgynus. <a href="http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/">http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/</a>	Seeds of this plant are not available commercially and they are documented to remain viable for only a few months
803	2010. WRA Specialist. Personal Communication.	No information found on the control of this species
804	2009. Wong, W.. Gardening with Wilson - Getting to know Sauropus androgynus. <a href="http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/">http://gardeningwithwilson.com/2009/05/28/sauropus-androgynus/</a>	It takes pruning back quite well and puts forth numerous new, upright branches quickly when it is well-fed.
805	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.	It seems to have no insect pests or disease problems in Hawaii.