

Taxon: Banisteriopsis caapi	Family: Malpighiaceae
Common Name(s): ayahuasca caapi soulvine yage	Synonym(s): Banisteria caapi Spruce ex Griseb. Banisteria quitensis Nied. Banisteriopsis inebrians C. V. Morton Banisteriopsis quitensis (Nied.) C. V.

Assessor: No Assessor	Status: Assessor Approved	End Date: 27 Jun 2014
WRA Score: 1.0	Designation: EVALUATE	Rating: Evaluate

Keywords: Tropical Liana, Psychoactive, Smothering, Fast-Growing, Wind-Dispersed

Qsn #	Question	Answer Option	Answer
101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?		
103	Does the species have weedy races?		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?	y=-2, ?=-1, n=0	n
301	Naturalized beyond native range		
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed	n=0, y = 2*multiplier (see Appendix 2)	n
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed		
401	Produces spines, thorns or burrs	y=1, n=0	n
402	Allelopathic	y=1, n=0	y
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals		
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans		
408	Creates a fire hazard in natural ecosystems	y=1, n=0	n

Qsn #	Question	Answer Option	Answer
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)		
411	Climbing or smothering growth habit	y=1, n=0	y
412	Forms dense thickets		
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	n
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally		
604	Self-compatible or apomictic		
605	Requires specialist pollinators	y=-1, n=0	y
606	Reproduction by vegetative fragmentation		
607	Minimum generative time (years)		
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	y
705	Propagules water dispersed		
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	n
801	Prolific seed production (>1000/m ²)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	n
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	Is the species highly domesticated?	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Commonly cultivated, but no evidence of domestication dramatically changing biology of plant] "It is difficult to know where this species is native, since it is widely cultivated throughout Peru, Ecuador, Colombia and Amazonian Brazil by native populations for use in the preparation of an hallucinatory beverage; most of the collections available to me were from cultivated plants according to their collection data, and most of these specimens were sterile."
102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	NA
103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	NA
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"	High
	Source(s)	Notes
	USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/ . [Accessed 26 Jun 2014]	"Native: SOUTHERN AMERICA Northern South America: Venezuela Brazil: Brazil Western South America: Bolivia; Colombia; Ecuador; Peru"
202	Quality of climate match data	High
	Source(s)	Notes
	USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/ . [Accessed 26 Jun 2014]	

Qsn #	Question	Answer
203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes
	Rätsch, C. 2005. The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications. Park Street Press, Rochester, VT	"The fast-growing plant thrives only in moist tropical climates and does not typically tolerate any frost."
	Tropicos.org. 2014. Tropicos [Online Database]. Missouri Botanical Garden. http://www.tropicos.org/ . [Accessed 26 Jun 2014]	Collected at an elevation range of 0 m, 00°21'00"S latitude, to 1122 m, 14°36'52"S. [Within tropical climates & latitudes, elevation range exceeds 1000 m, demonstrating environmental versatility]

Qsn #	Question	Answer
204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network - (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland. URL: http://www.ars-grin.gov/ . [Accessed 26 Jun 2014]	"Native: SOUTHERN AMERICA Northern South America: Venezuela Brazil: Brazil Western South America: Bolivia; Colombia; Ecuador; Peru"

Qsn #	Question	Answer
205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	Notes
	Woodson, Jr., R.E., Schery, R.W., Cuatrecasas, J., Croat, T.B. & Vivaldi, J. 1980. Flora of Panama. Part VI. Family 93. Malpighiaceae. Annals of the Missouri Botanical Garden 67(4): 851-945	"Banisteriopsis caapi especially is cultivated to a limited extent by Indians in Brazil, Colombia, Ecuador and Peru and also by other people who occasionally have spread its cultivation outside of its original area. No specimens, spontaneous or planted of this species have been found in Panama."
	WRA Specialist. 2014. Personal Communication	No evidence of repeated introductions. [there is a growing global use of this species as a psychoactive herb in recent years]

Qsn #	Question	Answer
301	Naturalized beyond native range	
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Possibly. Reports of naturalization unable to be verified at this time] "Banisteriopsis caapi (Spruce ex Griseb.) C.V.Morton Malpighiaceae Cultivated Toxic - Refs:4 1157-CN, 975-I, 872-CN, 742-N"

Qsn #	Question	Answer
302	Garden/amenity/disturbance weed	
	Source(s)	Notes
	Herbalistics. 2014. Banisteriopsis caapi 'Ourinhos'. http://herbalistics.com.au/product_info.php?products_id=529 . [Accessed 26 Jun 2014]	"May become a rampant monster liana in some locations."

Qsn #	Question	Answer
	Salvia Source. 2014. <i>Banisteriopsis caapi</i> . http://www.salviasource.org/forum/index.php?topic=5602.0;wap2 . [Accessed 26 Jun 2014]	[Online forum discussing the invasiveness of B. caapi] "Shadow21: I'm wanting to get a <i>Banisteriopsis Caapi</i> plant so I was wondering if any of you sold Caapi seeds or cuttings or do you know anyone else that sells Caapi seeds or cuttings for a good price?" "nitelife: Are you kidding me man? Caapi is an invasive weed!! My buddy stuffed 20 cuttings in a bucket of soil in his shed, forgot about it, and they all rooted themselves and shot out sprouts everywhere!! With no light! They were obviously stretching, but if they root in a dark, dry shed, you can practically grow them anywhere. Just get them from a reliable botanical company, they'll sell you a good cutting. "

303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. 2012. <i>A Global Compendium of Weeds</i> . 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. 2012. <i>A Global Compendium of Weeds</i> . 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence

305	Congeneric weed	
	Source(s)	Notes
	Randall, R.P. 2012. <i>A Global Compendium of Weeds</i> . 2nd Edition. Department of Agriculture and Food, Western Australia	<i>Banisteria purpurea</i> & <i>Banisteriopsis oxyclada</i> listed as weeds of unspecified impacts. Unable to verify invasiveness at this time

401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[No evidence] "Liana, the young branches sparsely appressed-sericeous to glabrate, the old branches glabrous, terete, the bark becoming fissured into shallow corky splits in age, with the wood sometimes conspicuously lobed."

402	Allelopathic	y
	Source(s)	Notes

Qsn #	Question	Answer
	Mongelli, E., Desmarchelier, C, Coussio, J., & Ciccia, G. 1997. The potential effects of allelopathic mechanisms on plant species diversity and distribution determined by the wheat rootlet growth inhibition bioassay in South American plants. <i>Revista Chilena de Historia Natural</i> , 70 (1): 83-89	"Phytotoxicity of aqueous extracts from 60 plant species from tropical and temperate communities was tested by wheat rootlet growth inhibition assay. Differences in the inhibition and stimulation of the growth of the wheat rootlets were observed among both communities. 26.7 % of the total sample belonging to the tropical community showed considerable allelopathic activity in this bioassay, while 23.3% of the total sample stimulated rootlet growth. On the other hand, 71.9% of the temperate plants studied presented this activity, while none of the species showed stimulating effects. The possible influence of allelopathic effects on the coexistence of a particular mixture of plant species in a determined area is discussed." ... "Table 1. Inhibition of the growth of the rootlets of wheat by tropical plant extracts at 10% concentration" [Banisteriopsis caapi inhibited growth by 94%, among the highest documented in this study]

403	Parasitic	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[No evidence. Malpighiaceae] "Liana, the young branches sparsely appressed-sericeous to glabrate, the old branches glabrous, terete, the bark becoming fissured into shallow corky splits in age, with the wood sometimes conspicuously lobed"

404	Unpalatable to grazing animals	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

405	Toxic to animals	
	Source(s)	Notes
	Dave's Garden. 2014. PlantFiles: Ayahuasca - <i>Banisteriopsis caapi</i> . http://davesgarden.com/guides/pf/go/127403/ . [Accessed 26 Jun 2014]	[Unknown if animals would ingest plant] "Danger: Parts of plant are poisonous if ingested"

406	Host for recognized pests and pathogens	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

407	Causes allergies or is otherwise toxic to humans	
	Source(s)	Notes
	Dave's Garden. 2014. PlantFiles: Ayahuasca - <i>Banisteriopsis caapi</i> . http://davesgarden.com/guides/pf/go/127403/ . [Accessed 26 Jun 2014]	"Danger: Parts of plant are poisonous if ingested"

Qsn #	Question	Answer
	Meuninck, J. 2014. Basic Illustrated Poisonous and Psychoactive Plants. Globe Pequot Press, Guilford, CT	[Used in the psychoactive drug ayahuasca. Caution is advised when taking plants internally] "Toxins/Drugs: beta-arboline alkaloids and monoamine oxidase (MAOI) inhibitors: harmaline - a subtle psychedelic, slightly hallucinogenic alkaloid."

408	Creates a fire hazard in natural ecosystems	n
Source(s)		Notes
	Rätsch, C. 2005. The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications. Park Street Press, Rochester, VT	[Liana could potentially act as a fuel ladder, but highly unlikely in moist tropical habitats] "The fast growing plant thrives only in moist tropical climates and does not typically tolerate any frost."

409	Is a shade tolerant plant at some stage of its life cycle	y
Source(s)		Notes
	Herbalistics. 2014. Banisteriopsis caapi 'Ourinhos'. http://herbalistics.com.au/product_info.php?products_id=529 . [Accessed 26 Jun 2014]	"Likes rich and moist soil in part shade to full sun."
	Entheopedia.Org. 2011. Banisteriopsis caapi. http://entheopedia.org/?show=Plant&genus=Banisteriopsis&species=caapi . [Accessed 26 Jun 2014]	"Sun Exposure Partial to Full Shade"
	Dave's Garden. 2014. PlantFiles: Ayahuasca - Banisteriopsis caapi. http://davesgarden.com/guides/pf/go/127403/ . [Accessed 26 Jun 2014]	"Sun Exposure: Full Sun Sun to Partial Shade Light Shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	
Source(s)		Notes
	Entheology.com. 2014. Banisteriopsis caapi – Ayahuasca. http://entheology.com/plants/banisteriopsis-caapi-ayahuasca/ . [Accessed 26 Jun 2014]	"B. caapi likes humus-rich, moist soil"
	Dave's Garden. 2014. PlantFiles: Ayahuasca - Banisteriopsis caapi. http://davesgarden.com/guides/pf/go/127403/ . [Accessed 26 Jun 2014]	"Soil pH requirements: 5.6 to 6.0 (acidic) 6.1 to 6.5 (mildly acidic)"

411	Climbing or smothering growth habit	y
Source(s)		Notes
	Stafford, P.G. 7 Bigwood, J. 1992. Psychedelics Encyclopedia. Ronin Publishing, Berkeley, CA	"Banisteriopsis caapi climbs up adjacent tropical forest trees and keeps climbing until its flowers are exposed to direct sunlight. It is so greedy for sunlight that sometimes it eventually kills supporting trees."
	Gates, B. 1982. Banisteriopsis, Diplopterys (Malpighiaceae). Flora Neotropica 30: 1-237	"Liana, the young branches sparsely appressed-sericeous to glabrate, the old branches glabrous, terete, the bark becoming fissured into shallow corky splits in age, with the wood sometimes conspicuously lobed."

Qsn #	Question	Answer
	Herbalistics. 2014. <i>Banisteriopsis caapi</i> 'Ourinhos'. http://herbalistics.com.au/product_info.php?products_id=529 . [Accessed 26 Jun 2014]	"May become a rampant monster liana in some locations."
412	Forms dense thickets	
	Source(s)	Notes
	Herbalistics. 2014. <i>Banisteriopsis caapi</i> 'Ourinhos'. http://herbalistics.com.au/product_info.php?products_id=529 . [Accessed 26 Jun 2014]	[Could possibly hinder movement through areas] "May become a rampant monster liana in some locations."
501	Aquatic	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Terrestrial] "Liana, the young branches sparsely appressed-sericeous to glabrate, the old branches glabrous, terete, the bark becoming fissured into shallow corky splits in age, with the wood sometimes conspicuously lobed"
502	Grass	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	Malpighiaceae
503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	Malpighiaceae
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	"Liana, the young branches sparsely appressed-sericeous to glabrate, the old branches glabrous, terete, the bark becoming fissured into shallow corky splits in age, with the wood sometimes conspicuously lobed"
601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	No evidence
602	Produces viable seed	y

Qsn #	Question	Answer
	Source(s)	Notes
	<p>Worldseedsupply.org. 2014. How to Germinate Banisteriopsis Caapi Seeds. http://worldseedsupply.org/blog/?p=17. [Accessed 26 Jun 2014]</p>	<p>"The real limitation, and what many new growers are not aware of, is that banisteriopsis caapi seeds have a low germination rate, which decreases to none in just a few months. By February I would expect the caapi seeds to be non-viable. Vendors who sell seed year-round are feeding on this naivety, and so it may seem to many growers that germination of banisteriopsis caapi is difficult or that it requires some special trick. The real trick is getting fresh seed. Banisteriopsis caapi seed harvest generally occurs in October or November. It can range a bit depending on yearly climate. It is wisest to plan your growing around those months to ensure you start with good seed, and it is worth paying more money for fresh seed. "</p>
	<p>Rätsch, C. 2005. The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications. Park Street Press, Rochester, VT</p>	<p>[Rarely] "The plant is cultivated almost exclusively through cuttings, as most cultivated plants are infertile (Bristol 1965, 207*)." </p>

603	Hybridizes naturally	
	Source(s)	Notes
	<p>Gates, B. 1982. Banisteriopsis, Diplopterys (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237</p>	<p>[Unknown for B. caapi. Possible hybridization within genus] "B. confusa can be distinguished from B. adenopoda by its basal leaf glands, less enlarged stamen connectives and straight styles, and its fruit without the prominent lateral wings of B. adenopoda. It is possible that some hybridization between these two species occurs in southern Minas Gerais and Sao Paulo where they occur sympatrically, but biosystematic studies are needed to resolve this."</p>

604	Self-compatible or apomictic	
	Source(s)	Notes
	<p>Bezerra, E. L., Machado, I. C., & Mello, M. A. 2009. Pollination networks of oil-flowers: a tiny world within the smallest of all worlds. <i>Journal of Animal Ecology</i>, 78(5): 1096-1101.</p>	<p>Unknown for B. caapi. Both self-compatibility and self-incompatibility documented in genus</p>

605	Requires specialist pollinators	y
	Source(s)	Notes
	<p>Mello, M. A., Bezerra, E. L., & Machado, I. C. 2013. Functional Roles of Centridini Oil Bees and Malpighiaceae Oil Flowers in Biom-wide Pollination Networks. <i>Biotropica</i>, 45(1): 45-53</p>	<p>"Interactions between oil-collecting bees and oil-producing flowers are a very specialized mutualism, whose natural history is well known at the organism and population levels." ... "Oil flowers of the genera Byrsonima and Banisteriopsis and oil bees of the genera Centris and Epicharis were the most important species in all networks, as they made a disproportionately high number of interactions (hubs), or helped bind together different modules (connectors)."</p>

Qsn #	Question	Answer
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Hymenoptera pollinated] "The calyx is always five-parted; most flowers of <i>Banisteriopsis</i> and <i>Diplopterys</i> exhibit a marked bilateral symmetry, with two pairs of sepals, the anterolateral and posterolateral sepals, and an unpaired sepal, the anterior sepal (Fig. 3). The anterior sepal is usually eglandular or rarely bears a single small gland. Each of the four lateral sepals usually is biglandular; these glands apparently secrete an oily secretion which is collected by certain Hymenoptera which are also effective as pollinators (Vogel, 1974)."

606	Reproduction by vegetative fragmentation	
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Unknown if able to spread vegetatively on its own, but ease of vegetative propagation suggests it may be possible] "The ease with which <i>caapi</i> can be vegetatively propagated by stem cuttings makes it possible for clones of such variants to be maintained."
	Rätsch, C. 2005. <i>The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications</i> . Park Street Press, Rochester, VT	[Unknown, but ease of vegetative cultivation suggests vegetative spread may be possible] "The plant is cultivated almost exclusively through cuttings, as most cultivated plants are infertile (Bristol 1965, 207*). A young shoot or the tip of a branch is allowed to stand in water until it forms roots, after which it is transplanted or simply placed into humus-rich, moist soil and watered profusely."

607	Minimum generative time (years)	
	Source(s)	Notes
	Entheopedia.Org. 2011. <i>Banisteriopsis caapi</i> . http://entheopedia.org/?show=Plant&genus=Banisteriopsis&species=caapi . [Accessed 26 Jun 2014]	"Age to Maturity - No Info Yet."
	Miller; L. S. 1986. <i>Banisteriopsis caapi</i> (cv) 'Da Vine'. U.S. Patent Plant 5,751 filed Nov 7, 1984 and issued Jun 17, 1986	"Vigor: Growth rate: unknown because we constantly prune the vine. However, it is definitely a fast growing plant with a growth rate of at least 5-10 m per year, when young."

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Seeds, if produced, lack means of external attachment] "Samara with the carpophore up to 4 mm long and 0.4 mm wide, the nut 5-11 mm tall, 3-5 mm long, the abaxial margin with a tooth at the base, appressed-pubescent to glabrate, the wing 18-42 mm long, 8-22 mm wide, appressed-pubescent soon glabrate, the wings of the posterior samaras somewhat rotated to lie more nearly parallel to the wing of the anterior samara, the locule of the nut hairy throughout within."
	Rätsch, C. 2005. <i>The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications</i> . Park Street Press, Rochester, VT	[Unlikely, given limited seed production] "The plant is cultivated almost exclusively through cuttings, as most cultivated plants are infertile (Bristol 1965, 207*)."

Qsn #	Question	Answer
702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Tupper, K.W. 2009. Ayahuasca healing beyond the Amazon: the globalization of a traditional indigenous entheogenic practice. <i>Global Networks</i> 9(1): 117-136	"Outside its native Amazonian habitat, ayahuasca now has a presence in dozens of countries, including in other parts of South America, North America, Europe, Australia and New Zealand, and some parts of Asia. The Brazilian ayahuasca religions, in particular, have presented significant challenges to modern Western liberal democratic states, which attempt simultaneously to uphold punitive drug control laws and to honour constitutionally enshrined principles of religious freedom. In the last decade countries including Australia, France, Germany, Italy, the Netherlands, Spain and the United States have fought legal cases over the religious use of ayahuasca."

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	Rätsch, C. 2005. <i>The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications</i> . Park Street Press, Rochester, VT	[No evidence, and unlikely given limited seed production outside native range] "The plant is cultivated almost exclusively through cuttings, as most cultivated plants are infertile (Bristol 1965, 207*)."

704	Propagules adapted to wind dispersal	y
	Source(s)	Notes
	Quattrocchi, U.. 2012. <i>CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology</i> . CRC Press, Boca Raton, FL	"fruit a samara, seeds wind-dispersed, in primary forest."
	Gates, B. 1982. <i>Banisteriopsis, Diplopterys (Malpighiaceae)</i> . <i>Flora Neotropica</i> 30: 1-237	"Samara with the carpophore up to 4 mm long and 0.4 mm wide, the nut 5-11 mm tall, 3-5 mm long, the abaxial margin with a tooth at the base, appressed-pubescent to glabrate, the wing 18-42 mm long, 8-22 mm wide, appressed-pubescent soon glabrate, the wings of the posterior samaras somewhat rotated to lie more nearly parallel to the wing of the anterior samara, the locule of the nut hairy throughout within."
	Rätsch, C. 2005. <i>The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications</i> . Park Street Press, Rochester, VT	"The winged fruits appear between March and August (Ott 1996) and resemble the fruits of the maple (<i>Acer</i> spp.)."

705	Propagules water dispersed	
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis, Diplopterys (Malpighiaceae)</i> . <i>Flora Neotropica</i> 30: 1-237	[Unknown if samaras are buoyant] "Samara with the carpophore up to 4 mm long and 0.4 mm wide, the nut 5-11 mm tall, 3-5 mm long, the abaxial margin with a tooth at the base, appressed-pubescent to glabrate, the wing 18-42 mm long, 8-22 mm wide, appressed-pubescent soon glabrate, the wings of the posterior samaras somewhat rotated to lie more nearly parallel to the wing of the anterior samara, the locule of the nut hairy throughout within."

706	Propagules bird dispersed	n
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Qsn #	Question	Answer
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Propagules, if produced, are adapted for wind dispersal & are not fleshy-fruited] "Samara with the carpophore up to 4 mm long and 0.4 mm wide, the nut 5-11 mm tall, 3-5 mm long, the abaxial margin with a tooth at the base, appressed-pubescent to glabrate, the wing 18-42 mm long, 8-22 mm wide, appressed-pubescent soon glabrate, the wings of the posterior samaras somewhat rotated to lie more nearly parallel to the wing of the anterior samara, the locule of the nut hairy throughout within."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Propagules, if produced, lack means of external attachment] "Samara with the carpophore up to 4 mm long and 0.4 mm wide, the nut 5-11 mm tall, 3-5 mm long, the abaxial margin with a tooth at the base, appressed-pubescent to glabrate, the wing 18-42 mm long, 8-22 mm wide, appressed-pubescent soon glabrate, the wings of the posterior samaras somewhat rotated to lie more nearly parallel to the wing of the anterior samara, the locule of the nut hairy throughout within."

708	Propagules survive passage through the gut	n
	Source(s)	Notes
	Gates, B. 1982. <i>Banisteriopsis</i> , <i>Diplopterys</i> (Malpighiaceae). <i>Flora Neotropica</i> 30: 1-237	[Propagules, if produced, adapted for wind dispersal & unlikely to be consumed & internally dispersed] "Samara with the carpophore up to 4 mm long and 0.4 mm wide, the nut 5-11 mm tall, 3-5 mm long, the abaxial margin with a tooth at the base, appressed-pubescent to glabrate, the wing 18-42 mm long, 8-22 mm wide, appressed-pubescent soon glabrate, the wings of the posterior samaras somewhat rotated to lie more nearly parallel to the wing of the anterior samara, the locule of the nut hairy throughout within."

801	Prolific seed production (>1000/m2)	n
	Source(s)	Notes
	Rätsch, C. 2005. <i>The Encyclopedia of Psychoactive Plants: Ethnopharmacology and Its Applications</i> . Park Street Press, Rochester, VT	"The plant is cultivated almost exclusively through cuttings, as most cultivated plants are infertile (Bristol 1965, 207*)."

802	Evidence that a persistent propagule bank is formed (>1 yr)	n
	Source(s)	Notes
	Worldseedsupply.org. 2014. How to Germinate <i>Banisteriopsis Caapi</i> Seeds. http://worldseedsupply.org/blog/?p=17 . [Accessed 26 Jun 2014]	"The real limitation, and what many new growers are not aware of, is that <i>Banisteriopsis caapi</i> seeds have a low germination rate, which decreases to none in just a few months."

Qsn #	Question	Answer
	BotanicalSpirit Shop. 2014. Banisteriopsis caapi Freshly Harvested Seeds. http://www.botanicalspirit.com/b-caapi-fresh-seeds . [Accessed 26 Jun 2014]	"These 100% Organic B. caapi seeds are freshly harvested and brought to us direct from Peru. The viability rates go down quickly with time so if you want to grow your own B caapi from seed we suggest you order soon."

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown. No information found on herbicide efficacy or chemical control of this species.

804	Tolerates, or benefits from, mutilation, cultivation, or fire	y
	Source(s)	Notes
	Miller; L. S. 1986. Banisteriopsis caapi (cv) `Da Vine`. U.S. Patent Plant 5,751 filed Nov 7, 1984 and issued Jun 17, 1986	[This cultivar is characterized by the rose color of its flower petals which fade with age to near white, and its medicinal properties, but otherwise shares the properties of the species. Tolerates repeated cutting & grows back] "Vigor: Growth rate: unknown because we constantly prune the vine. However, it is definitely a fast growing plant with a growth rate of at least 5-10 m per year, when young."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2014. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits

- Elevation range exceeds 1000 m, demonstrating environmental versatility
- Thrives in tropical climates
- Unconfirmed reports of naturalization
- Allelopathic
- Medicinal properties (could be toxic if taken internally in incorrect doses)
- Shade tolerant
- Smothering habit (sometimes killing supporting trees)
- Seeds, if produced, adapted for wind dispersal
- Able to regrow after repeated cutting
- Limited biological and ecological information makes accurate risk prediction difficult

Low Risk Traits

- Unarmed (no spines, thorns or burrs)
- Requires specialized pollinators
- Limited seed production in cultivation makes inadvertent dispersal unlikely
- Seeds lose viability rapidly

Second Screening Results for Vines/Lianas

(A) Reported as a weed of cultivated lands? Possibly

Shade tolerant or known to form dense stands?> Yes

(B) Wind-dispersed?> Yes, when samaras are produced

(C) Life cycle < 4 years? Unknown

Outcome = Evaluate