

Family: *Bromeliaceae*

Taxon: *Bromelia balansae*

Synonym: *Agallostachys laciniosa* K. Koch ex Baker **Common Name:** heart of flame
Bromelia argentina Baker heart of fire
Karatas guianensis Baker [Invalid] pinuela

Questionnaire :	current 20090513	Assessor:	Assessor	Designation: L
Status:	Assessor Approved	Data Entry Person:	Assessor	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	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)	
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	y
402	Allelopathic		y=1, n=0	
403	Parasitic		y=1, n=0	n
404	Unpalatable to grazing animals		y=1, n=-1	y
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	
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	y
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	n
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	
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	
706	Propagules bird dispersed	y=1, n=-1	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	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
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: L

WRA Score 4

Supporting Data:

101	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Is the species highly domesticated? No evidence]
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Species suited to tropical or subtropical climate(s) 2-High] "Distribution. Thickets to open or dense woodland, 60-1000 m alt, Colombia, Bolivia, Brazil, Paraguay, northern Argentina."
202	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Quality of climate match data 2-High]
203	1999. Gilman, E.F.. Bromelia balansae. Fact Sheet FPS-74. University of Florida IFAS Extension, Gainesville, FL http://hort.ifas.ufl.edu/database/documents/pdf/shrub_fact_sheets/brobala.pdf .	[Broad climate suitability (environmental versatility)? No] "USDA hardiness zones: 9B through 11"
204	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Distribution. Thickets to open or dense woodland, 60-1000 m alt, Colombia, Bolivia, Brazil, Paraguay, northern Argentina."
205	1982. Wunderlin, R.P.. Guide to the Vascular Plants of Central Florida. University Press of Florida, Gainesville, FL	[Does the species have a history of repeated introductions outside its natural range? Florida] "The following terrestrial species are commonly cultivated and are occasionally encountered or locally reproducing vegetatively: Ananas comosus (L.) Merr. (Pineapple); Bilbergia pyramidalis Thunb. (Foolproof Plant); Bromelia balansae Mex (Heart-of-Flame),"
205	2002. Glen, H.F.. Cultivated Plants of Southern Africa: Botanical Names, Common Names, Origins, Literature. Jacana, Johannesburg, South Africa	[Does the species have a history of repeated introductions outside its natural range? South Africa]
205	2007. Randall, R.P.. The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	[Does the species have a history of repeated introductions outside its natural range? Australia] Cultivated
205	2008. Kobayashi, K./Criley, R./Kaufman, A./Tsugawa, S./Ricordi, A./Clifford, P.. Barrier Plants. L-20. College of Tropical Agriculture and Human Resources (CTAHR, Honolulu, HI http://www.ctahr.hawaii.edu/freepubs	[Does the species have a history of repeated introductions outside its natural range? Hawaii]
301	1982. Wunderlin, R.P.. Guide to the Vascular Plants of Central Florida. University Press of Florida, Gainesville, FL	[Naturalized beyond native range? No. Persisting] "The following terrestrial species are commonly cultivated and are occasionally encountered or locally reproducing vegetatively: Ananas comosus (L.) Merr. (Pineapple); Bilbergia pyramidalis Thunb. (Foolproof Plant); Bromelia balansae Mex (Heart-of-Flame),"
301	2012. Imada, C.. Hawaiian Native and Naturalized Vascular Plants Checklist (December 2012 update). Bishop Museum Technical Report 60. Bishop Museum, Honolulu, HI	[Naturalized beyond native range? No evidence in Hawaii]
302	2011. Alho, C.J.R./Mamede, S./Bitencourt, K./Benites, M.. Introduced species in the Pantanal: implications for conservation. Brazilian Journal of Biology. 71(1): 321-325.	[Garden/amenity/disturbance weed? Benefits from disturbance] "There are some local plant species of the Pantanal which take advantage of disturbed areas and grow aggressively, dominating and modifying natural habitats. Species locally known as assa-peixe (<i>Vernonia scraba</i> Pers. and <i>Vernonia ferruginea</i> Less.), can colonise areas along open routes or roads. Other species which benefit from altered habitats, proliferating abnormally, are <i>Bromelia balansae</i> Mez. and <i>Byrsonima intermedia</i> A.Juss, <i>B. orgignyana</i> A. Juss and <i>Licania parvifolia</i> Huber."
302	2011. Pott, A./Oliveira, A.K.M./Damasceno-Junior, G.A./Silva, J.S.V.. Plant diversity of the Pantanal wetland. Brazilian Journal of Biology. 71(1): 265-273.	[Garden/amenity/disturbance weed? Benefits from disturbance] "Bromelia balansae stands ("gravateiro") – community of a pineapple-like plant, generally indicating flood limit; when in large amounts inside groves and woods, it may indicate selective logging with opening of gaps, which allow fast growth and spread, blocking passage of large animals, then the leaves have very spiny edges"
303	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No evidence]

304	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No evidence]
305	2008. Clark, D.W. et al.. "Rats & Weeds & Lizards—Oh My!" Eradication of <i>Rattus rattus</i> & Control of Invasive Exotic Plants on Buck Island, U.S. Virgin Islands. Pp 106-111 in Weber & Harmon (eds). Proc. of the 2007 George Wright Society.	[Congeneric weed? Yes. <i>Bromelia penguin</i>] "Buck Island is primarily a tropical dry forest rising to 100 meters in elevation and is comprised of four distinct plant community types including scrub thicket, semi-deciduous dry woodland, mangroves, and a beach forest (Ray 2002)." ... "During the nineteenth and twentieth centuries, several non-native plants and trees used for domestic purposes were introduced, including African Guinea grass (<i>U. maximum</i>), tan-tan (<i>Leucaena leucocephala</i>), tamarind (<i>Tamarindus indica</i>), aloe (<i>Aloe vera</i>), and wild pineapple or penguin (<i>Bromelia penguin</i>);" ... "Six invasive non-native species (<i>Urochloa maxima</i> , <i>Leucaena leucocephala</i> , <i>Tecoma stans</i> , <i>Bromelia penguin</i> , <i>Boerhavia erecta</i> , and <i>Aloe vera</i>) on Buck Island were of immediate concern," ... "Aloe and wild pineapple (<i>Aloe vera</i> and <i>Bromelia penguin</i>): Apply Triclopyr (in vegetable oil carrier) at a concentration of 30% to apical growth of each plant (using compression or backpack sprayer)." ... "Since 2004, annual contractor visits to treat invasive exotic plant species on Buck Island have reduced the coverage of six of the targeted species (<i>Melicoccus bijugatus</i> , <i>Thespesia populnea</i> , <i>Morinda citrifolia</i> , <i>Aloe vera</i> , <i>Tamarindus indica</i> and <i>Bromelia penguin</i>) to fewer than 10 individual plants detected per species, per visit, island-wide."
401	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). <i>Flora Neotropica</i> . 14(3): 1493-2142.	[Produces spines, thorns or burrs? Yes] "Leaves very many in a dense spreading rosette, not constricted between sheath and blade, over 1 m long; sheaths elliptic, large; blades linear, attenuate, 25 mm wide, glabrous above, closely pale lepidote beneath, laxly serrate with antrorses pines"
401	1987. Clay, H.F./Hubbard, J.C.. <i>The Hawaii Garden: Tropical Exotics</i> . University of Hawaii Press, Honolulu, HI	[Produces spines, thorns or burrs? Yes] "Also, because of the sharp spines, they make a natural barrier when planted in a hedgerow."
401	2008. Kobayashi, K./Criley, R./Kaufman, A./Tsugawa, S./Ricordi, A./Clifford, P.. <i>Barrier Plants</i> . L-20. College of Tropical Agriculture and Human Resources (CTAHR, Honolulu, HI http://www.ctahr.hawaii.edu/freepubs)	[Produces spines, thorns or burrs? Yes] "Heart of flame - <i>Bromelia balansae</i> , Bromeliaceae. This large, spiny-leaved plant with clumps of wavy long foliage spreads slowly by underground stems. It grows in dense thickets up to 3 feet high. The leaves have sawtoothed edges."
402	2013. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	1987. Clay, H.F./Hubbard, J.C.. <i>The Hawaii Garden: Tropical Exotics</i> . University of Hawaii Press, Honolulu, HI	[Parasitic? No] "A stiffly herbaceous, evergreen plant that grows to about 2 feet in height." [Bromeliaceae]
404	2008. Giroux, L.. Bromeliad Expose. Newsletter of The Caloosahatchee Bromeliad Society. March 2008: 7-14.	[Unpalatable to grazing animals? Yes. Spines deter browsing] "However, long leaves bordered by sharp, prominent spines, quick growth and their spreading nature of other species like <i>Bromelia penguin</i> and <i>balansae</i> has been taken advantage of by ranchers in South and Central American countries where these plants grow to deter domesticated and wild animals from free movement within farms and gardens."
405	2012. Anonymous. <i>Lippincott's Manual of Toxicology</i> . Lippincott Williams & Wilkins, Philadelphia, PA	[Toxic to animals? No] "Table 62.2 - Nontoxic Plants" [Includes <i>Bromelia balansae</i>]
406	1987. Clay, H.F./Hubbard, J.C.. <i>The Hawaii Garden: Tropical Exotics</i> . University of Hawaii Press, Honolulu, HI	[Host for recognized pests and pathogens?] "To control scale, use malathion at one half-recommended strength; for thrips and mealybugs, use diazinon or malathion."
406	1999. Gilman, E.F.. <i>Bromelia balansae</i> . Fact Sheet FPS-74. University of Florida IFAS Extension, Gainesville, FL http://hort.ifas.ufl.edu/database/documents/pdf/shrub_fact_sheets/brobala.pdf .	[Host for recognized pests and pathogens? No] "Pest resistance: no serious pests are normally seen on the plant" ... "Heart-of-Flame may be bothered by scale."
407	2012. Anonymous. <i>Lippincott's Manual of Toxicology</i> . Lippincott Williams & Wilkins, Philadelphia, PA	[Causes allergies or is otherwise toxic to humans? No] "Table 62.2 - Nontoxic Plants" [Includes <i>Bromelia balansae</i>]
408	1998. Heckman, C.W.. <i>The Pantanal of Poconé: Biota and Ecology in the Northern Section of the World's Largest Pristine Wetland</i> . Kluwer Academic Publishers, Dordrecht, The Netherlands	[Creates a fire hazard in natural ecosystems? No evidence] "In the Pantanal, a few plants have adapted to water shortages by storing it in their tissues." ... "Other species with succulent parts include <i>Bromelia balansae</i> , which can store water in the leaves..." [No evidence, and unlikely given succulent leaves]
409	1987. Clay, H.F./Hubbard, J.C.. <i>The Hawaii Garden: Tropical Exotics</i> . University of Hawaii Press, Honolulu, HI	[Is a shade tolerant plant at some stage of its life cycle?] "Grows best in cool, moist, partly shaded locations in soil rich in humus."

409	1999. Gilman, E.F.. Bromelia balansae. Fact Sheet FPS-74. University of Florida IFAS Extension, Gainesville, FL http://hort.ifas.ufl.edu/database/documents/pdf/shrub_fact_sheets/brobala.pdf .	[Is a shade tolerant plant at some stage of its life cycle?] "Light requirement: plant grows in part shade/part sun"
410	1999. Gilman, E.F.. Bromelia balansae. Fact Sheet FPS-74. University of Florida IFAS Extension, Gainesville, FL http://hort.ifas.ufl.edu/database/documents/pdf/shrub_fact_sheets/brobala.pdf .	[Tolerates a wide range of soil conditions? Yes] "Soil tolerances: clay; sand; acidic; alkaline; loam"
411	1987. Clay, H.F./Hubbard, J.C.. The Hawaii Garden: Tropical Exotics. University of Hawaii Press, Honolulu, HI	[Climbing or smothering growth habit? No] "Like its close relative, the pineapple (<i>Ananas comosus</i>), heart of flame is a terrestrial plant, growing in open forests and fields."
412	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). <i>Flora Neotropica</i> . 14(3): 1493-2142.	[Forms dense thickets? Yes] "Distribution. Thickets to open or dense woodland,"
412	2008. Kobayashi, K./Criley, R./Kaufman, A./Tsugawa, S./Ricordi, A./Clifford, P.. Barrier Plants. L-20. College of Tropical Agriculture and Human Resources (CTAHR, Honolulu, HI http://www.ctahr.hawaii.edu/freepubs	[Forms dense thickets? Yes] "It grows in dense thickets up to 3 feet high."
412	2013. Cid, B./Oliveira-Santos, L.G.R./Mourão, G.. Seasonal Habitat Use of Agoutis (<i>Dasyprocta azarae</i>) is Driven by the Palm <i>Attalea phalerata</i> in Brazilian Pantanal. <i>Biotropica</i> . 45: 380–385.	[Forms dense thickets? Yes] "Inside the forest formations are clusters of acuri palm (<i>Attalea phalerata</i>) (hereafter 'acuri palms') and caraguatá bromeliads (<i>Bromelia balansae</i>) (hereafter 'bromeliads') which, in some places, may completely dominate the understory."
501	1987. Clay, H.F./Hubbard, J.C.. The Hawaii Garden: Tropical Exotics. University of Hawaii Press, Honolulu, HI	[Aquatic? No] "...heart of flame is a terrestrial plant, growing in open forests and fields."
502	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). <i>Flora Neotropica</i> . 14(3): 1493-2142.	[Grass? No] Bromeliaceae
503	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). <i>Flora Neotropica</i> . 14(3): 1493-2142.	[Nitrogen fixing woody plant? No] Bromeliaceae
504	2008. Kobayashi, K./Criley, R./Kaufman, A./Tsugawa, S./Ricordi, A./Clifford, P.. Barrier Plants. L-20. College of Tropical Agriculture and Human Resources (CTAHR, Honolulu, HI http://www.ctahr.hawaii.edu/freepubs	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "This large, spiny-leaved plant with clumps of wavy long foliage spreads slowly by underground stems."
601	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). <i>Flora Neotropica</i> . 14(3): 1493-2142.	[Evidence of substantial reproductive failure in native habitat? No evidence]
602	1987. Clay, H.F./Hubbard, J.C.. The Hawaii Garden: Tropical Exotics. University of Hawaii Press, Honolulu, HI	[Produces viable seed? Yes] "Remove and replant mature offshoots from the older plant's base. Plants may also be grown from seeds."
602	1999. Gilman, E.F.. Bromelia balansae. Fact Sheet FPS-74. University of Florida IFAS Extension, Gainesville, FL http://hort.ifas.ufl.edu/database/documents/pdf/shrub_fact_sheets/brobala.pdf .	[Produces viable seed? Yes] "Invasive potential: may self-seed each year"
603	2013. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2007. Barbosa-Filho, W.G./Araujo, A.C.. Eficiência de polinização e biologia reprodutiva de <i>Bromelia balansae</i> Mez (Bromeliaceae) em um fragmento de cerrado, Mato Grosso do Sul. In Anais do VIII Congresso de Ecologia do Brasil, 23 a 28 de Setembro de 2007,	[Self-compatible or apomictic? No] "Com base nos resultados deste estudo <i>B. balansae</i> pode ser incluída entre as poucas espécies de Bromeliaceae que têm sido descritas como autoincompatíveis (Martinelli 1997)." [Translation from Portuguese: Based on the results of this study <i>B. balansae</i> can be included among the few species of Bromeliaceae which have been described as self-incompatible (Martinelli 1997).]

605	2007. Barbosa-Filho, W.G./Araujo, A.C.. Eficiencia de polinizacao e biologia reprodutiva de Bromelia balansae Mez (Bromeliaceae) em um fragmento de cerrado, Mato Grosso do Sul. In Anais do VIII Congresso de Ecologia do Brasil, 23 a 28 de Setembro de 2007,	[Requires specialist pollinators? Yes] "Bromelia balansae representa importante fonte de néctar, principalmente para beija-flores, na área de estudo. E, com base nos resultados dos experimentos reprodutivos, estas aves são seus principais polinizadores. Devido a sua freqüência e comportamento de visitas, H. chrysurus é o polinizador mais importante dessa espécie no fragmento de cerrado estudado." [Translation from Portuguese: Bromelia balansae represents an important source of nectar, mainly for hummingbirds in the area of study. And based on the results of reproductive experiments, these birds are their main pollinators. Due to its frequency and visiting behavior, H. chrysurus is the most important pollinator of this species in the cerrado fragment studied.]
605	2011. Rodrigues, L.C./Araujo, A.C.. The hummingbird community and their floral resources in an urban forest remnant in Brazil. Brazilian Journal of Biology. 71(3): 611-622.	[Requires specialist pollinators? Yes] "Hummingbirds visited 14 of the 35 plant species studied. Of the 14 visited plants, three were ornithophilous (Bromelia balansae, Heliconia sp. and Psiguria ternata), and 11 non-ornithophilous"
606	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Reproduction by vegetative fragmentation? Yes] "Plant propagating by stolons, flowering over 1 m high"
606	2013. Bromeliads Online. South American Salsa. Bromeliads for Hot Dry Gardens. http://www.bromeliads.co.nz/info-hot.html [Accessed 04 Dec 2013]	[Reproduction by vegetative fragmentation? Yes] " Also, keep in mind particular foibles of some plants, for example, Bromelia balansae sends out very strong suckers some distance, so unless you want these growing up to your front door, make sure there is some barrier, for example; boulders, a drain, retaining wall etc."
607	1999. Gilman, E.F.. Bromelia balansae. Fact Sheet FPS-74. University of Florida IFAS Extension, Gainesville, FL http://hort.ifas.ufl.edu/database/documents/pdf/shrub_fact_sheets/brobala.pdf .	[Minimum generative time (years)?] "Growth rate: moderate"
701	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No evidence] "Fruit ovoid, 47 mm long, 20 mm in diameter, fleshy, edible; seeds many, flat, triangular- orbicular, 5 mm wide, gray-black, minutely punctulate" [Fruits are adapted for animal dispersal and seeds lack means of external attachment]
702	1987. Clay, H.F./Hubbard, J.C.. The Hawaii Garden: Tropical Exotics. University of Hawaii Press, Honolulu, HI	[Propagules dispersed intentionally by people? Yes] "Heart of flame is one of the most beautiful of the cultivated bromeliads."
703	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Propagules likely to disperse as a produce contaminant? No evidence] "Fruit ovoid, 47 mm long, 20 mm in diameter, fleshy, edible; seeds many, flat, triangular- orbicular, 5 mm wide, gray-black, minutely punctulate" [Fruit edible, but plants commonly cultivated as barrier plants]
704	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Propagules adapted to wind dispersal? No] "Fruit ovoid, 47 mm long, 20 mm in diameter, fleshy, edible; seeds many, flat, triangular- orbicular, 5 mm wide, gray-black, minutely punctulate"
705	2011. Pott, A./Oliveira, A.K.M./Damasceno-Junior, G.A./Silva, J.S.V.. Plant diversity of the Pantanal wetland. Brazilian Journal of Biology. 71(1): 265-273.	[Propagules water dispersed? Unknown] "Bromelia balansae stands ("gravateiro") – community of a pineapple-like plant, generally indicating flood limit; when in large amounts inside groves and woods" [Adapted for frugivory, but water may play a role in movement of seeds within native range]
706	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Propagules bird dispersed? Yes. Fleshy-fruited] "Fruit ovoid, 47 mm long, 20 mm in diameter, fleshy, edible; seeds many, flat, triangular- orbicular, 5 mm wide, gray-black, minutely punctulate."
706	2000. Benzing, D.H.. Bromeliaceae: Profile of an Adaptive Radiation. Cambridge University Press, Cambridge, UK	[Propagules bird dispersed? Yes] "Most bromelioid fruits lack fragrances consistent with bird use; some of the exceptions emit pungent, pleasant odors (e.g. Ananas, Bromelia) ..." ... Presentation also varies. Those pleasantly aromatic berries of Bromelia balansae nestle amid congested, armed, foliage well positioned to defy any large frugivore."
707	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Propagules dispersed by other animals (externally)? No evidence. Presumably adapted for internal dispersal] "Fruit ovoid, 47 mm long, 20 mm in diameter, fleshy, edible; seeds many, flat, triangular- orbicular, 5 mm wide, gray-black, minutely punctulate"
708	2002. Motta-Junior, J.C./Martins, K.. The Frugivorous Diet of the Maned Wolf, Chrysocyon brachyurus, in Brazil: Ecology and Conservation. Pp 291-303 in Seed Dispersal and Frugivory: Ecology, Evolution and Conservation. CABI, Wallingford, UK	[Propagules survive passage through the gut? Yes] "Table 19.3. Germination tests of seeds found in scats of the maned wolf collected in the field." [Includes seeds of Bromelia balansae]

708	2007. Dennis, A.J./Schupp, E.W./Green, R.A./Westcott, D.A. (eds.). Seed dispersal: theory and its application in a changing world. CABI, Wallingford, UK	[Propagules survive passage through the gut? Presumably Yes] "Appendix 3. Families, species, habitats, fruit size, fruit colour and type of seed disperser of fleshy-fruited species studied at Fazenda Rio Negro, Nhecolandia region, MS, Brazil." [Bromelia balansae - Seed disperser = mammals]
708	2011. Coelho, M.F.B./Vieira, S.N./Chig, L.A./Santos, L.W./Albuquerque, M.C.F.. Overcoming seed dormancy of Bromelia balansae (Bromeliaceae). Horticultura Brasileira. 29: 472-476.	[Propagules survive passage through the gut? Yes] "Em B. balansae o papel de animais dispersores parece ser importante na superação da dormência, pois em estudo conduzido na serra do Japi-SP, Nakano Oliveira et al. (2004) verificaram que as sementes que passaram pelo trato digestivo do quati (Nasua nasua) apresentaram uma taxa de germinação significativamente maior que as retiradas diretamente do fruto." [Translation: In B. balansae the role of animal dispersers appears to be important in overcoming dormancy, as in a study conducted in the Sierra Japi-SP, Nakano Oliveira et al. (2004) found that seeds that have passed through the digestive tract of the coati (Nasua Nasua) were significantly greater than those taken directly from the fruit germination rate]
801	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Prolific seed production (>1000/m2)? Unknown] "Fruit ovoid, 47 mm long, 20 mm in diameter, fleshy, edible; seeds many, flat, triangular- orbicular, 5 mm wide, gray-black, minutely punctulate."
801	2011. Paull, R.E./Duarte, O.. Tropical fruits. 2nd ed.. CABI, Wallingford, UK	[Prolific seed production (>1000/m2)? Unknown] "B. balansae Mel. is called gravata in Brazil and it has 80–120 fruit per plant, each weighing 6–14 g; the skin is brown and the flesh is white when ripe."
802	2011. Coelho, M.F.B./Vieira, S.N./Chig, L.A./Santos, L.W./Albuquerque, M.C.F.. Overcoming seed dormancy of Bromelia balansae (Bromeliaceae). Horticultura Brasileira. 29: 472-476.	[Evidence that a persistent propagule bank is formed (>1 yr)? Possibly Yes] "The seeds of B. balansae present seedcoat dormancy that is overcome with the sulfuric acid immersion 100% for 1 minute." [Requires scarification, by passing through an animal, to improve germination]
803	2013. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species
804	1979. Smith, L.B./Downs, R.J.. Bromelioideae (Bromeliaceae). Flora Neotropica. 14(3): 1493-2142.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown] "Plant propagating by stolons, flowering over 1 m high"
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

- Grows in tropical climates
- Related Bromelia species have become invasive
- spiny-leaved plant
- Sap can cause dermatitis and may be poisonous if ingested
- Spines deter browsing by animals
- Tolerates many soil types
- Can form dense thickets that exclude other vegetation
- Spreads vegetatively by suckering and seeds
- Seeds mammals and bird-dispersed
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Low Risk Traits

- No reports of naturalization or invasiveness to date (although plants may persist in cultivation)
- Used as a barrier plant
- Fruit are edible
- Plants are self-incompatible
- Pollinated by hummingbirds