

<b>Taxon:</b> <i>Burbridgea schizocheila</i> W. Hackett	<b>Family:</b> Zingiberaceae
<b>Common Name(s):</b> golden brush golden ginger voodoo flame ginger	<b>Synonym(s):</b> <i>Burbridgea pubescens</i> Ridl.

<b>Assessor:</b> Chuck Chimera	<b>Status:</b> Assessor Approved	<b>End Date:</b> 17 Nov 2016
<b>WRA Score:</b> -1.0	<b>Designation:</b> L	<b>Rating:</b> Low Risk

**Keywords:** Tropical Ginger, Ornamental, Epiphytic, Rhizomatous, 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	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	y
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		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens		
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

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y=1, n=0	n
411	Climbing or smothering growth habit	y=1, n=0	n
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		
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
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	n
703	Propagules likely to disperse as a produce contaminant		
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		
801	Prolific seed production (>1000/m <sup>2</sup> )		
802	Evidence that a persistent propagule bank is formed (>1 yr)		
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
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
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 16 Nov 2016]	No evidence
102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	NA
103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. 2016. 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, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 15 Nov 2016]	"Native: Asia-Tropical Malesia: Malaysia - Sabah, - Sarawak"
202	Quality of climate match data	High
	Source(s)	Notes
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed ]	
203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Dave's Garden. (2016). Golden Brush, Golden Ginger, Vodoo Flame Ginger - <i>Burbridgea schizocheila</i> . <a href="http://davesgarden.com/guides/pf/go/89326/">http://davesgarden.com/guides/pf/go/89326/</a> . [Accessed 16 Nov 2016]	"Hardiness: USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"
204	Native or naturalized in regions with tropical or subtropical climates	y

Qsn #	Question	Answer
	<b>Source(s)</b>	<b>Notes</b>
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 15 Nov 2016]	"Native: Asia-Tropical Malesia: Malaysia - Sabah, - Sarawak"

205	Does the species have a history of repeated introductions outside its natural range?	y
	<b>Source(s)</b>	<b>Notes</b>
	Dave's Garden. (2016). Golden Brush, Golden Ginger, Voodoo Flame Ginger - <i>Burbridgea schizocheila</i> . <a href="http://davesgarden.com/guides/pf/go/89326/">http://davesgarden.com/guides/pf/go/89326/</a> . [Accessed 15 Nov 2016]	"This plant has been said to grow in the following regions: Melbourne, Florida Punta Gorda, Florida Hawaiian Ocean View, Hawaii Kealakekua, Hawaii Montegut, Louisiana Cumberland, Maryland Troy, New York Vieques, Puerto Rico"

301	Naturalized beyond native range	n
	<b>Source(s)</b>	<b>Notes</b>
	Imada, C.T., Staples, G.W. & Herbst, D.R. 2005. Annotated Checklist of Cultivated Plants of Hawai'i. <a href="http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/">http://www2.bishopmuseum.org/HBS/botany/cultivatedplants/</a> . [Accessed 15 Nov 2016]	[Cultivated in the Hawaiian Islands] "Burbridgea schizocheila Hackett First Collected: 1986 Locations: Harold L. Lyon Arboretum Waimea Arboretum & Botanical Garden"
	Randall, R.P. 2007. The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	Cultivated. Not recorded as naturalized
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
	Wagner, W.L., Herbst, D.R. & Lorence, D.H. 2016. Flora of the Hawaiian Islands. Smithsonian Institution, Washington, D.C. <a href="http://botany.si.edu/">http://botany.si.edu/</a> . [Accessed 15 Nov 2016]	No evidence to date

Qsn #	Question	Answer
302	Garden/amenity/disturbance weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
	Dave's Garden. (2016). Golden Brush, Golden Ginger, Vodoo Flame Ginger - <i>Burbridgea schizocheila</i> . <a href="http://davesgarden.com/guides/pf/go/89326/">http://davesgarden.com/guides/pf/go/89326/</a> . [Accessed 15 Nov 2016]	No evidence
303	Agricultural/forestry/horticultural weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
304	Environmental weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
305	Congeneric weed	n
	Source(s)	Notes
	Randall, R.P. 2012. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	No evidence
401	Produces spines, thorns or burrs	n
	Source(s)	Notes
	Thiselton-Dyer, W. T. (1905). Curtis's Botanical Magazine, Volume 131. Lovell Reeve & Co., LTD., London	"Descr—Stem slender, nine to fifteen inches high. Leaves elliptic,, acuminate, cuneate at the base, five inches long, three inches wide, green above, narrowly edged and tinged beneath with brownish-purple ; sheaths five inches long, claret colour ; ligules scarious ; petioles an inch and a half long, brown." [No evidence]
402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown
403	Parasitic	n

Qsn #	Question	Answer
	<b>Source(s)</b>	<b>Notes</b>
	Thiselton-Dyer, W. T. (1905). Curtis's Botanical Magazine, Volume 131. Lovell Reeve & Co., LTD., London	"Descr—Stem slender, nine to fifteen inches high. Leaves elliptic,, acuminate, cuneate at the base, five inches long, three inches wide, green above, narrowly edged and tinged beneath with brownish-purple ; sheaths five inches long, claret colour ; ligules scarious ; petioles an inch and a half long, brown." [No evidence]

404	Unpalatable to grazing animals	
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. 2016. Personal Communication	Unknown

405	Toxic to animals	n
	<b>Source(s)</b>	<b>Notes</b>
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	
	<b>Source(s)</b>	<b>Notes</b>
	Black Olive East Nursery. (2016). <i>Burbridgea schizocheila</i> . <a href="http://www.blackoliveeastnursery.net/index.php?main_page=product_info&amp;products_id=1181">http://www.blackoliveeastnursery.net/index.php?main_page=product_info&amp;products_id=1181</a> . [Accessed 16 Nov 2016]	"Pests: no major pest problems"

407	Causes allergies or is otherwise toxic to humans	n
	<b>Source(s)</b>	<b>Notes</b>
	Quattrocchi, U. 2012. CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence
	Wagstaff, D.J. 2008. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	No evidence

Qsn #	Question	Answer
408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Heliconia Paradise. (2016). <i>Burbridgea schizocheila</i> . <a href="http://heliconiaparadise.com/Burbridgea_schizocheila.htm">http://heliconiaparadise.com/Burbridgea_schizocheila.htm</a> . [Accessed 16 Nov 2016]	[No evidence. Unlikely given rainforest habitat & succulent habit] "This interesting ginger is native to Borneo's evergreen rainforests. ... Beautiful , slightly succulent foliage, reddish stems and golden yellow flowers are creating a very attractive impression of this plant."

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Dave's Garden. (2016). Golden Brush, Golden Ginger, Voodoo Flame Ginger - <i>Burbridgea schizocheila</i> . <a href="http://davesgarden.com/guides/pf/go/89326/">http://davesgarden.com/guides/pf/go/89326/</a> . [Accessed 15 Nov 2016]	"Sun Exposure: Partial to Full Shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	n
	Source(s)	Notes
	GingersRus. (2016). <i>Burbridgea schizocheila</i> . <a href="http://www.gingersrus.com/cart/index.php?productID=268">http://www.gingersrus.com/cart/index.php?productID=268</a> . [Accessed 16 Nov 2016]	"As mentioned above, this is NOT an easy plant to grow. It is somewhat of an epiphyte and needs a fast draining soil with the rhizome ABOVE the soil level and only the roots in the soil or potting medium."
	Almost Eden. (2016). Golden Brush Ginger, Voodoo Flame Ginger, Golden Ginger - <i>Burbridgea schizocheila</i> . <a href="https://www.almostedenplants.com">https://www.almostedenplants.com</a> . [Accessed 16 Nov 2016]	"Soil pH Range: Acidic, Mildly Acidic Soil Types & Moisture: Average moist, well-drained, humus rich soils. Adding orchid bark is often suggested."
	Heliconia Paradise. (2016). <i>Burbridgea schizocheila</i> . <a href="http://heliconiaparadise.com/Burbridgea_schizocheila.htm">http://heliconiaparadise.com/Burbridgea_schizocheila.htm</a> . [Accessed 16 Nov 2016]	"The plants requires very well draining soil, constantly warm temperatures and humidity."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	GingersRus. (2016). <i>Burbridgea schizocheila</i> . <a href="http://www.gingersrus.com/cart/index.php?productID=268">http://www.gingersrus.com/cart/index.php?productID=268</a> . [Accessed 16 Nov 2016]	[Epiphytic, but not climbing] "It is somewhat of an epiphyte and needs a fast draining soil with the rhizome ABOVE the soil level and only the roots in the soil or potting medium."

412	Forms dense thickets	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown

Qsn #	Question	Answer
501	<b>Aquatic</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	The Garden Geeks. (2016). <i>Burbridgea schizocheila</i> . <a href="http://thegardengeeks.net/plant-guide/641-burbridgea_schizocheila">http://thegardengeeks.net/plant-guide/641-burbridgea_schizocheila</a> . [Accessed 16 Nov 2016]	" Plant Type: epiphyte, terrestrial"
502	<b>Grass</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 16 Nov 2016]	Family: Zingiberaceae Subfamily: Alpinioideae Tribe: Riedelieae
503	<b>Nitrogen fixing woody plant</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	USDA, ARS, Germplasm Resources Information Network, 2016. National Plant Germplasm System [Online Database]. <a href="http://www.ars-grin.gov/npgs/index.html">http://www.ars-grin.gov/npgs/index.html</a> . [Accessed 16 Nov 2016]	Family: Zingiberaceae Subfamily: Alpinioideae Tribe: Riedelieae
504	<b>Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	Smithsonian Instituion. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	"Rhizomatous herbs up to c. 3 m high, sometimes epiphytic; stems many leaved, lamina petiolate or sessile, lanceolate to elliptic and up to c. 4 times as long as broad or narrowly lanceolate and up to 12 times as long as broad, caudate acuminate, glabrous or pubescent." [Rhizomatous, but not a geophyte]
601	<b>Evidence of substantial reproductive failure in native habitat</b>	n
	<b>Source(s)</b>	<b>Notes</b>
	WRA Specialist. 2016. Personal Communication	No evidence



Qsn #	Question	Answer
602	Produces viable seed	y
	Source(s)	Notes
	Smithsonian Institution. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	"fruit, as far as is known, a much elongated dry capsule, probably splitting irregularly down one side, seed apiculate, almost completely enclosed by a chartaceous aril."
	Adenium Store. (2016). Voodoo Flame Ginger ' <i>Burbridgea schizocheila</i> ' 5 Seeds. <a href="https://www.adeniumstore.com/index.php?main_page=product_info&amp;products_id=1472">https://www.adeniumstore.com/index.php?main_page=product_info&amp;products_id=1472</a> . [Accessed 16 Nov 2016]	"These seeds, once established, will dazzle with their golden blossoms and red flower spikes."

603	Hybridizes naturally	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown

604	Self-compatible or apomictic	
	Source(s)	Notes
	Smithsonian Institution. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	[Unknown] "Inflorescence few to many flowered, terminal on the leafy stem with up to 3 bladeless sheaths at the base, unbranched. Bracts usually absent, flowers borne singly, rarely in pairs on the main axis, shortly pedicellate; calyx clearly or obscurely bilobed, corolla tube long exerted or not, dorsal petal broadly ovate or elliptic; labellum forming a tube with the filament at the base, narrow, held erect, bilobed in upper 1/2 - 1/3, the bilobed part petaloid or not; lateral staminodes absent. Stamen with no free filament, anther thecae parallel, connective prolonged into an elongated dentate or more or less entire crest; stigma more or less truncate, ciliate; epigynous glands short, thick, often not divided to the base; ovary trilocular, placentation axile"

605	Requires specialist pollinators	
	Source(s)	Notes
	Boyce, P. (2006). The Gingers of Sarawak III - The Miniatures. <i>The HSPR Newsletter</i> 11(3): 1-4	" <i>Burbridgea</i> is a small genus of obligate epiphytes. Flowers tend to be large and in Borneo are mostly orange or yellow and are probably adapted to butterfly pollination"
	Specht, C. D., Yockteng, R., Almeida, A. M., Kirchoff, B. K., & Kress, W. J. (2012). Homoplasy, pollination, and emerging complexity during the evolution of floral development in the tropical gingers (Zingiberales). <i>The Botanical Review</i> , 78(4), 440-462	" <i>Renealmia</i> is mostly pollinated by hummingbirds and the clade comprising <i>Riedelia</i> , <i>Burbridgea</i> and <i>Pleurothodium</i> contains species pollinated by honeyeaters and bats."
	Kubitzki, K. (ed.). 1998. The Families and genera of vascular plants. Volume III. Flowering plants, Monocotyledons: Liliaceae (except Orchidaceae). Springer-Verlag, Berlin, Heidelberg, New York	[Possibly Yes] "paleotropical <i>Antholyza</i> , <i>Brunsvigia</i> , <i>Strelitzia</i> , <i>Burbridgea</i> , <i>Xeronema</i> , but also the neotropical <i>Puya</i> provide special perches to passerine birds"

Qsn #	Question	Answer
606	Reproduction by vegetative fragmentation	y
	Source(s)	Notes
	Smithsonian Instituion. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	[Presumably can spread vegetatively by rhizomes] "Rhizomatous herbs up to c. 3 m high, sometimes epiphytic; stems many leaved, lamina petiolate or sessile, lanceolate to elliptic and up to c. 4 times as long as broad or narrowly lanceolate and up to 12 times as long as broad, caudate acuminate, glabrous or pubescent."

607	Minimum generative time (years)	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Smithsonian Instituion. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	"fruit, as far as is known, a much elongated dry capsule, probably splitting irregularly down one side, seed apiculate, almost completely enclosed by a chartaceous aril." [No evidence. Fruit & seeds lack means of external attachment]

702	Propagules dispersed intentionally by people	n
	Source(s)	Notes
	GingersRus. (2016). <i>Burbridgea schizocheila</i> . <a href="http://www.gingersrus.com/cart/index.php?productID=268">http://www.gingersrus.com/cart/index.php?productID=268</a> . [Accessed 16 Nov 2016]	Sold online

703	Propagules likely to disperse as a produce contaminant	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. No evidence

Qsn #	Question	Answer
704	<b>Propagules adapted to wind dispersal</b>	<b>y</b>
	<b>Source(s)</b>	<b>Notes</b>
	Benedict, J. C., Smith, S. Y., Collinson, M. E., Leong-Škorničková, J., Specht, C. D., Marone, F., Xiao, X. & Parkinson, D. Y. (2015). Seed morphology and anatomy and its utility in recognizing subfamilies and tribes of Zingiberaceae. <i>American Journal of Botany</i> , 102(11), 1814-1841	"A chalazal mucro (labeled "cm" in figures)— an abrupt, pointed termination of the seed (in contrast to character 9, which is a gradual tapering of the seed body)—was reported by Ridley (1909) who suggested the structure (termed "terminal mucro") was a modification for water and wind dispersal in <i>Burbridgea</i> ."
	Boyce, P. (2006). The Gingers of Sarawak III - The Miniatures. <i>The HSPR Newsletter</i> 11(3): 1-4	"The seed capsules are long and slender and open to shed wind-dispersed seeds."
	Smithsonian Institution. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	[Chartaceous aril may aid in some movement by wind] "fruit, as far as is known, a much elongated dry capsule, probably splitting irregularly down one side, seed apiculate, almost completely enclosed by a chartaceous aril."

705	Propagules water dispersed	
	<b>Source(s)</b>	<b>Notes</b>
	Benedict, J. C., Smith, S. Y., Collinson, M. E., Leong-Škorničková, J., Specht, C. D., Marone, F., Xiao, X. & Parkinson, D. Y. (2015). Seed morphology and anatomy and its utility in recognizing subfamilies and tribes of Zingiberaceae. <i>American Journal of Botany</i> , 102(11), 1814-1841	"A chalazal mucro (labeled "cm" in figures)— an abrupt, pointed termination of the seed (in contrast to character 9, which is a gradual tapering of the seed body)—was reported by Ridley (1909) who suggested the structure (termed "terminal mucro") was a modification for water and wind dispersal in <i>Burbridgea</i> ."
	WRA Specialist. 2016. Personal Communication	Unknown if water can move seeds or rhizome fragments

706	Propagules bird dispersed	n
	<b>Source(s)</b>	<b>Notes</b>
	Smithsonian Institution. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	[No evidence. Dry fruit & chartaceous aril] "fruit, as far as is known, a much elongated dry capsule, probably splitting irregularly down one side, seed apiculate, almost completely enclosed by a chartaceous aril."

707	Propagules dispersed by other animals (externally)	n
	<b>Source(s)</b>	<b>Notes</b>
	Smithsonian Institution. (2016). <i>Burbridgea</i> . <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	"fruit, as far as is known, a much elongated dry capsule, probably splitting irregularly down one side, seed apiculate, almost completely enclosed by a chartaceous aril."
	Boyce, P. (2006). The Gingers of Sarawak III - The Miniatures. <i>The HSPR Newsletter</i> 11(3): 1-4	"The seed capsules are long and slender and open to shed wind-dispersed seeds."

708	Propagules survive passage through the gut	
	<b>Source(s)</b>	<b>Notes</b>

Qsn #	Question	Answer
	Smithsonian Instituion. (2016). Burbridgea. <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	[Unknown] "fruit, as far as is known, a much elongated dry capsule, probably splitting irregularly down one side, seed apiculate, almost completely enclosed by a chartaceous aril."

801	Prolific seed production (>1000/m2)	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown, but seed typically not mentioned in horticultural websites as a means of propagation

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Royal Botanic Gardens Kew. (2016) Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a> . [Accessed 16 Nov 2016]	Unknown

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

804	Tolerates, or benefits from, mutilation, cultivation, or fire	
	Source(s)	Notes
	Smithsonian Instituion. (2016). Burbridgea. <a href="http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae">http://botany.si.edu/zingiberales/genera/genuspage.cfm?mygenus=burbridgea&amp;myfamily=zingiberaceae</a> . [Accessed 16 Nov 2016]	[Unknown. May be able to resprout from rhizomes] "Rhizomatous herbs up to c. 3 m high, sometimes epiphytic; stems many leaved, lamina petiolate or sessile, lanceolate to elliptic and up to c. 4 times as long as broad or narrowly lanceolate and up to 12 times as long as broad, caudate acuminate, glabrous or pubescent. "

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. 2016. Personal Communication	Unknown

**Summary of Risk Traits:**

High Risk / Undesirable Traits

- Thrives in tropical climates
- Shade tolerant
- Reproduces by seeds & vegetatively by rhizomes
- Seeds dispersed by wind & intentionally by people
- Limited ecological information reduces accuracy of risk prediction

Low Risk Traits

- No reports of invasiveness or naturalization in genus
- Unarmed (no spines, thorns or burrs)
- Non-toxic
- Ornamental
- May require specialized pollinators to produce seeds