

Key Words: High Risk, Widely Naturalized, Environmental Weed, Ornamental, Garden Waste

Family: *Acanthaceae*

Taxon: *Hypoestes phyllostachya*

Synonym: *Hypoestes sanguinolenta hort.*

Common Name: flamingo plant
freckle face
measlesplant
pink dot
polka dot plant

Questionnaire : current 20090513 **Assessor:** Chuck Chimera **Designation:** H(HPWRA)
Status: Assessor Approved **Data Entry Person:** Chuck Chimera **WRA Score** 20

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	y
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)	y
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	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	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	y
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	1
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	y
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	y
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	y
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	y
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score 20

Supporting Data:

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? No evidence]
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. WRA Specialist. Personal Communication.	NA
201	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Species suited to tropical or subtropical climate(s) 2-High] "Native: Africa - Western Indian Ocean: Madagascar"
202	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Quality of climate match data 2-High]
203	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Broad climate suitability (environmental versatility)? Yes] "Altitude: Sea level to 2000 m" [Environmentally versatile. Elevation range exceeds 1000 m]
204	2012. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi-bin/npgs/html/index.pl	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Native: Africa - Western Indian Ocean: Madagascar"
205	2004. Meyer, J-Y./Lavergne, C.. Beautés fatales : Acanthaceae species as invasive alien plants on tropical Indo-Pacific Islands. Diversity and Distributions. 10: 333-347.	[Does the species have a history of repeated introductions outside its natural range? Yes] "Acanths are widely used in horticulture for their numerous flowers or bracts with showy colours and/or for their variegated or bicolorous foliage (e.g. <i>Graptophyllum pictum</i> , <i>Hypoestes phyllostachya</i> ,..."
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] "Native to Madagascar, polka-dot plant is grown worldwide as an ornamental."
301	1997. Liogier, H.A.. Descriptive Flora of Puerto Rico and Adjacent Islands: Spermatophyta, Volume V. Acanthaceae to Compositae. La Editorial, UPR, San Juan, Puerto Rico	[Naturalized beyond native range? Yes] "Cultivated in P.R., naturalized in Maricao."
301	1999. Herbst, D.R./Wagner, W.L.. Contributions to the flora of Hawai'i. VII. Bishop Museum Occasional Papers. 58: 12-36.	[Naturalized beyond native range? Yes] "The following collection is the first record of the species as naturalized in Hawai'i. The mother plant is growing in an abandoned garden of a tenant farmer who had leased the land from Amy Greenwell to grow coffee. It apparently is at least sparingly naturalized as there are many seedlings in the area. The species also is cultivated as an ornamental on Kaua'i and O'ahu but is not known to have escaped on either of these islands. Material examined. HAWAII: South Kona District, Amy B.H. Greenwell Garden, Captain Cook, ca. 1500 ft, 19 May 1990, Botany Dept. sub G. Staples 625 (BISH)."
301	2004. Meyer, J-Y./Lavergne, C.. Beautés fatales : Acanthaceae species as invasive alien plants on tropical Indo-Pacific Islands. Diversity and Distributions. 10: 333-347.	[Naturalized beyond native range? Yes] "The herb <i>Hypoestes phyllostachya</i> , widely cultivated as a houseplant and in gardens in warm temperate areas, has escaped cultivation and is naturalized in Norfolk Is. (Wilson, 1994). It is also recorded as naturalized in La Réunion along the trails in a semidry forest (J. Dupont, pers. comm. 2003) and subspontaneous in a human-disturbed area at 800 m elevation (Cadet N°3607, 2 April 1972, [STCR]), and more recently in Hawaii (Wagner & Herbst, 1999)."
301	2008. Foxcroft, L.C./Richardson, D.M./Wilson, J.R.U.. Ornamental Plants as Invasive Aliens: Problems and Solutions in Kruger National Park, South Africa. Environmental Management. 41: 32-51.	[Naturalized beyond native range? Yes] "Table 2 Ornamental alien plant species recorded per camp in the Kruger National Park, indicating the number of camps in which each species has been recorded, as well as mode of introduction" [Hypoestes phyllostachya - Evidence of naturalization? = Yes]
301	2012. Daniel, T.F./Véliz P., M.E./Kriebel, R.. New distribution records of Acanthaceae in Guatemala. Phytoneuron. 79: 1-5.	[Naturalized beyond native range? Yes] "This commonly cultivated species is native to Madagascar. Daniel (2010) noted that it has become naturalized in at least six departments of Guatemala: Alta Verapaz, Baja Verapaz, Escuintla, Guatemala, Sacatepéquez, and San Marcos. The species, which sometimes forms an extensive ground cover, continues to increase its range in the American tropics."

301	2012. Queensland Government. Weeds of Australia - Polkadot plant - <i>Hypoestes phyllostachya</i> . http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Hypoestes_phyllostachya.htm [Accessed 19 Oct 2012]	[Naturalized beyond native range? Yes] "Widely naturalised in the coastal districts of eastern Australia (i.e. in coastal southern, central and northern Queensland and in the coastal northern New South Wales). Also naturalised on Norfolk Island and possibly naturalised in the coastal districts of central New South Wales."
302	1995. Sheat, B./Schofield, G.. Complete Gardening in Southern Africa. Struik Publishers, Cape Town, South Africa	[Garden/amenity/disturbance weed? A disturbance weed with environmental impacts] "Though this plant will thrive outdoors in temperate and subtropical areas, do not be tempted to plant it outside for it luxuriates and spreads like a weed and, once established, is difficult to eradicate."
302	2010. CSIRO. Australian Tropical Rainforest Plants Edition 6 [online database] - <i>Hypoestes phyllostachya</i> . http://keys.trin.org.au/key-server/data/0e0f0504-0103-430d-8004-060d07080d04/media/Html/taxon/Hypoestes_phyllostachya.htm [Accessed 19 Oct 2012]	[Garden/amenity/disturbance weed? A disturbance weed with environmental impacts] "Usually grows as a weed in gardens but also found in disturbed areas in rain forest. Natural History - A common garden weed."
303	2012. WRA Specialist. Personal Communication.	[Agricultural/forestry/horticultural weed? No] Environmental Weed
304	2012. Queensland Government. Weeds of Australia - Polkadot plant - <i>Hypoestes phyllostachya</i> . http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Hypoestes_phyllostachya.htm [Accessed 19 Oct 2012]	[Environmental weed? Yes] "Polkadot plant (<i>Hypoestes phyllostachya</i>) is regarded as an environmental weed in parts of Queensland and New South Wales, and as a "sleeper weed" or potential environmental weed in other parts of Australia. It has escaped cultivation as a garden plant and has become naturalised along waterways, in riparian areas, in open woodlands and on rainforest margins in the warmer and wetter parts of eastern Australia. This species prefers shaded habitats and can form dense carpets of vegetation in the understorey of native bushland." ... "It is currently of greatest concern in south eastern Queensland, where it is listed among the top 200 most invasive plants species, and appears on numerous local environmental weed lists in this region (e.g. in the Gold Coast City, Redlands Shire, Cooloola Shire, Caboolture Shire and Maroochy Shire). Polkadot plant (<i>Hypoestes phyllostachya</i>) has also been recorded from conservation areas in northern New South Wales (e.g. in Coorumbene Nature Reserve and Billinudgel Nature Reserve), and is listed as an environmental weed in the Northern Rivers Catchment and in Bellingen Shire. Though it is not yet formally regarded as being naturalised on the New South Wales Central Coast, it is included in the Gosford City environmental weeds list, is regarded as an undesirable plant species in Hornsby Shire Council, and is listed as a weed in Cooper Park in suburban Sydney."
305	2012. Michael, P. (ed.). The Master Weed Wackers Manual. A compilation of the most common weeds found on Port Macquarie Landcare sites.. Port Macquarie Landcare Group, Inc., Port Macquarie, NSW	[Congeneric weed? Yes] " <i>Hypoestes aristata</i> " ... "A weed of riparian vegetation, forest margins, urban bushland, open woodlands, roadsides, disturbed sites and waste areas. Tolerant of deep shade but prefers some disturbance (edges and gaps) to take hold. Can reproduce from seed as well as stem fragments and layering when it can form dense thickets that exclude other vegetation by aggressive, shallow roots and shade."
401	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Produces spines, thorns or burrs? No] "Herb to 70 cm long, stems weak, often trailing, young stems hairy. Leaves opposite, stalk to 2.5 cm, black pink-spotted on both sides, 2-4.5 cm long, about 2 cm wide, tip pointed, base blunt."
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Parasitic? No] "Herb to 70 cm long, stems weak, often trailing, young stems hairy." [Acanthaceae]
404	2001. Jull, L.G.. Plants not favored by deer. A3727. University of Wisconsin Extension, Madison, WI http://www.bonelakewi.com/docs/LakeStewardship/PlantsNotFavByDeer.pdf	[Unpalatable to grazing animals? Possibly Yes] <i>Hypoestes phyllostachya</i> among list of plants not favored by deer
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No evidence]
405	2009. California Poison Control System. Know Your Plants. http://www.calpoison.org/hcp/KNOW%20YOUR%20PLANTS-plant%20list%20for%20CPCS%2009B.pdf	[Toxic to animals? No evidence]

405	2012. Anonymous. Lippincott's Manual of Toxicology. Lippincott Williams & Wilkins, Philadelphia, PA	[Toxic to animals? No] "Table 62.2 Nontoxic Plants" [Includes Hypoestes phyllostachya]
406	1999. Gilman, E.F.. Hypoestes phyllostachya. Fact Sheet FPS-262. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL hort.ifas.ufl.edu/database/documents/pdf/shrub_fact.../hypphya.pdf	[Host for recognized pests and pathogens? No evidence] "No pests or diseases are of major concern."
406	2009. PATSP. Nosal Neighbor (Hypoestes phyllostachya). http://plantsarethe strangest people.blogspot.com/2009/09/nosal-neighbor-hypoestes-phylllostachya.html [Accessed 22 Oct 2012]	[Host for recognized pests and pathogens? No evidence] "This plant is surprisingly pest resistant. Outdoors, the only problem everybody mentions is powdery mildew, though depending on the source, root rot, mealybugs, aphids and whitefly could also be an issue. I've not personally ever had any pests on my Hypoestes, nor do I remember any such problems at work. "
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	2004. Meyer, J.-Y./Lavergne, C.. Beautés fatales : Acanthaceae species as invasive alien plants on tropical Indo-Pacific Islands. Diversity and Distributions. 10: 333-347.	[Creates a fire hazard in natural ecosystems? No evidence among impacts]
408	2012. Queensland Government. Weeds of Australia - Polkadot plant - Hypoestes phyllostachya. http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Hypoestes_phyllostachya.htm [Accessed 19 Oct 2012]	[Creates a fire hazard in natural ecosystems? No evidence among impacts]
409	1999. Gilman, E.F.. Hypoestes phyllostachya. Fact Sheet FPS-262. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL hort.ifas.ufl.edu/database/documents/pdf/shrub_fact.../hypphya.pdf	[Is a shade tolerant plant at some stage of its life cycle? Yes] "This perennial is generally grown in partial to full shade on moist, well-drained, acid soils. Bright, filtered light brings out more color, but strong, direct sun is hard on the species; the leaves curl in full sun and they lose color."
409	2012. Queensland Government. Weeds of Australia - Polkadot plant - Hypoestes phyllostachya. http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Hypoestes_phyllostachya.htm [Accessed 19 Oct 2012]	[Is a shade tolerant plant at some stage of its life cycle? Yes] "This species prefers shaded habitats and can form dense carpets of vegetation in the understorey of native bushland."
410	1999. Gilman, E.F.. Hypoestes phyllostachya. Fact Sheet FPS-262. Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL hort.ifas.ufl.edu/database/documents/pdf/shrub_fact.../hypphya.pdf	[Tolerates a wide range of soil conditions? Yes] "Soil tolerances: acidic; slightly alkaline; sand; loam; clay"
410	2012. Dave's Garden. PlantFiles: Polka-Dot plant Hypoestes phyllostachya 'Splash Rose Select'. http://davesgarden.com/guides/pf/go/105855/ [Accessed 22 Oct 2012]	[Tolerates a wide range of soil conditions? Yes] "Soil pH requirements: 5.6 to 6.0 (acidic) 6.1 to 6.5 (mildly acidic) 6.6 to 7.5 (neutral) 7.6 to 7.8 (mildly alkaline) 7.9 to 8.5 (alkaline)"
411	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Climbing or smothering growth habit? No] "Herb to 70 cm long, stems weak, often trailing, young stems hairy. Leaves opposite, stalk to 2.5 cm, black pink-spotted on both sides, 2-4.5 cm long, about 2 cm wide, tip pointed, base blunt."
412	2000. Nadkarni, N.M./Wheelwright, N.T.. Monteverde: Ecology and Conservation of a Tropical Cloud Forest. Oxford University Press, New York	[Forms dense thickets? Yes] "The African ornamental Hypoestes phyllostachya (Acanthaceae) or Polka-dot Plant (Mabberley 1987, 1997), has become a common weed of shaded yards and pastures around Monteverde It forms monospecific stands in the crown shadows of pasture trees."

412	2012. Queensland Government. Weeds of Australia - Polkadot plant - <i>Hypoestes phyllostachya</i> . http://keyserver.lucidcentral.org/weeds/data/03030800-0b07-490a-8d04-0605030c0f01/media/Html/Hypoestes_phyllostachya.htm [Accessed 19 Oct 2012]	[Forms dense thickets? Yes] "This species prefers shaded habitats and can form dense carpets of vegetation in the understorey of native bushland."
501	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Aquatic? No] "Herb to 70 cm long, stems weak, often trailing, young stems hairy."
502	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Grass? No] Acanthaceae
503	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Nitrogen fixing woody plant? No] Acanthaceae
504	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Herb to 70 cm long, stems weak, often trailing, young stems hairy. Leaves opposite, stalk to 2.5 cm, black pink-spotted on both sides, 2-4.5 cm long, about 2 cm wide, tip pointed, base blunt."
601	2012. WRA Specialist. Personal Communication.	[Evidence of substantial reproductive failure in native habitat? No evidence]
602	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	[Produces viable seed? Yes] "Propagation is easily effected from stem cuttings or by seed, sown when fresh. Polka-dot plant can reseed itself when it is grown outdoors in tropical areas. It has escaped from cultivation on the island of Hawaii and has also been recorded as locally naturalized in Costa Rica. Gardeners should be diligent in removing plants that threaten to become weedy because of the threat such pests pose to our Hawaiian ecosystems."
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2009. PATSP. Nosy Neighbor (<i>Hypoestes phyllostachya</i>). http://plantsarethe strangest people.blogspot.com/2009/09/nosy-neighbor-hypoestes-phyllostachya.html [Accessed 22 Oct 2012]	[Self-compatible or apomictic? Yes] "The flowers are self-fertile, and if you permit the flowers to develop will produce seeds, which have a tendency to fall into a neighbor's pot and sprout"
605	2008. Larsen, M.W./Peter, C./Johnson, S.D./Olesen, J.M.. Comparative biology of pollination systems in the African-Malagasy genus <i>Brownleea</i> (Brownleeinae: Orchidaceae). Botanical Journal of the Linnean Society. 156: 65-78.	[Requires specialist pollinators? No. Fly pollinated. Based on pollination of related species] "Individuals of <i>S. wiedemanni</i> (Nemestrinidae) were caught whilst visiting flowers of <i>Hypoestes aristata</i> (Acanthaceae)," ... "At both sites in which we observed <i>B. coerulea</i> in South Africa, the orchids occurred sympatrically, and shared pollinators, with herbaceous plants: <i>Hypoestes aristata</i> (Acanthaceae) at Grahamstown and <i>Plectranthus ciliatus</i> (Lamiaceae) at Umtamvuna."
606	2009. Nursery & Garden Industry Australia. Grow Me Instead - A Guide for Gardeners in Queensland Sub Tropics. http://www.growmeinstead.com.au/public/GMI-brochure-Qld-Sub-Tropics.pdf	[Reproduction by vegetative fragmentation? Yes] "This plant will regenerate from small pieces of stem so effective disposal is recommended"
606	2012. Michael, P. (ed.). The Master Weed Wackers Manual. A compilation of the most common weeds found on Port Macquarie Landcare sites.. Port Macquarie Landcare Group, Inc., Port Macquarie, NSW	[Reproduction by vegetative fragmentation? Yes] "Seeds, bulbs and bulb scales spread by water, wind, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."
607	2005. Pleasant, B./Kautzky, R.. The Complete Houseplant Survival Manual: Essential Know-How For Keeping (Not Killing) More Than 160 Indoor Plants. Storey Publishing, North Adams, MA	[Minimum generative time (years)? 1] "Occasionally, year-old plants produce spikes of purple flowers in late winter."
607	2010. Byron Shire Council. Weeds of Byron Shire - Freckle Face - <i>Hypoestes phyllostachya</i> . www.byron.nsw.gov.au/files/species/weeds/Freckle_Face.pdf	[Minimum generative time (years)? 1] "Plants can reach reproductive maturity within a growing season"
701	2008. Gargiullo, M.B./Magnuson, B.L./Kimball, L.D.. A Field Guide to Plants of Costa Rica. Oxford University Press US, New York, NY	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Possibly Yes] "Habitat: Disturbed sites, open or partly shady, roadsides and pastures."

701	2008. Stewart, B.. Weed Dispersal by Machinery. http://suite101.com/article/weed-dispersal-by-machinery-a59509	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "Plant material may cling to any machinery, but a slasher or mower is particularly likely to pick up plant segments, including stems and roots that may be capable of establishing. In subtropical Australia, Freckleface <i>Hypoestes phyllostachya</i> , Morning Glory <i>Ipomoea indica</i> and Singapore Daisy <i>Sphagneticola trilobata</i> are examples of weed species readily spread when plant pieces are carried by machinery."
702	1999. Herbst, D.R./Wagner, W.L.. Contributions to the flora of Hawai'i. VII. Bishop Museum Occasional Papers. 58: 12-36.	[Propagules dispersed intentionally by people? Yes] "The first herbarium specimen of <i>Hypoestes phyllostachya</i> in Hawai'i was made in 1985, but the plant had been grown as an ornamental in the state for many years prior to that time."
703	2012. Michael, P. (ed.). The Master Weed Wackers Manual. A compilation of the most common weeds found on Port Macquarie Landcare sites.. Port Macquarie Landcare Group, Inc., Port Macquarie, NSW	[Propagules likely to disperse as a produce contaminant? Yes] "Dispersal: Seeds, bulbs and bulb scales spread by water, wind, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."
704	2012. Michael, P. (ed.). The Master Weed Wackers Manual. A compilation of the most common weeds found on Port Macquarie Landcare sites.. Port Macquarie Landcare Group, Inc., Port Macquarie, NSW	[Propagules adapted to wind dispersal? Probably short distances] "Fruit: An elongated capsule to 15mm containing numerous flattened seeds. Seeds often released explosively over a short distance." ... "Seeds, bulbs and bulb scales spread by water, wind, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."
705	2012. Michael, P. (ed.). The Master Weed Wackers Manual. A compilation of the most common weeds found on Port Macquarie Landcare sites.. Port Macquarie Landcare Group, Inc., Port Macquarie, NSW	[Propagules water dispersed? Yes] "Seeds, bulbs and bulb scales spread by water, wind, humans, contaminated soil (earthmoving equipment, car tyres etc) and garden refuse dumping."
706	1997. Liogier, H.A.. Descriptive Flora of Puerto Rico and Adjacent Islands: Spermatophyta, Volume V. Acanthaceae to Compositae. La Editorial, UPR, San Juan, Puerto Rico	[Propagules bird dispersed? No. Not fleshy-fruited] "capsules compound near the base, with 4 seeds." ... "capsule linear, 1.5 cm long, pointed, pilosulous."
707	1997. Liogier, H.A.. Descriptive Flora of Puerto Rico and Adjacent Islands: Spermatophyta, Volume V. Acanthaceae to Compositae. La Editorial, UPR, San Juan, Puerto Rico	[Propagules dispersed by other animals (externally)? No means of external attachment] "capsules compound near the base, with 4 seeds." ... "capsule linear, 1.5 cm long, pointed, pilosulous." ... "The stems can be cut pretty much anywhere at pretty much any time. If things turn really dire, you can even cut all the stems back to the ground: the plant will (usually) start over again by sprouting new stalks. With a plant that's gotten tall and leggy, this is often the best way to start over."
708	1997. Liogier, H.A.. Descriptive Flora of Puerto Rico and Adjacent Islands: Spermatophyta, Volume V. Acanthaceae to Compositae. La Editorial, UPR, San Juan, Puerto Rico	[Propagules survive passage through the gut? Unknown] "capsules compound near the base, with 4 seeds." ... "capsule linear, 1.5 cm long, pointed, pilosulous." [Not adapted for consumption and internal dispersal]
801	2010. Byron Shire Council. Weeds of Byron Shire - Freckle Face - <i>Hypoestes phyllostachya</i> . www.byron.nsw.gov.au/files/species/weeds/Freckle_Face.pdf	[Prolific seed production (>1000/m ²)? Potentially] "Seed. The plant produces a prolific amount of tiny black seeds, which are readily dispersed by runoff and able to spread along drainage lines, and possibly spread by wind."
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "Storage Behaviour: Orthodox"
802	2010. Byron Shire Council. Weeds of Byron Shire - Freckle Face - <i>Hypoestes phyllostachya</i> . www.byron.nsw.gov.au/files/species/weeds/Freckle_Face.pdf	[Evidence that a persistent propagule bank is formed (>1 yr)? Longevity unknown] "Follow-up sprays in close succession will be required to control plant regrowth and the prolific germination of soil seed bank."
803	2010. Byron Shire Council. Weeds of Byron Shire - Freckle Face - <i>Hypoestes phyllostachya</i> . www.byron.nsw.gov.au/files/species/weeds/Freckle_Face.pdf	[Well controlled by herbicides? Yes] "Control Methods Small infestations :Hand remove by crowning out with a knife. Avoid breaking lateral roots, or spot spray with metsulfuron methyl & water at 1.5g/10L + non ionic surfactant & glyphosate & water at 1:50 (20ml/L). Large infestations : foliar spray with same mixture, cover foliage well. Follow-up sprays in close succession will be required to control plant regrowth and the prolific germination of soil seed bank."
803	2012. Michael, P. (ed.). The Master Weed Wackers Manual. A compilation of the most common weeds found on Port Macquarie Landcare sites.. Port Macquarie Landcare Group, Inc., Port Macquarie, NSW	[Well controlled by herbicides? Yes] "Small infestations can be hand-pulled. Use caution on steep or friable soils. CHEMICAL: For spot spraying or dense infestations use glyphosate (eg RoundUp Biactive) at 10mL L-1 + metsulfuron methyl at 1.5g L-1."

804	2009. PATSP. Nosy Neighbor (<i>Hypoestes phyllostachya</i>). http://plantsarethe strangestpeople.blogspot.com/2009/09/nosy-neighbor-hypoestes-phylllostachya.html [Accessed 22 Oct 2012]	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes. Can be pinched back repeatedly] "And you will have cuttings to work with. Oh, will you ever have cuttings to work with. The reason for this is that <i>Hypoestes</i> needs to be pinched back ruthlessly, all the time."
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

Summary of Risk Traits

High Risk / Undesirable Traits

- Widely naturalized
- Thrives in tropical climates
- Environmental weed in Australia
- Related species are invasive
- Shade tolerant
- Tolerates many soil conditions (and potentially able to exploit many different habitat types)
- Forms monospecific stands
- Self-fertile
- Reaches maturity in 1 year
- Will regenerate from small pieces of stem
- Seeds spread by water, wind, humans, contaminated soil and garden refuse dumping."
- Will resprout after repeated cutting

Low Risk / Desirable Traits

- Unarmed (no spines, thorns or burrs)
- Non-toxic
- Landscaping and ornamental value