

Family: *Zingiberaceae*

Taxon: *Hedychium longicornutum*

Synonym: *Hedychium crassifolium* Baker
Hedychium longicornutum var. *minor* Ridl.

Common Name: perched gingerwort
hornbill's ginger

Questionnaire :	current 20090513	Assessor:	Assessor	Designation:	EVALUATE
Status:	Assessor Approved	Data Entry Person:	Assessor	WRA Score	5
101	Is the species highly domesticated?		y=-3, n=0		n
102	Has the species become naturalized where grown?		y=1, n=-1		
103	Does the species have weedy races?		y=1, n=-1		
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"		(0-low; 1-intermediate; 2-high) (See Appendix 2)		High
202	Quality of climate match data		(0-low; 1-intermediate; 2-high) (See Appendix 2)		High
203	Broad climate suitability (environmental versatility)		y=1, n=0		n
204	Native or naturalized in regions with tropical or subtropical climates		y=1, n=0		y
205	Does the species have a history of repeated introductions outside its natural range?		y=-2, ?=-1, n=0		n
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205		n
302	Garden/amenity/disturbance weed		n=0, y = 1*multiplier (see Appendix 2)		n
303	Agricultural/forestry/horticultural weed		n=0, y = 2*multiplier (see Appendix 2)		n
304	Environmental weed		n=0, y = 2*multiplier (see Appendix 2)		n
305	Congeneric weed		n=0, y = 1*multiplier (see Appendix 2)		y
401	Produces spines, thorns or burrs		y=1, n=0		n
402	Allelopathic		y=1, n=0		
403	Parasitic		y=1, n=0		n
404	Unpalatable to grazing animals		y=1, n=-1		
405	Toxic to animals		y=1, n=0		n
406	Host for recognized pests and pathogens		y=1, n=0		
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		n
411	Climbing or smothering growth habit		y=1, n=0		y

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	y
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	
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	y
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	
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: EVALUATE

WRA Score 5

Supporting Data:

101	2001. Ibrahim, H.. Hedychium longicornutum Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Is the species highly domesticated? No] No evidence
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	2001. Ibrahim, H.. Hedychium longicornutum Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Species suited to tropical or subtropical climate(s) 2-High] "Distribution Indonesia (Sumatra), Peninsular Malaysia, peninsular Thailand"
202	2001. Ibrahim, H.. Hedychium longicornutum Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Quality of climate match data 2-High]
203	2013. Learn 2 Grow. Hedychium longicornutum. http://www.learn2grow.com/plants/hedychium-longicornutum/ [Accessed 09 May 2013]	[Broad climate suitability (environmental versatility)? No] "As a plant native to higher tropical elevations, blooming is more likely where the winter evenings are comfortable to slightly cool. Very warm, sultry evenings inhibit flowering. " ... "USDA Hardiness Zone - 10 - 14"
204	2010. Leong-Škorničková, J.. Hedychium longicornutum—a stunning epiphyte from Malaysia. The Bulletin. 16(2): 1-2.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "This species is native to Peninsular Malaysia and is rather widespread in lowland and midrange forests. It has been recorded and collected many times from various parts of the Malay Peninsula, but unfortunately has never been found in Singapore in the wild."
205	2013. Dave's Gardern. PlantFiles: Hornbill's Ginger - Hedychium longicornutum. http://davesgarden.com/guides/pf/go/177858/ [Accessed 09 May 2013]	[Does the species have a history of repeated introductions outside its natural range? No] "This plant has been said to grow in the following regions: Sarasota, Florida Ainaloa, Hawaii"
301	2007. Randall, R.P.. The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	[Naturalized beyond native range? No] No evidence in Australia
301	2011. Schmidt, J.P./Drake, J.M.. Time since Introduction, Seed Mass, and Genome Size Predict Successful Invaders among the Cultivated Vascular Plants of Hawaii. PLoS ONE. 6(3): e17391: doi:10.1371/journal.pone.0017391.	[Naturalized beyond native range? No] No evidence
301	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Naturalized beyond native range? No] No evidence
302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? No] No evidence
303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No] No evidence
304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No] No evidence
305	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Congeneric weed? Yes] "Hedychium gardnerianum...spreads rapidly and may become dominant over large areas, especially under canopy openings or in cleared areas."
401	2001. Ibrahim, H.. Hedychium longicornutum Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Produces spines, thorns or burrs? No] "An epiphytic herb, rhizome short, thick, grey, fleshy roots, clasping branches of trees and large shrubs near ground level, leafy stems several, up to 70 cm tall; leaves narrowly elliptical, up to 32 cm x 8 cm, glabrous, margins hairy underneath, mid vein below sparsely hairy, ligule 26 cm long, sheath hairy"

402	2005. Basotra, R./Chauhan, S./Todaria, N.P.. Allelopathic Effects of Medicinal Plants on Food Crops in Garhwal, Himalaya,. <i>Journal of Sustainable Agriculture</i> . 26(3): 43-56.	[Allelopathic? Unknown] "This study revealed that farming of <i>Berginia ciliata</i> , <i>Hedychium spicatum</i> and <i>Potentilla fulgens</i> in agroforestry system may depress significantly germination and growth of food crops." [Other <i>Hedychium</i> species demonstrate allelopathic properties]
403	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Parasitic? No] "An epiphytic herb"
404	2013. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown] As an epiphyte, however, grazing animals may not have access to this plant
405	2008. Wagstaff, D.J.. <i>International poisonous plants checklist: an evidence-based reference</i> . CRC Press, Boca Raton, FL	[Toxic to animals? No] No evidence of toxicity in genus
406	2013. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2008. Wagstaff, D.J.. <i>International poisonous plants checklist: an evidence-based reference</i> . CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No] No reports of toxicity in genus
407	2012. Wiart, C.. <i>Medicinal Plants of China, Korea, and Japan: Bioresources for Tomorrow's Drugs and Cosmetics</i> . CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No] "In Malaysia, the roots are used to assuage earache and to expel worms from the intestines." [No evidence. Medicinal properties could potentially lead to poisoning if taken at incorrect dosage, but unlikely to cause accidental poisonings]
408	2010. Mojiol, A.R./Adella, A./Kodoh, J./Lintangah, W./Wahab, R.. <i>Common Medicinal Plants Species Found at Burned and Unburned Areas of Klias Peat Swamp Forest, Beaufort, Sabah Malaysia</i> . <i>Journal of Sustainable Development</i> . 3(1): 109-115.	[Creates a fire hazard in natural ecosystems? No] "According to Rukayah (2006), <i>Hedychium longicornutum</i> 's and <i>Lygodium flexuosum</i> 's habitat was in the forest and bushes. Therefore, unburned area or natural habitat was the most suitable place for <i>Hedychium longicornutum</i> and <i>Lygodium flexuosum</i> to grow." [An epiphytic herb that requires unburned forest for habitat]
409	1986. Lau, J.. <i>Specimen Details for Hedychium longicornutum</i> [BISH 503880]. Bishop Museum, http://nsdb.bishopmuseum.org/B4E5576D-50CA-4BFB-915C-DE6C6AC72C8A	[Is a shade tolerant plant at some stage of its life cycle? Yes] "Growing in a small pocket on a tree trunk in dense shade"
409	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	[Is a shade tolerant plant at some stage of its life cycle? Yes] "...native to Malaysia, where it is epiphytic in shady forests."
409	2008. Jackson, S.. <i>Growing your Hedychium longicornutum</i> . http://www.members.westnet.com.au/wackos/PDFs/Growing%20your%20Hedychium%20longicornutum.pdf	[Is a shade tolerant plant at some stage of its life cycle? Yes] "Keep your newly potted plant in bright filtered light for 3 or 4 weeks and then slowly move to a little morning sun. When growing strongly again, these plants prefer morning sun and bright filtered light the rest of the day. Afternoon sun will scorch the leaves."
410	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Tolerates a wide range of soil conditions? No] "It grows perched on trees or in rock crevices and for that purpose it is well adapted by having swollen roots."
410	2013. Learn 2 Grow. <i>Hedychium longicornutum</i> . http://www.learn2grow.com/plants/hedychium-longicornutum/ [Accessed 09 May 2013]	[Tolerates a wide range of soil conditions? No] "Soil pH - Acidic, Neutral. Soil Drainage - Well Drained. Soil type - Sand"
411	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Climbing or smothering growth habit? Yes] "An epiphytic herb, rhizome short, thick, grey, fleshy roots, clasping branches of trees and large shrubs near ground level..."
412	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Forms dense thickets? No] " <i>Hedychium longicornutum</i> occurs widely scattered in lowland and lower hill forests on stems and branches of small trees which it clasps with its thick mass of fleshy roots." [No evidence. Could possibly smother a host tree, but does not appear to form dense thickets like other <i>Hedychium</i> species do in the Hawaiian Islands]
501	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Aquatic? No] "An epiphytic herb"

502	2013. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, http://www.tropicos.org/	[Grass? No] Zingiberaceae
503	2013. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, http://www.tropicos.org/	[Nitrogen fixing woody plant? No] Zingiberaceae
504	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "An epiphytic herb, rhizome short, thick, grey, fleshy roots, clasping branches of trees and large shrubs near ground level" [This question is specifically to deal with plants that have specialized organs and should not include plants merely with rhizomes]
601	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Evidence of substantial reproductive failure in native habitat? No] " <i>Hedychium longicornutum</i> occurs widely scattered in lowland and lower hill forests on stems and branches of small trees which it clasps with its thick mass of fleshy roots."
602	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Produces viable seed? Yes] "This species flowered regularly for the past few years in the Ginger Garden, but only twice did we see the formation of fruits. As in other <i>Hedychium</i> species, the fruit is a septifragal capsule with three leathery valves. These open when the fruit is ripe and are bright orange inside with orange-red seeds embedded in bright red arils – a colour combination highly attractive to birds that ensure seed dispersal. As we have currently only a single plant in Ginger Garden, we can assume that this species is capable of self-pollinating."
602	2013. Dave's Gardern. PlantFiles: Hornbill's Ginger - <i>Hedychium longicornutum</i> . http://davesgarden.com/guides/pf/go/177858/ [Accessed 09 May 2013]	[Produces viable seed? Yes] "Propagation Methods: By dividing rhizomes, tubers, corms or bulbs (including offsets) From herbaceous stem cuttings From seed"
603	2005. Sakhanokho, H.F./Pounders, C.. Ploidy Variation in <i>Hedychium</i> Species and Cultivars. Pp 665-667 in SNA Research Conference Proceedings. Southern Nursery Association, Acworth, GA	[Hybridizes naturally? Potentially Yes] "Tremendous diversity exists within the genus, providing breeders with an opportunity to develop new cultivars. This diversity is due in part to the fact that <i>Hedychium</i> species readily hybridize, which makes natural hybridization both very likely but also a potential source of the current taxonomic confusion in <i>Hedychium</i> "
604	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Self-compatible or apomictic? Yes] "As we have currently only a single plant in Ginger Garden, we can assume that this species is capable of self-pollinating."
605	1998. Kubitzki, K. (ed.). The Families and genera of vascular plants. Volume IV. Flowering plants, Monocotyledons: Alismatanae and Commelinanae (except Gramineae). Springer-Verlag, Berlin, Heidelberg, New York	[Requires specialist pollinators? Yes] "In Brazil, <i>Hedychium coronarium</i> and most species of the Asiatic genus <i>Hedychium</i> are, according to Muller (1890) and Kuncke d'Herculeais (1910) pollinated by hawk moths (Sphingidae). However, their long, straight and stiff proboscis sticks in the narrow, curved corolla tube, and they are caught by the vacuum created after sucking the nectar. In the process of freeing themselves, they pollinate the flowers before dying. Pollination by butterflies has also been observed in <i>Hedychium</i> by the same authors."
605	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker[Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Requires specialist pollinators?] "spike dense, peduncle and rachis about 10 cm long, bracts densely brown, up to 3 cm x 0.5 cm, lower bracts ovate, upper ones narrowly lanceolate, bracteoles tubular, finely hairy; calyx tubular, slender, up to 3 cm long, pink, corolla tube slender, cylindrical, somewhat longer than calyx, lobes narrow, linear, red, edges rolled inward, up to 6 cm x 0.5 cm, labellum about 2.4 cm long, orange, divided nearly to the base into 2 narrow halves, lateral staminodes elliptical, curled backwards, orange, yellow towards base, about 3.2 cm x 0.5 cm, filament of fertile stamen up to 12 cm long, white above, pinkish below, anther linear oblong, 1.2 cm long, orange, slightly curved, stigma longer than stamen, club-shaped, ovary 5 mm long, hairy; capsule up to 2.5 cm long, orange, strongly angled, slightly hairy..."
605	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Requires specialist pollinators? No] "Its orange-red flowers are of an intricate architecture. Long and slender red corolla lobes hang downwards, while the long staminodes and deeply split labellum are curled and usually bright orange. The flowers open for 48 hours, a long duration compared to many other gingers, where flowers typically last just few hours to one day. Flowers emit a slight and pleasant scent wooing butterflies and perhaps also moths with long probosces to have a taste of the sweet nectar deposited deep at the bottom of the long corolla tube." ... "As we have currently only a single plant in Ginger Garden, we can assume that this species is capable of self-pollinating." [Moths and butterflies may be the only insects that can pollinate the long corollas]
605	2013. Learn 2 Grow. <i>Hedychium longicornutum</i> . http://www.learn2grow.com/plants/hedychium-longicornutum/ [Accessed 09 May 2013]	[Requires specialist pollinators? Yes] "Following pollination by hummingbirds, seed capsules form."

606	1985. Smith, C.W.. Impact of Alien Plants on Hawaii's Native Biota. Pp. 180-250 in Stone & Scott (eds.). Hawaii's terrestrial ecosystems: preservation & management. CPSU, Honolulu, HI	[Reproduction by vegetative fragmentation? <i>Hedychium gardnerianum</i> and other species are able to spread by rhizomes and rhizome fragments] "Each plant grows rapidly by stolons, displacing all other plants. The conspicuous, fleshy, red seeds are dispersed by alien, and perhaps native, frugivorous birds as well as man." [Presumably rhizome fragments of <i>H. longicornutum</i> would be able to establish if broken off from parent plant]
606	2013. Dave's Gardern. PlantFiles: Hornbill's Ginger - <i>Hedychium longicornutum</i> . http://davesgarden.com/guides/pf/go/177858/ [Accessed 09 May 2013]	[Reproduction by vegetative fragmentation? Yes] "Propagation Methods: By dividing rhizomes, tubers, corms or bulbs (including offsets) From herbaceous stem cuttings From seed; germinate in vitro in gelatin, agar or other medium" [Based on propagation methods, and ability of other <i>Hedychium</i> species to spread vegetatively]
607	2011. Hardy Tropicals UK. Forum List < Hardy Tropicals < HTUK Community Forum (public) - <i>Hedychium Longicornutum</i> . http://www.hardy-tropicals.co.uk/forum/viewtopic.php?t=11754&p=214365	[Minimum generative time (years)? 1] "I looked back and bought this plant as roughly a 12 inch stem back in July, and has been growing all through Winter, so has taken I guess probably 12 months from start to flowering."
701	2013. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Unknown] As an epiphyte, unlikely to be accidentally dispersed, and seeds lack means of external attachment. Rhizomes could possibly be spread around in discarded in garden waste, as has happened with other <i>Hedychium</i> species
702	2012. Wiart, C.. Medicinal Plants of China, Korea, and Japan: Bioresources for Tomorrow's Drugs and Cosmetics. CRC Press, Boca Raton, FL	[Propagules dispersed intentionally by people? Yes] "It is cultivated as an ornamental plant."
703	2013. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] Unlikely, as this is an epiphytic ginger that is not grown with produce
704	2012. Wiart, C.. Medicinal Plants of China, Korea, and Japan: Bioresources for Tomorrow's Drugs and Cosmetics. CRC Press, Boca Raton, FL	[Propagules adapted to wind dispersal? No] "The capsules are oblong, hairy, brown, and contain 15 seeds that are embedded in a crimson aril..." [Adapted for bird dispersal]
705	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker [Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Propagules water dispersed? No] "An epiphytic herb, rhizome short, thick, grey, fleshy roots, clasping branches of trees and large shrubs near ground level,..." ... "widely scattered in lowland and lower hill forests on stems and branches of small trees" [Adapted for bird dispersal]
706	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Propagules bird dispersed? Yes] "As in other <i>Hedychium</i> species, the fruit is a septifragal capsule with three leathery valves. These open when the fruit is ripe and are bright orange inside with orange-red seeds embedded in bright red arils – a colour combination highly attractive to birds that ensure seed dispersal."
707	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker [Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Propagules dispersed by other animals (externally)? No] "An epiphytic herb, rhizome short, thick, grey, fleshy roots, clasping branches of trees and large shrubs near ground level" ... "capsule up to 2.5 cm long, orange, strongly angled, slightly hairy, dehisced fruit orange inside, many-seeded; aril red" [Unlikely, as animals are unlikely to encounter epiphytes, and fruits and seeds lack means of external attachment]
708	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Propagules survive passage through the gut? Presumably Yes] "As in other <i>Hedychium</i> species, the fruit is a septifragal capsule with three leathery valves. These open when the fruit is ripe and are bright orange inside with orange-red seeds embedded in bright red arils – a colour combination highly attractive to birds that ensure seed dispersal."
801	2001. Ibrahim, H.. <i>Hedychium longicornutum</i> Griff. ex Baker [Internet] Record from Proseabase. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia http://www.proseanet.org [Accessed 09 May 2013]	[Prolific seed production (>1000/m ²)? No] "...dehisced fruit orange inside, many-seeded; aril red." [Highly unlikely, given relative size of plant, requirement for specialized pollinators, and need for multiple flowering stalks producing the maximum number of seeds in optimal conditions to reach such high seed densities]
801	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Prolific seed production (>1000/m ²)? No] "This species flowered regularly for the past few years in the Ginger Garden, but only twice did we see the formation of fruits. As in other <i>Hedychium</i> species, the fruit is a septifragal capsule with three leathery valves."
802	2011. Hardy Tropicals UK. Forum List < Hardy Tropicals < HTUK Community Forum (public) - <i>Hedychium Longicornutum</i> . http://www.hardy-tropicals.co.uk/forum/viewtopic.php?t=11754&p=214365	[Evidence that a persistent propagule bank is formed (>1 yr)? No] "Just a quick word of advice: Plant these seeds as soon as possible. They do not have a long viability and it's best not to let them dry out if possible. Don't plan on much luck if you store them for a few weeks or more."

803	2002. Motooka, P./Ching, L./Nagai, G.. Herbicidal Weed Control Methods for Pasture and Natural Areas of Hawaii. CTAHR free publication WC-8. CTAHR, UH Manoa, Honolulu, HI	[Well controlled by herbicides? Unknown] "Metsulfuron Escort®, 60% dry flowable (DuPont) Ally®, 60% dry flowable (DuPont)...Use: Selective control of dicots in pastures and noncropland. Kahili ginger, yellow ginger and white ginger very sensitive (0.5 oz. product / acre)." [Related species are susceptible, but epiphytic nature of <i>H. longicornutum</i> may limit herbicide use]
804	2010. Leong-Škorničková, J.. <i>Hedychium longicornutum</i> —a stunning epiphyte from Malaysia. <i>The Bulletin</i> . 16(2): 1-2.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Possibly] "It grows perched on trees or in rock crevices and for that purpose it is well adapted by having swollen roots. These roots not only help to store some extra water, enough to sustain the plant for couple of days without rain, but also provide a firm grip to increase the stability of the plant."
804	2010. Mojiol, A.R./Adella, A./Kodoh, J./Lintangah, W./Wahab, R.. Common Medicinal Plants Species Found at Burned and Unburned Areas of Klias Peat Swamp Forest, Beaufort, Sabah Malaysia. <i>Journal of Sustainable Development</i> . 3(1): 109-115.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Does not tolerate fire] "According to Rukayah (2006), <i>Hedychium longicornutum</i> 's and <i>Lygodium flexuosum</i> 's habitat was in the forest and bushes. Therefore, unburned area or natural habitat was the most suitable place for <i>Hedychium longicornutum</i> and <i>Lygodium flexuosum</i> to grow."
805	2013. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risk / Undesirable Traits

- Thrives in tropical climates
- Several other *Hedychium* species have become invasive
- Shade tolerant
- Epiphytic habit (may compete with native epiphytes)
- Reached maturity in 12 months under optimal conditions
- Seeds dispersed by birds and people
- Spreads vegetatively by rhizomes and rhizome fragments

Low Risk / Desirable Traits

- No reports of naturalization or invasiveness to date
- Specialized growing requirements
- Unarmed (no spines, thorns or burrs)
- Non-toxic
- Ornamental and medicinal uses
- Requires specialized pollinators
- Seeds lose viability quickly