***Family:*** ***Orchidaceae***

***Taxon:*** ***Arundina graminifolia***

***Synonym:*** *Arundina bambusifolia Lindl.*
*Arundina speciosa Blume*
*Bletia graminifolia D. Don*

***Common Name:*** bamboo orchid

**Questionaire :** current 20090513 **Assessor:** Patti Clifford **Designation:** H(HPWRA)
**Status:** Assessor Approved **Data Entry Person:** Patti Clifford **WRA Score 11**

| | | | |
|---|---|---|---|
| **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)** | **y** |
| **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** | **n** |
| **405** | **Toxic to animals** | **y=1, n=0** | **n** |
| **406** | **Host for recognized pests and pathogens** | **y=1, n=0** | |
| **407** | **Causes allergies or is otherwise toxic to humans** | **y=1, n=0** | **n** |
| **408** | **Creates a fire hazard in natural ecosystems** | **y=1, n=0** | **n** |
| **409** | **Is a shade tolerant plant at some stage of its life cycle** | **y=1, n=0** | **y** |
| **410** | **Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)** | **y=1, n=0** | **y** |

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|---|---|---|---|
| **411** | **Climbing or smothering growth habit** | **y=1, n=0** | **n** |
| **412** | **Forms dense thickets** | **y=1, n=0** | |
| **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** | **y** |
| **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** | **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** | |
| **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** | **n** |
| **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** | **n** |
| **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** | **y** |
| **805** | **Effective natural enemies present locally (e.g. introduced biocontrol agents)** | **y=-1, n=1** | |

**Designation:** H(HPWRA) **WRA Score** **11**

**Supporting Data:**

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|---|---|---|
| 101 | 2011. WRA Specialist. Personal Communication. | [Is the species highly domesticated? No] No evidence of domestication that reduces invasiveness. |
| 102 | 2011. WRA Specialist. Personal Communication. | [Has the species become naturalized where grown?] NA |
| 103 | 2011. WRA Specialist. Personal Communication. | [Does the species have weedy races?] NA |
| 201 | 2000. Whistler, W.A.. Tropical Ornamentals: A Guide. Timber Press, Portland, OR | [Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"? High] Native from India to Malaysia. |
| 202 | 2000. Whistler, W.A.. Tropical Ornamentals: A Guide. Timber Press, Portland, OR | [Quality of climate match data? High] Native from India through Malaysia. |
| 203 | 2006. www.cuba-orchids.com. Arundina graminifolia (Arundina bambusifolia). www.cuba-orchids.com, http://www.cuba-orchids.com/Genera/Arundina/Arundina_graminifolia.htm | [Broad climate suitability (environmental versatility)? Yes] Sea level to 300 m. |
| 203 | 2009. Chen, X./Gale, S.W.. Arundina graminifolia Flora of China Vol. 25. efloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=242305113 | [Broad climate suitability (environmental versatility)? Yes] Grassy slopes, streamsides, thickets, forests; 400-2800 m. N Fujian, Guangdong, Guangxi, Guizhou, Hainan, S Hunan, Jiangxi, S Sichuan, Taiwan, SE Xizang, W to SE Yunnan, Zhejiang [Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam]. |
| 203 | 2011. Dave's Garden. PlantFiles: Bamboo orchid, bird orchid Arundina graminifolia. Dave's Garden, http://davesgarden.com/guides/pf/go/56646/ | [Broad climate suitability (environmental versatility)? Yes] USDA Zone 9a: to -6.6 °C (20 °F)<br>USDA Zone 9b: to -3.8 °C (25 °F)<br>USDA Zone 10a: to -1.1 °C (30 °F)<br>USDA Zone 10b: to 1.7 °C (35 °F) |
| 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. | [Native or naturalized in regions with tropical or subtropical climates? Yes] In Hawai'i, "naturalized and sometimes locally common in disturbed, mesic to wet forest, and as a pioneer on lava fields, 75-920 m" |
| 205 | 1991. Smith, A.C.. Flora Vitiensis Nova: a new flora of Fiji Volume 5. National Tropical Botanical Garden, Lawai | [Does the species have a history of repeated introductions outside its natural range? Yes] Widely cultivated. |
| 205 | 2000. Whistler, W.A.. Tropical Ornamentals: A Guide. Timber Press, Portland, OR | [Does the species have a history of repeated introductions outside its natural range? Yes] Widely cultivated in the tropics. |
| 301 | 1991. Smith, A.C.. Flora Vitiensis Nova: a new flora of Fiji Volume 5. National Tropical Botanical Garden, Lawai | [Naturalized beyond native range? Yes] Widely cultivated and naturalized in parts of the Pacific. |
| 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 beyond native range? Yes] In Hawai'i, "naturalized and sometimes locally common in disturbed, mesic to wet forest, and as a pioneer on lava fields, 75-920 m" |
| 301 | 2007. Ackerman, J.D.. Invasive orchids: weeds we hate to love?. Lankesteriana. 7(1-2): 19-21. | [Naturalized beyond native range? Yes] Naturalized in Puerto Rico in disturbed habitat. |
| 302 | 1992. Seidenfaden, G./Wood, J.J./Holttum, R.E.. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, http://books.google.com/books?id=OPkTkNqGieoC&pg=PA146&dq=arundina+graminifolia&hl=en&ei=MPnfTdGWJpL4sAP96_GVBw&sa=X&oi=book_result&ct=result | [Garden/amenity/disturbance weed? Yes] Arundina graminifolia is found in almost all parts of Malaya, in lowlands and mountains, always in open sunny places, frequently along roadsides. |
| 302 | 2009. Oakeley, H.. Letter from the president Dr. Henry Oakeley. Society of Great Britain Orchid Journal. 58: 4-17.http://www.orchid-society-gb.org.uk/NewSiteDevelopments/Archive/Vol58_no1.pdf | [Garden/amenity/disturbance weed? Yes] "Another invasive orchid is the tropical Arundina graminifolia which grows in grasslands and full sun as a roadside weed in the Highlands of Malaysia, and is grown as a bedding plant in Singapore Botanic Gardens. It is widespread through SE Asia, both as a wild plant and in cultivation. It was cultivated in Hawaii and escaped into the wild, and the same has now happened in Central America and more recently in South America, in Peru." |
| 303 | 2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/ | [Agricultural/forestry/horticultural weed? No] No evidence. |

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|---|---|---|
| 304 | 2011. WRA Specialist. Personal Communication. | [Environmental weed? No] No evidence of environmental impact or control of Arundina graminifolia. |
| 305 | 2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. http://www.hear.org/gcw/ | [Congeneric weed? No] No evidence of a 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. | [Produces spines, thorns or burrs? No] "Tufted terrestrial herbs 10-25 dm tall, arising from short horizontal rhizomes; stems usually crowded together, completely enclosed by a series of persistent sheathing leaf bases. Leaves firm, grass-like, linear-lanceolate, 8-30 cm long, 0.5-1.5 (-2) cm wide, midrib impressed on upper surface, conspicuously raised on lower surface, margins entire, sheaths 2-4 cm long. Flowers in terminal, racemose or paniculate inflorescences 10-70 cm long, peduncles slender, dark green or reddish purple, glabrous, bracts erect, broadly ovate, 3-7 mm long; sepals plae pink to rose, the dorsal one ascending, elliptic to elliptic-obovate, 3-4.5 cm long, ventral sepals appressed to surface of labellum, elliptic, 3-4.5 cm long; lateral petals similar in color to sepals, spreading or reflexed horizontally, broadly elliptic to obovate, 2.5-3.8 cm long; labellum pale to dark reddish purple, ± with yellow markings on the throat, 4-5 cm long, entire or weakly 3-lobed, middle lobe undulate, deeply cleft, margins irregularly crenate." |
| 402 | 2011. WRA Specialist. Personal Communication. | [Allelopathic?] 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. | [Parasitic? No] Orchidaceae. |
| 404 | 2005. Vaidya, B.. Orchids as cattle feed and use in Ayurveda medicine. The Orchid Guide Digest, http://www.mail-archive.com/orchids@orchidguide.com/msg03774.html | [Unpalatable to grazing animals? No] In some areas of Nepal, Arundina graminifolia are used as fodder for cattle. |
| 404 | 2009. About Orchids.com. Arundina an orchid weed. www.aboutorchids.com, http://www.aboutorchids.com/blog/2009/03/04/arundina-an-orchid-weed/ | [Unpalatable to grazing animals? No] Introduced in the 1950's to the Big Island, Hawaii as cattle fodder. |
| 404 | 2011. Dave's Garden. PlantFiles: Bamboo orchid, bird orchid Arundina graminifolia. Dave's Garden, http://davesgarden.com/guides/pf/go/56646/ | [Unpalatable to grazing animals? No] Planted in some areas of the Big Island, Hawaii as cattle fodder. |
| 405 | 2011. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland http://www.ncbi.nlm.nih.gov/ | [Toxic to animals? No] No evidence of toxicity in PubMed. |
| 405 | 2011. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/ | [Toxic to animals? No] No evidence of toxicity in ToxNet. |
| 406 | 2011. WRA Specialist. Personal Communication. | [Host for recognized pests and pathogens? ] Unknown. |
| 407 | 2011. National Center for Biotechnology Information. PubMed. U.S. National Library of Medicine, Bethesda, Maryland http://www.ncbi.nlm.nih.gov/ | [Causes allergies or is otherwise toxic to humans? No] No evidence in PubMed. |
| 407 | 2011. Specialized Information Services, U.S. National Library of Medicine. TOXNET toxicology data network [online database]. National Institutes of Health, http://toxnet.nlm.nih.gov/ | [Causes allergies or is otherwise toxic to humans? No] No evidence in ToxNet. |
| 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. | [Creates a fire hazard in natural ecosystems? No] Herbaceous. [unlikely to carry a fire] |
| 409 | 2000. Whistler, W.A.. Tropical Ornamentals: A Guide. Timber Press, Portland, OR | [Is a shade tolerant plant at some stage of its life cycle? Yes] Prefers shade. |

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|---|---|---|
| 409 | 2011. Dave's Garden. PlantFiles: Bamboo orchid, bird orchid Arundina graminifolia. Dave's Garden, http://davesgarden.com/guides/pf/go/56646/ | [Is a shade tolerant plant at some stage of its life cycle?] Full sun, partial shade. |
| 410 | 2009. Rusea, G./Lim, M.Y.L./Phoon, S.N./Yong, W.S.Y./Tang, C.H./Khor, H.E./Abdullah, J.O./Abdullah, J.. Malyasian limestone orchids status: diversity, threat and conservation. Blumea. 54: 109-116.http://docserver.ingentaconnect.com/deliver/connect/nhn/000 | [Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)? Yes] Arundina graminifolia grows on limestone soils in Sarawak, Malaysia. |
| 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. | [Climbing or smothering growth habit? No] "Tufted terrestrial herbs 10-25 dm tall, arising from short horizontal rhizomes; stems usually crowded together, completely enclosed by a series of persistent sheathing leaf bases. |
| 412 | 2011. Orenstein, R.. A wandering naturalist. http://ronorenstein.blogspot.com/2010/05/west-malaysia-frasers-hill-setting.html | [Forms dense thickets? ] "It's a bamboo orchid (Arundina graminifolia), and the new road is lined in many places with thickets of the stuff. They do look rather like clumps of bamboo until you notice the flowers. it can be a rather treacherous plant; while trying to take these photographs I managed to fall, slowly, into a deep hole cleverly hidden beneath clumps of orchid stalks." [no picture of thickets] |
| 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. | [Aquatic? No] Terrestrial |
| 502 | 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. | [Grass? No] Orchidaceae. |
| 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. | [Nitrogen fixing woody plant? No] Herbaceaeous. Orchidaceae. |
| 504 | 2011. Dave's Garden. PlantFiles: Bamboo orchid, bird orchid Arundina graminifolia. Dave's Garden, http://davesgarden.com/guides/pf/go/56646/ | [Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? Yes] "Propagation Methods: By dividing rhizomes, tubers, corms or bulbs (including offsets)<br>From seed; germinate in vitro in gelatin, agar or other medium." |
| 601 | 2009. Chen, X./Gale, S.W.. Arundina graminifolia Flora of China Vol. 25. efloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=242305113 | [Evidence of substantial reproductive failure in native habitat? No] Grassy slopes, streamsides, thickets, forests; 400-2800 m. N Fujian, Guangdong, Guangxi, Guizhou, Hainan, S Hunan, Jiangxi, S Sichuan, Taiwan, SE Xizang, W to SE Yunnan, Zhejiang [Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam]. |
| 602 | 2011. Dave's Garden. PlantFiles: Bamboo orchid, bird orchid Arundina graminifolia. Dave's Garden, http://davesgarden.com/guides/pf/go/56646/ | [Produces viable seed? Yes] "Propagation Methods: By dividing rhizomes, tubers, corms or bulbs (including offsets) From seed; germinate in vitro in gelatin, agar or other medium." |
| 603 | 2011. WRA Specialist. Personal Communication. | [Hybridizes naturally?] Unknown. |
| 604 | 2011. WRA Specialist. Personal Communication. | [Self-compatible or apomictic?] Unknown. |
| 605 | 2000. Whistler, W.A.. Tropical Ornamentals: A Guide. Timber Press, Portland, OR | [Requires specialist pollinators? No] Most natural orchids require specific pollinators, however, Arundina graminifolia does not require a specific pollinator and is fertile over most of its range. |
| 605 | 2009. Oakeley, H.. Letter from the president Dr. Henry Oakeley. Society of Great Britain Orchid Journal. 58: 4-17.http://www.orchid-society-gb.org.uk/NewSiteDevelopments/Archive/Vol58_no1.pdf | [Requires specialist pollinators? No] "Two other orchids from Peru, Epistiphium and the small terrestrial orchid shown in the set of<br>photographs below, both have Arundina-like flowers so this shape has been re-invented in<br>evolution several times as being a shape that favours pollination by bees." |
| 606 | 2011. Dave's Garden. PlantFiles: Bamboo orchid, bird orchid Arundina graminifolia. Dave's Garden, http://davesgarden.com/guides/pf/go/56646/ | [Reproduction by vegetative fragmentation? Yes] "Propagation Methods:<br>By dividing rhizomes, tubers, corms or bulbs (including offsets) From seed; germinate in vitro in gelatin, agar or other medium." |
| 607 | 2011. WRA Specialist. Personal Communication. | [Minimum generative time (years)?] Unknown. |

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|---|---|---|
| 701 | 1992. Seidenfaden, G./Wood, J.J./Holttum, R.E.. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, http://books.google.com/books?id=OPkTkNqGieoC&pg=PA146&dq=arundina+graminifolia&hl=en&ei=MPnfTdGWJpL4sAP96_GVBw&sa=X&oi=book_result&ct=result | [Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] Arundina graminifolia is found in almost all parts of Malaya, in lowlands and mountains, always in open sunny places, frequently along roadsides. |
| 702 | 2000. Whistler, W.A.. Tropical Ornamentals: A Guide. Timber Press, Portland, OR | [Propagules dispersed intentionally by people? Yes] Widely cultivated. |
| 702 | 2009. Oakeley, H.. Letter from the president Dr. Henry Oakeley. Society of Great Britain Orchid Journal. 58: 4-17.http://www.orchid-society-gb.org.uk/NewSiteDevelopments/Archive/Vol58_no1.pdf | [Propagules dispersed intentionally by people? Yes] "Another invasive orchid is the tropical Arundina graminifolia which grows in grasslands and full sun as a roadside weed in the Highlands of Malaysia, and is grown as a bedding plant in Singapore Botanic Gardens. It is widespread through SE Asia, both as a wild plant and in cultivation. It was cultivated in Hawaii and escaped into the wild, and the same has now happened in Central America and more recently in South America, in Peru." |
| 702 | 2011. TianZi Biodiversity Research & Development Centre. Orhids of Yunnan. Tianzi Asia, http://www.natureproducts.net/Products/Orchid_list.html | [Propagules dispersed intentionally by people? Yes] The TianZi Biodiversity Research & Develoopment Centre has seeds of Arunina graminifoli for sale. One seed capsule is $12 U.S. |
| 703 | 2011. WRA Specialist. Personal Communication. | [Propagules likely to disperse as a produce contaminant? No] No evidence of produce contamint. |
| 704 | 1993. Drake, D.R.. Population ecology of Metrosideros polymorpha and some associated plants of Hawaiian volcanoes. University of Hawaii Manoa, Honolulu https://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/9454/uhm_phd_9325021_r.pdf;jsessionid=F909 | [Propagules adapted to wind dispersal? Yes] "Among the other angiosperms common on recent Hawaiian lava flows, several produce diaspores with morphologies suggesting adaptation for wind dispersal (although again no empirical data have been collected for any of the species). Arundina graminifolia produces the minute dust-like seeds typical of the Orchidaceae, a family for which wind is presumed to be the principal dispersal vector. |
| 704 | 2004. Medeiros, A.C.. Phenology, reproductive potential, seed dispersal and predation, and seedling establishment of three invasive plant species in a Hawaiian rain forest. University of Hawaii Manoa, | [Propagules adapted to wind dispersal? Yes] Wind dispersed. |
| 705 | 1992. Seidenfaden, G./Wood, J.J./Holttum, R.E.. The orchids of peninsular Malaysia and Singapore. Olsen & Olsen, http://books.google.com/books?id=OPkTkNqGieoC&pg=PA146&dq=arundina+graminifolia&hl=en&ei=MPnfTdGWJpL4sAP96_GVBw&sa=X&oi=book_result&ct=result | [Propagules water dispersed? Yes] "Arundina graminifolia is found in almost all parts of Malaya, in lowlands and mountains, always in open sunny places, frequently along roadsides, never in the shade of the forest. It often grows in rocky places by streams, but is rarely so abundant as to make a display of color." [Documented distribution along waterways is supporting evidence for the 'yes' response.] |
| 705 | 2009. Chen, X./Gale, S.W.. Arundina graminifolia Flora of China Vol. 25. efloras.org, http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=242305113 | [Propagules water dispersed? Yes] Grassy slopes, streamsides, thickets, forests; 400-2800 m. N Fujian, Guangdong, Guangxi, Guizhou, Hainan, S Hunan, Jiangxi, S Sichuan, Taiwan, SE Xizang, W to SE Yunnan, Zhejiang [Bhutan, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Sri Lanka, Thailand, Vietnam]. [Documented distribution along waterways is supporting evidence for the 'yes' response.] |
| 706 | 1993. Drake, D.R.. Population ecology of Metrosideros polymorpha and some associated plants of Hawaiian volcanoes. University of Hawaii Manoa, Honolulu https://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/9454/uhm_phd_9325021_r.pdf;jsessionid=F909 | [Propagules bird dispersed? No] "Among the other angiosperms common on recent Hawaiian lava flows, several produce diaspores with morphologies suggesting adaptation for wind dispersal (although again no empirical data have been collected for any of the species). Arundina graminifolia produces the minute dust-like seeds typical of the Orchidaceae, a family for which wind is presumed to be the principal dispersal vector." |
| 706 | 2004. Medeiros, A.C.. Phenology, reproductive potential, seed dispersal and predation, and seedling establishment of three invasive plant species in a Hawaiian rain forest. University of Hawaii Manoa, | [Propagules bird dispersed? No] Wind dispersed. |
| 707 | 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. | [Propagules dispersed by other animals (externally)? No] "Capsules pendent, cylindrical, 6-ribbed, 3.5-5.5 cm long.' [no means of external attachment] |

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|---|---|---|
| 708 | 1993. Drake, D.R.. Population ecology of Metrosideros polymorpha and some associated plants of Hawaiian volcanoes. University of Hawaii Manoa, Honolulu https://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/9454/uhm_phd_9325021_r.pdf;jsessionid=F909 | [Propagules survive passage through the gut? No] Minute seeds. |
| 801 | 1993. Drake, D.R.. Population ecology of Metrosideros polymorpha and some associated plants of Hawaiian volcanoes. University of Hawaii Manoa, Honolulu https://scholarspace.manoa.hawaii.edu/bitstream/handle/10125/9454/uhm_phd_9325021_r.pdf;jsessionid=F909 | [Prolific seed production?] " Arundina graminifoliaproduces the minute dust-like seeds typical of the Orchidaceae, a family for which wind is presumed to be the principal dispersal vector." |
| 801 | 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. | [Prolific seed production (>1000/m2)?] "Tufted terrestrial herbs 10-25 dm tall, arising from short horizontal rhizomes; stems usually crowded together, completely enclosed by a series of persistent sheathing leaf bases. Leaves firm, grass-like, linear-lanceolate, 8-30 cm long, 0.5-1.5 (-2) cm wide, midrib impressed on upper surface, conspicuously raised on lower surface, margins entire, sheaths 2-4 cm long. Flowers in terminal, racemose or paniculate inflorescences 10-70 cm long, peduncles slender, dark green or reddish purple, glabrous, bracts erect, broadly ovate, 3-7 mm long; sepals plae pink to rose, the dorsal one ascending, elliptic to elliptic-obovate, 3-4.5 cm long, ventral sepals appressed to surface of labellum, elliptic, 3-4.5 cm long; lateral petals similar in color to sepals, spreading or reflexed horizontally, broadly elliptic to obovate, 2.5-3.8 cm long; labellum pale to dark reddish purple, ± with yellow markings on the throat, 4-5 cm long, entire or weakly 3-lobed, middle lobe undulate, deeply cleft, margins irregularly crenate. Capsules pendent, cylindrical, 6-ribbed, 3.5-5.5 cm long" |
| 802 | 2011. Dave's Garden. PlantFiles: Bamboo orchid, bird orchid Arundina graminifolia. Dave's Garden, http://davesgarden.com/guides/pf/go/56646/ | [Evidence that a persistent propagule bank is formed (>1 yr)?] Seed does not store well, sow as soon as possible. |
| 803 | 2011. WRA Specialist. Personal Communication. | [Well controlled by herbicides?] Unknown. |
| 804 | 1992. Smith, C.W./Tunison, J.T.. Fire and alien plants in Hawaii: research and management implications for native ecosystems In: Alien plant invasions in native ecosystems of Hawaii: management and research. Cooperative National Park Resources Studies Uni | [Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "There are extensive remnants of a forest dominated by hala (Pandanus odoratissimus), `ohi`a, and uluhe inland of Kolo Point, Hawai`i. These forest remnants have been burned on several occasions recently. Hala and the alien shrub Malabar melastome (Melastoma candidum) disappeared from the community very rapidly, and the aerial portions of `ohi`a have been killed. Alien broomsedge, bamboo orchid (Arundina graminifolia), melochia (Melochia umbellata), and native hi`aloa (Waltheria americana) commonly invade after each fire, whereas the native uluhe only reinvades as long as the forbs and shrubs are not too dense." |
| 805 | 2011. WRA Specialist. Personal Communication. | [Effective natural enemies present locally (e.g. introduced biocontrol agents)?] Unknown. |