

Key Words: High Risk, Possibly Naturalized, Ornamental, Perennial Herb, Shade-tolerant

**Family:** *Balsaminaceae*

**Taxon:** *Impatiens hawkeri*

**Synonym:** *Impatiens herzogii* K. Schum.  
*Impatiens linearifolia* Warb.  
*Impatiens schlechteri* Warb.

**Common Name:** New Guinea impatiens

Questionnaire :	current 20090513	Assessor:	HPWRA OrgData	Designation:	H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	HPWRA OrgData	WRA Score	8
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		y
204	Native or naturalized in regions with tropical or subtropical climates		y=1, n=0		y
205	Does the species have a history of repeated introductions outside its natural range?		y=-2, ?=-1, n=0		y
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205		
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		n
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		y
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)		y=1, n=0		

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	
605	Requires specialist pollinators	y=-1, n=0	
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	
704	Propagules adapted to wind dispersal	y=1, n=-1	y
705	Propagules water dispersed	y=1, n=-1	y
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	
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: H(HPWRA)

WRA Score **8**

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**Supporting Data:**

101	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Is the species highly domesticated? No evidence]
101	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	[Is the species highly domesticated? Possibly for some cultivars, but this assessment deals with the wild type] "Numerous cultivars are continually emerging from plant breeding programs; extra-large single blooms, doubled flowers, bicolored flowers, and other novelties are appearing in the trade under a variety of cultivar names."
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Species suited to tropical or subtropical climate(s) 2-High] "DISTRIBUTION. New Guinea, Manus Is., New Ireland, ? New Britain and the Solomon Islands."
202	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Quality of climate match data 2-High]
203	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Broad climate suitability (environmental versatility)? Yes] "altitude (200-)400-3150 m." [Broad elevation range. Demonstrates some environmental versatility]
204	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "DISTRIBUTION. New Guinea, Manus Is., New Ireland, ? New Britain and the Solomon Islands."
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	[Does the species have a history of repeated introductions outside its natural range? Yes] "...now a popular cultivated ornamental in the U.S. and Europe."
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. Not listed as naturalized or invasive]
301	2008. Tabak, N.M./von Wettberg, E.. Native and Introduced Jewelweeds of the Northeast. Northeastern Naturalist. 15(2): 159-176.	[Naturalized beyond native range? Possibly Yes] "Impatiens balsamina L. (common garden balsam, spotted snapweed), I. walleriana Hook. f. (common African impatiens, Sultan's impatiens, buzzy lizzy), and I. hawkeri W. Bull. (New Guinea Impatiens) are introduced species of tropical origins that have been documented as naturalized or capable of volunteering (i.e., growing in a site where previously cultivated from seeds released during cultivation)." [Naturalized status of I. hawkeri uncertain]
302	2012. Randall, R.P.. A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? 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 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. Adamowski, W.. Balsams on the offensive: the role of planting in the invasion of Impatiens species. Pp 57-70 in Tokarska-Guzik et al. (eds.) Plant invasions: human perception, ecological impacts and management. Backhuys Publishers, Leiden	[Congeneric weed? Yes] "The genus Impatiens includes a number of species with very attractive flowers. Some of them were introduced for cultivation already in the 19th century. At least two taxa have become popular decorative plants. The introductions of balsams have resulted in a few spectacular biological invasions. Because of the recent interest in the genus as a source of potential decorative plants and the cultivation of many new taxa, a study was undertaken to analyse the threat of invasive balsam species. In the temperate climatic zone, the taxa originating from mountainous areas of China seem to pose the greatest risk of spreading. These regions are characterized by well-marked climatic seasons. Over 80% of the balsam species growing in these areas are annuals wintering as seeds. The balsams coming from tropical Africa are mostly perennials, adapted to a more even climatic pattern. They can be expected to expand in tropical zones characterized by abundant precipitation."

401	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Produces spines, thorns or burrs? No] "Perennial herb 0.5-1 m tall usually; stems decumbent to erect, sometimes rooting at the lower nodes, pale to deep green, often tinged with red to purple, pubescent to glabrous. Leaves in verticils of 3-7, pale to deep green, bronze, reddish or purplish or variously variegated, petiolate, the petiole 0.5-6 cm long, rather slender, glabrous or pubescent; lamina linear to linear-elliptic, elliptic, lanceolate, oblong or occasionally oblanceolate, 4-24.5 x 0.1-6 cm, the base abruptly cuneate to gradually attenuate, the apex acute to long-acuminate, finely pubescent or puberulous above and/or beneath or glabrous; lateral veins 4-14 pairs; margin shallowly crenate to serrate or serrulate, the lower teeth filiform and 1-4 mm long, the upper teeth each terminating in a short apiculum 1-2 mm long."
402	2011. Vrchotová, N./Šerá, B./Krejčová, J.. Allelopathic activity of extracts from <i>Impatiens</i> species. Plant, Soil and Environment. 57(2): 57-60.	[Allelopathic? Unknown. Related species have allelopathic properties] "We have tested the effect of water, methanol and dichloromethane extracts from the leaves of several species of <i>Impatiens</i> ( <i>I. noli tangere</i> , <i>I. parviflora</i> , <i>I. glandulifera</i> ) on germination of seeds <i>Leucosinapis alba</i> and <i>Brassica napus</i> . All of the tested extracts had inhibitory effects to seeds of all studied plants (except the dichloromethane extracts). The highest activity revealed methanol extract and extract from <i>I. glandulifera</i> ."
403	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Parasitic? No] "Perennial herb 0.5-1 m tall usually..." [Balsaminaceae]
404	2013. eHow. Problems with New Guinea <i>Impatiens</i> . <a href="http://www.ehow.com/way_5514209_problems-new-guinea-impatiens.html">http://www.ehow.com/way_5514209_problems-new-guinea-impatiens.html</a> [Accessed 04 Mar 2013]	[Unpalatable to grazing animals? No] "Unfortunately, slugs, snails and deer love New Guinea <i>Impatiens</i> just as much as gardeners." ... "For deer, commercial repellents can be used but fences are really the only way to completely block these hungry beasts."
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No evidence]
405	2013. eHow. Problems with New Guinea <i>Impatiens</i> . <a href="http://www.ehow.com/way_5514209_problems-new-guinea-impatiens.html">http://www.ehow.com/way_5514209_problems-new-guinea-impatiens.html</a> [Accessed 04 Mar 2013]	[Toxic to animals? No evidence] "Unfortunately, slugs, snails and deer love New Guinea <i>Impatiens</i> just as much as gardeners." ... "For deer, commercial repellents can be used but fences are really the only way to completely block these hungry beasts."
406	2013. eHow. Problems with New Guinea <i>Impatiens</i> . <a href="http://www.ehow.com/way_5514209_problems-new-guinea-impatiens.html">http://www.ehow.com/way_5514209_problems-new-guinea-impatiens.html</a> [Accessed 04 Mar 2013]	[Host for recognized pests and pathogens?] "Unfortunately, slugs, snails and deer love New Guinea <i>Impatiens</i> just as much as gardeners. So do spider mites, thrips, mealybugs and aphids The difference is these pests express their love by eating the object of their affection. For deer, commercial repellents can be used but fences are really the only way to completely block these hungry beasts. For slugs and snails, a chemical bait or beer traps can be used to kill these slimy predators. Aphids, spider mites, thrips and mealy bugs can likewise be controlled with a commercial pesticide or insectidal soap. Organic versions of these treatments are also available, though sometimes they are not as effective as their chemical counterparts." [All are common, generalist pests]
406	2013. Missouri Botanical Gardens. <i>Impatiens hawkeri</i> (group). <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b665/impatiens-hawkeri-group.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b665/impatiens-hawkeri-group.aspx</a> [Accessed 26 Feb 2013]	[Host for recognized pests and pathogens? No] "Problems - Aphids, scale and mealybugs can often be a problem." [All are general plant pests]
407	2001. Taha, R.M.. <i>Impatiens</i> L.[Internet] Record from Proseabase. van Valkenburg, J.L.C.H. and Bunyapraphatsara, N. (Editors).. PROSEA (Plant Resources of South-East Asia) Foundation, Bogor, Indonesia <a href="http://www.proseanet.org">http://www.proseanet.org</a> [Accessed 04 Mar 2013]	[Causes allergies or is otherwise toxic to humans? No evidence of acute toxicity] "In Papua New Guinea, the whole plant of <i>Impatiens hawkeri</i> is cooked and eaten by children with stomach-ache. The juice from the fruit and leaves is rubbed onto the legs of small children who are retarded in their walking."
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? No evidence]
408	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Creates a fire hazard in natural ecosystems? "Perennial herb 0.5-1 m tall usually..." ... "Growing in moist shaded or semi shaded places in montane or submontane forests, particularly along stream and river margins, amongst damp rocks or by tracksides, more rarely at low altitudes along rivers and streams;" [No evidence, and unlikely given wet habitat and growth form of plant]

409	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "HABITAT. Growing in moist shaded or semi shaded places in montane or submontane forests, particularly along stream and river margins, amongst damp rocks or by tracksides, more rarely at low altitudes along rivers and streams; altitude (200-)400-3150 m."
410	2013. Hillside Greenhouse. New Guinea Impatiens. <a href="http://www.hillsidegreenhouse.com/newguinea.htm">http://www.hillsidegreenhouse.com/newguinea.htm</a> [Accessed 04 Mar 2013]	[Tolerates a wide range of soil conditions? Unknown for field conditions] "Soil is important for New Guinea Impatiens. They do best in soil with high amounts of organic matter. If you are going to grow them in a bed, make certain that the soil is moist, well drained, and full of organic matter. When grown in containers it is easier to get the "perfect" soil. They will grow very well in almost any good potting mix."
410	2013. Missouri Botanical Gardens. Impatiens hawkeri (group). <a href="http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b665/impatiens-hawkeri-group.aspx">http://www.missouribotanicalgarden.org/gardens-gardening/your-garden/plant-finder/plant-details/kc/b665/impatiens-hawkeri-group.aspx</a> [Accessed 26 Feb 2013]	[Tolerates a wide range of soil conditions? Cultivated settings] "Plant in deep, cool, moist, humus-rich soil."
411	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Climbing or smothering growth habit? No] "Perennial herb 0.5-1 m tall usually; stems decumbent to erect..."
412	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Forms dense thickets? No evidence from native range] "Growing in moist shaded or semi-shaded places in montane or submontane forests, particularly along stream and river margins, amongst damp rocks or by tracksides, more rarely at low altitudes along rivers and streams;"
412	2008. Tabak, N.M./von Wettberg, E.. Native and Introduced Jewelweeds of the Northeast. Northeastern Naturalist. 15(2): 159-176.	[Forms dense thickets? No evidence] "...I. hawkeri W. Bull. (New Guinea Impatiens) are introduced species of tropical origins that have been documented as naturalized or capable of volunteering (i.e., growing in a site where previously cultivated from seeds released during cultivation).."
501	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Aquatic? No] "Growing in moist shaded or semi shaded places in montane or submontane forests, particularly along stream and river margins, amongst damp rocks or by tracksides, more rarely at low altitudes along rivers and streams;..." [Terrestrial]
502	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Grass? No] Balsaminaceae
503	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Nitrogen fixing woody plant? No] "Perennial herb 0.5-1 m tall usually..." [Balsaminaceae]
504	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No evidence] "Perennial herb 0.5-1 m tall usually; stems decumbent to erect, sometimes rooting at the lower nodes, pale to deep green, often tinged with red to purple, pubescent to glabrous."
601	1980. Grey-Wilson, C.. Impatiens in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Evidence of substantial reproductive failure in native habitat? No evidence]
602	2005. Desert Tropicals. New Guinea Impatiens. Faucon, P., <a href="http://www.desert-tropicals.com/Plants/Balsaminaceae/Impatiens_hawkeri.html">http://www.desert-tropicals.com/Plants/Balsaminaceae/Impatiens_hawkeri.html</a> [Accessed 26 feb 2013]	[Produces viable seed? Yes] "Propagation: Seeds, cuttings"
603	1998. Stephens, L.C.. Formation of Unreduced Pollen by an Impatiens Hawkeri x Platypetala Interspecific Hybrid. Hereditas. 128: 251-255.	[Hybridizes naturally? Unknown if natural hybrids occur] "Interspecific crosses amongst these 3 species have been successful, even though ploidy and chromosome size is different in each case, with I. hawkeri (2n = 32), I. platypetala (2n = 16), and I. aurantiuca (2n = 8) forming an apparent polyploid series, with I. aurantiuca having larger chromosomes than I. hawkeri or I. platypetala (PASUTTI and WEIGLE 1980)."
603	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	[Hybridizes naturally? Unknown] "Based on the current taxonomic interpretation, the variability can be entirely accommodated within a single species, I. hawkeri, with no interspecific hybridization involved in the development of these showy ornamentals."

604	2011. Vervoort, A./Cawoy, V./Jacquemart, A.-L.. Comparative Reproductive Biology in Co-occurring Invasive and Native Impatiens Species. International Journal of Plant Sciences. 172(3): 366-377.	[Self-compatible or apomictic? Unknown for <i>I. hawkeri</i> ] "Two alien <i>Impatiens</i> species are spreading in Europe and share habitats with the native <i>Impatiens noli-tangere</i> . We studied their reproductive biology to estimate which traits facilitate invasiveness. Flower morphology was examined, insect observations were made, and hand pollination treatments were performed. Floral biology differed among species. <i>Impatiens glandulifera</i> and <i>I. noli-tangere</i> presented large quantities of sucrose dominant nectar, contrary to <i>Impatiens parviflora</i> . The latter had high autonomous selfing ability (81.4% fruit set) linked to complete self-compatibility. No inbreeding depression was detected for this species. The second alien, <i>I. glandulifera</i> , showed lower autonomous selfing (9.3% fruit set), with high self-compatibility and low inbreeding depression ( $d \frac{1}{4} 0:11$ ). No evidence of autonomous selfing was found for the native, which presented the lowest self-compatibility and the highest inbreeding depression" [Other <i>Impatiens</i> species demonstrate self-compatibility and self-incompatibility]
605	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Requires specialist pollinators? Unknown] "Pedicels slender, ascending, 4-12 cm long, pubescent to glabrous. Lateral sepals ovate, usually long-acuminate, 8-15 x 3-5-6 mm, slightly pubescent to glabrous. Lower sepal shallowly navicular, 9-21 mm long, abruptly constricted into a curved filiform spur 3-9-9 cm long, pubescent or glabrous throughout. Dorsal petal obcordate to suborbicular, shallowly emarginate, rather flat, 14-29 x 16-35 mm, with a shallow crest on the back which may be pubescent or glabrous. Lateral united petals 19-42 mm long, the upper petal of each pair slightly smaller than the lower; upper petal oblong to narrowly obcordate, shallowly to deeply emarginate, 16-31 x 11-25 mm; lower petal obcordate, deeply emarginate to almost bifid, 16-37 x 12-33 mm."
606	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Reproduction by vegetative fragmentation? Yes] "Perennial herb 0.5-1 m tall usually; stems decumbent to erect, sometimes rooting at the lower nodes, pale to deep green, often tinged with red to purple, pubescent to glabrous."
607	2013. Shoot Gardening. <i>Impatiens 'Portofino Red'</i> (Sun Harmony Series) (New Guinea <i>impatiens 'Portofino Red'</i> ). <a href="http://www.shootgardening.co.uk/plant/impatiens-portofino-red-sun-harmony-series">http://www.shootgardening.co.uk/plant/impatiens-portofino-red-sun-harmony-series</a> [Accessed 04 Mar 2013]	[Minimum generative time (years)? 1+] "1-2 years to maturity" [Cultivar of <i>I. hawkeri</i> ]
701	2013. WRA Specialist. Personal Communication.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)?] Possibly, if planted along borders & walkways.
702	2008. Tabak, N.M./von Wettberg, E.. Native and Introduced Jewelweeds of the Northeast. Northeastern Naturalist. 15(2): 159-176.	[Propagules dispersed intentionally by people? Yes] " <i>Impatiens hawkeri</i> was introduced from Indonesia following a collecting trip made in 1970 by Robert Armstrong of Longwood Gardens, PA (Benja min 1990). Although it has become a popular ornamental due to its tolerance of full sun, it is currently not planted as widely as <i>I. walleriana</i> (Jerardo 2005)."
703	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	[Propagules likely to disperse as a produce contaminant? Unknown] "...used as a mass planting, ground cover, or container specimen." [May be possible that cultivated plants could drop seeds and be dispersed in soil of other potted plants']
704	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Propagules adapted to wind dispersal? Possibly short distances] "Capsule fusiform, 18-33 x 5-9 mm, glabrous." [Dispersal mechanism unknown, but probably dehiscent like other species in the genus.
704	2013. eHow. How to Collect Seeds From a New Guinea <i>Impatiens</i> . <a href="http://www.ehow.com/how_5848359_collect-seeds-new-guinea-impatiens.html">http://www.ehow.com/how_5848359_collect-seeds-new-guinea-impatiens.html</a> [Accessed 04 Mar 2013]	[Propagules adapted to wind dispersal? Probably Yes] "New Guinea <i>Impatiens</i> produce seeds throughout the growing season encased in pods that become more delicate and prone to breaking open as they mature. Once mature, the seed pods break or explode open and the tiny New Guinea <i>Impatiens</i> seeds spill out."
705	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Propagules water dispersed? Probably Yes based on native distribution] "Growing in moist shaded or semi shaded places in montane or submontane forests, particularly along stream and river margins, amongst damp rocks or by tracksides, more rarely at low altitudes along rivers and streams,"
705	2008. Tabak, N.M./von Wettberg, E.. Native and Introduced Jewelweeds of the Northeast. Northeastern Naturalist. 15(2): 159-176.	[Propagules water dispersed? Related spp. Are water-dispersed] "The common name touch-me-not comes from the explosive nature of the seed capsules of plants in this genus. Long distance seed dispersal in the northeastern species can occur when seeds are shot out of the capsules and fall into the moving water of rivers or streams. The seeds of both <i>I. glandulifera</i> and <i>I. capensis</i> can float. <i>Impatiens glandulifera</i> seeds will float in still water under laboratory conditions for as long as forty days, while <i>I. capensis</i> seeds can float for at least 200 days (Auyeung 2005)."
706	1980. Grey-Wilson, C.. <i>Impatiens</i> in Papuaia: Studies in Balsaminaceae: I. Kew Bulletin. 34(4): 661-688.	[Propagules bird dispersed? No evidence] "Capsule fusiform, 18-33 x 5-9 mm, glabrous." [Not fleshy-fruited]

707	2013. WRA Specialist. Personal Communication.	[Propagules dispersed by other animals (externally)? No evidence] Capsules & seeds lack means of external attachment, although it may be possible that smaller seeds could adhere to mud on fur or feet.
708	2013. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown]
801	2013. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m <sup>2</sup> )? Unknown] Other <i>Impatiens</i> species are reported to produce numerous, small seeds
802	2009. Perglová, I./Pergl, J./Skálová, H./Moravcová, L./Jarošík, V./Pyšek, P.. Differences in germination and seedling establishment of alien and native <i>Impatiens</i> species. <i>Preslia</i> . 81(4): 357-375.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown for <i>I. hawkeri</i> ] " <i>Impatiens</i> species are reported to have transient or short-term persistent soil seed banks (Thompson et al. 1997). However, good data is scarce and this part of the life cycle has not been thoroughly studied by means of burial experiments. Grime et al. (1988) state that <i>I. glandulifera</i> does not form a persistent seed bank. In contrast, Beerling and Perrins (1993) conclude, on the basis of an experimental removal of plants before flowering, that seeds can persist in the soil for at least 18 months."
803	2013. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information on herbicide efficacy or chemical control of this species.
804	2013. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
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**

- Possibly naturalized
- Thrives in tropical climates
- Broad elevation range
- Weedy species in genus
- Shade tolerant
- Seeds dispersed by wind (explosive dehiscence), and probably by water
- Able to reach reproductive maturity in 1 year
- Able to root at nodes and spread vegetatively

### **Low Risk / Desirable Traits**

- Despite ability to spread, no negative impacts have been documented
- Unarmed (no spine, thorns, or burrs)
- Non-toxic
- Landscaping and ornamental value