

Family: *Apocynaceae*

Taxon: *Stapelia gigantea*

Synonym:

Common Name: giant toadplant
zulu-giant

Questionnaire : current 20090513
Status: Assessor Approved

Assessor: Patti Clifford
Data Entry Person: Patti Clifford

Designation: L(Hawai'i)

WRA Score 3

101	Is the species highly domesticated?	y=-3, n=0	n
102	Has the species become naturalized where grown?	y=1, n=-1	y
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	y
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	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	
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	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	n
605	Requires specialist pollinators	y=-1, n=0	n
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	2
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	y
705	Propagules water dispersed	y=1, n=-1	n
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	
801	Prolific seed production (>1000/m2)	y=1, n=-1	y
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: L(Hawai'i)

WRA Score 3

Supporting Data:

101	2010. WRA Specialist. Personal Communication.	No evidence.
201	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native to Mozambique; South Africa; Swaziland.
202	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Native to Mozambique; South Africa; Swaziland.
203	2005. Desert Tropicals. Carrion plant. Desert Tropicals, http://www.desert-tropicals.com/Plants/Asclepiadaceae/Stapelia_gigantea.html	USDA Hardiness zones: 9b-11.
204	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Naturalized on Oahu, Hawaii.
204	2007. Hosking, J.R./Conn, B.J./Lepschi, B.J./Barker, C.H.. Plant species first recognized as naturalised for New South Wales in 2002 and 2003, with additional comments for species recognized as naturalised for 2000-2001. <i>Cunninghamia</i> . 10: 139-166.	<i>Stapelia gigantea</i> is naturalized in New South Wales.
205	2005. Staples, G. W./Herbst, D. R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI.	<i>Stapelia gigantea</i> was introduced to Hawaii prior to 1871. It is planted in xeroscape gardens and along rock gardens.
301	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Naturalized on Oahu, Hawaii.
301	2007. Hosking, J.R./Conn, B.J./Lepschi, B.J./Barker, C.H.. Plant species first recognized as naturalised for New South Wales in 2002 and 2003, with additional comments for species recognized as naturalised for 2000-2001. <i>Cunninghamia</i> . 10: 139-166.	<i>Stapelia gigantea</i> is naturalized in New South Wales.
302	2010. WRA Specialist. Personal Communication.	No evidence of control or impacts.
303	2010. WRA Specialist. Personal Communication.	No evidence.
304	2010. WRA Specialist. Personal Communication.	No evidence of control or impacts.
305	2007. Randall, R.. Global Compendium of Weeds. http://www.hear.org/gcw/	No evidence of congeneric weed.
401	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	No spines, thorns or burrs.
402	2010. WRA Specialist. Personal Communication.	Unknown.
403	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Not parasitic.

404	2007. h2g2. <i>Stapelia gigantea</i> : giant carrion flower. BBC, http://www.bbc.co.uk/dna/h2g2/A23934404	"Like some other stapeliad species they can often be found around villages; it seems that they take advantage of overgrazing by goats or cattle, managing to establish themselves where the cover of grass is broken."
405	2002. Mulej, I./Strlic, M.. Stapeliads, morphology and pollination. <i>Welwitschia</i> . 5: 6-13.	Plants are consumed by animals and people. [family description]
406	2010. WRA Specialist. Personal Communication.	Unknown.
407	2002. Mulej, I./Strlic, M.. Stapeliads, morphology and pollination. <i>Welwitschia</i> . 5: 6-13.	Plants are consumed by animals and people.
407	2005. Long, C.. Swaziland's flora - siSwati names and uses. Swaziland's National Trust Commission, http://www.sntc.org.sz/flora/clfamilies.asp?fid=211	Used as a medicinal in Swaziland.
408	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Succulent cactus-like perennial.
409	2005. Desert Tropicals. Carrion plant. Desert Tropicals, http://www.desert-tropicals.com/Plants/Asclepiadaceae/Stapelia_gigantea.html	Partial sun or light shade.
409	2007. h2g2. <i>Stapelia gigantea</i> : giant carrion flower. BBC, http://www.bbc.co.uk/dna/h2g2/A23934404	They frequently grow in light shade below trees or bushes, but also out in the open.
409	2010. Lemke, C.. Plant of the week <i>Stapelia gigantea</i> - carrion flower Asclepiadaceae. http://www.plantoftheweek.org/week048.shtml	Full sun.
410	2006. S. B. Bester National Herbarium. <i>Stapelia</i> . http://www.plantzafrica.com/plantqrs/stapelia.htm	The soil should have good drainage and a pH of 6.5-7.5. Most species do best in a well-drained, sandy medium consisting of equal parts of washed river sand, potting soil and topsoil.
411	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Succulent, cactus-like plant; stems erect or decumbent, 10-20 cm long.
412	2010. WRA Specialist. Personal Communication.	No evidence.
501	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Terrestrial.
502	2010. USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN) [Online Database]. National Germplasm Resources Laboratory, Beltsville, Maryland http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	Apocynaceae. [also put in the Asclepiadaceae]
503	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Succulent, cactus-like plant.
504	1999. Wagner, W. L./Herbst, D. R./Sohmer, S. H.. Manual of the flowering plants of Hawaii. Revised edition.. University of Hawai'i Press and Bishop Museum Press, Honolulu, HI.	Not a geophyte.
601	2010. WRA Specialist. Personal Communication.	No evidence.
602	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. <i>Journal of Arid Environments</i> . 73: 978-98	Propagation by seed or clonally.

603	2002. Mulej, I./Strlic, M.. Stapeliads, morphology and pollination. Welwitschia. 5: 6-13.	Some different species of stapeliads usually grow at the same locality, so natural hybridization is possible but not so frequent.
603	2010. WRA Specialist. Personal Communication.	Unknown.
604	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. Journal of Aric Environments. 73: 978-98	<i>Stapelia gigantea</i> is an obligate outcrosser.
605	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. Journal of Aric Environments. 73: 978-98	Pollinated by flies.
606	2002. Mulej, I./Strlic, M.. Stapeliads, morphology and pollination. Welwitschia. 5: 6-13.	"The growth pattern of stapeliads is very similar. Side shoots spring up from the base of the primary stem and they grow further from the lower part of the stems. Some side shoots root in contact with the ground and become independent of the primary root system. They can form large pillows. Older stems in the middle of the clumps die away in time, and the outer stems spread forward and make separate plants."
606	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. Journal of Aric Environments. 73: 978-98	<i>Stapelia gigantea</i> can reproduce clonally.
607	1900. Anonymous. 28: .Haymarket Publishing, London http://books.google.com/books?id=m9kKAAAAIAAJ&printsec=frontcover#v=onepage&q=stapelia&f=false	Seedlings flower the second year.
701	2010. WRA Specialist. Personal Communication.	Unknown.
702	2005. Staples, G. W./Herbst, D. R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI.	Introduced to Hawaii prior to 1871. <i>Stapelia</i> is used in rock gardens and xeriscape plantings as a low ground cover.
703	2010. WRA Specialist. Personal Communication.	No evidence of produce contamination.
704	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. Journal of Aric Environments. 73: 978-98	Seeds are wind-dispersed.
705	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. Journal of Aric Environments. 73: 978-98	Seeds are wind-dispersed.
706	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. Journal of Aric Environments. 73: 978-98	Seeds are wind-dispersed.

707	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. <i>Journal of Aric Environments</i> . 73: 978-98	Seeds are wind-dispersed. [no means of external attachment]
708	2010. WRA Specialist. Personal Communication.	Unknown.
801	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. <i>Journal of Aric Environments</i> . 73: 978-98	This research indicates that <i>Stapelia gigantea</i> produced 1139 viable seeds per m ² .
802	2009. Herrera, I./Nassar, J.M.. Reproductive and recruitment traits as indicators of the invasive potential of <i>Kalanchoe daigremontiana</i> (Crassulaceae) and <i>Stapelia gigantea</i> (Apocynaceae) in a neotropical arid zone. <i>Journal of Aric Environments</i> . 73: 978-98	In this study on the reproductive and recruitment rates of <i>Stapelia gigantea</i> , soil samples were taken from 6 vegetation zones to examine seed viability, germination, and species represented in the seed bank. <i>Stapelia gigantea</i> only occurred in <i>Stapelia gigantea</i> dominated zone as 3.8% of the seed bank.
803	2010. WRA Specialist. Personal Communication.	Unknown.
804	2010. WRA Specialist. Personal Communication.	Unknown.
805	2010. WRA Specialist. Personal Communication.	Unknown.