

**\*DRAFT\***

# Alien Species in Hawaii "Island Matrix"

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A product of the Hawaiian Ecosystems at Risk (HEAR) Project - USGS/BRD & Univ. Hawaii Botany Dept.  
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BRIEF Controllability Code Explanations (be SURE to see FULL EXPLANATIONS at the end of this report)		
0 = no info available	1 = controllable (islandwide)	2 = uncontrollable (islandwide)
3 = present, controllability unknown	4 = potentially present	5 = absent (no habitat)

HEAR "Island Matrix"  
4/30/97 p. 1 of 8  
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	H	K	Ka	L	M	Mo	NW	Ni	O
Acacia confusa (Fabaceae)	0	0	0	0	0	0	0	0	0
Acacia farnesiana (Fabaceae)	2 *	1 *	3 *	2 #	3 *	3 *	3 *	4 *	2 *
Acacia mearnsii (Fabaceae)	3 *	3 *	4 *	3 *	2 *	1 *	4 *	4 *	2 *
Acacia melanoxylon (Fabaceae)	4 *	2 *	4 *	4 *	3 *	2 *	4 *	4 *	3 *
Ageratina adenophora (Asteraceae)	0	0	0	0	0	0	0	0	0
Albizia spp. (Fabaceae)	0	0	4 *	0	0	0	0	0	0
Andropogon virginicus (Poaceae)	2	4	4 *	4	2	2	0	0	2
Anemone hupehensis (Ranunculaceae)	0	0	0	0	0	0	0	0	0
Angiopteris evecta (Marattiaceae)	3	3	5 *	4	2	4	5	5	2
Archontophoenix alexandrae (?unresearched)	0	0	0	0	0	0	0	0	0
Ardisia elliptica (Myrsinaceae)	3 *	2 *	4 *	4 *	2 *	4 *	4 *	4 *	2 *
Argemini sp. (?unresearched)	0	0	0	0	0	0	0	0	0
Arthrostemma ciliatum (Melastomataceae)	3 *	4 *	4 *	4 *	4 *	4 *	4 *	4 *	3 *
Asclepias physocarpa (Asclepiadaceae)	2	3	3 *	2	2	4	0	0	1
Asparagus densiflorus (?unresearched)	3	1	4 *	3	3	3	4	4	2
Axonopus fissifolius (Poaceae)	2	2	5 *	3	3	2	5	5	2
Bamboos [Running-all-spp.] (?unresearched)	2	3	4 *	2	2	3	4	4	2
Bidens alba (Asteraceae)	3	3	3 *	4	3	4	3	4	2
Bidens pilosa (Asteraceae)	0	0	0	0	0	0	0	0	0
Bocconia frutescens (Papaveraceae)	3	5	5 *	5	2	5	5	5	5
Brachiaria mutica (Poaceae)	0	0	0	0	0	0	0	0	0
Brassica nigra (Brassicaceae)	0	0	4 *	0	0	0	0	0	0

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	H	K	Ka	L	M	Mo	NW	Ni	O
<b>Bromus tectorum (Poaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Bruguiera sp. (Rhizophoraceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Caesalpinia decapetala (Fabaceae)</b>	3 *	2 *	4 *	4 *	3 *	1 *	4 *	3 *	2 *
<b>Casuarina equisetifolia (Casuarinaceae)</b>	2	2	2 *	2	2	2	2	2	2
<b>Casuarina glauca (Casuarinaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Cecropia obtusifolia (Cecropiaceae)</b>	2	3	5 *	4	4	4	5	5	2
<b>Cenchrus ciliaris (Poaceae)</b>	2	2	2 *	2	2	2	4	4	2
<b>Cenchrus echinatus (Poaceae)</b>	2	2	2 *	2	2	2	1	2	2
<b>Cestrum nocturnum (Solanaceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Chrysophyllum mexicanum (Sapotaceae)</b>	3	2	5 *	4	3	4	5	3	2
<b>Chrysophyllum oliviforme (Sapotaceae)</b>	3 #	2 *	5 *	4 *	3 *	4 *	5 *	3 *	2 *
<b>Cinchona pubescens (Rubiaceae)</b>	4	4	4 *	4	4	4	4	4	4
<b>Cinnamomum burmanii (Lauraceae)</b>	1	4	5 *	3	1	4	5	5	2
<b>Cinnamomum camphora (Lauraceae)</b>	4	1	5 *	3	3	4	5	5	1
<b>Citharexylum caudatum (Verbenaceae)</b>	4	4	5 *	4	4	4	5	5	2
<b>Citharexylum spinosum (Verbenaceae)</b>	4	3	4 *	4	4	4	4	4	1
<b>Clerodendrum macrostegia (Verbenaceae)</b>	1	1	5 *	4	1	4	5	5	1
<b>Clidemia hirta (Melastomataceae)</b>	2 *	2 *	5 *	3 #	2 *	2 *	5 *	5 *	2 *
<b>Clusia rosea (Clusiaceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Coccinia grandis (Cucurbitaceae)</b>	2 #	1 #	4 *	4 *	1 #	4 *	4 *	4 *	2 *
<b>Cortaderia jubata (Poaceae)</b>	4	4	5 *	4	1	4	5	5	4
<b>Corynocarpus laevigatus (Corynocarpaceae)</b>	3 *	2 *	5 *	4 *	4 *	1 *	5 *	5 *	3 *
<b>Cyperus halpan (Cyperaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Deparia petersenii (Dryopteridaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Derris elliptica (?unresearched)</b>	0	0	0	0	0	0	0	0	0
<b>Desmodium cajanifolium (Fabaceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Dissotis rotundifolia (Melastomataceae)</b>	3 *	3 *	4 *	4 *	3 *	4 *	4 *	4 *	3 *
<b>Ehrharta stipoides (Poaceae)</b>	2	3	5 *	4	3	3	5	5	3

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<b>Erigeron karvinskianus (Asteraceae)</b>	3 *	2 *	4 *	4 *	3 *	1 *	4 *	4 *	2 *
<b>Eriobotrya japonica (?unresearched)</b>	3	1	5 *	4	3	3	5	5	3
<b>Eucalyptus globulus (Myrtaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Eucalyptus robusta (Myrtaceae)</b>	3 *	3 *	5 *	3 #	3 *	2 *	5 *	5 *	3 *
<b>Ficus microcarpa (Moraceae)</b>	2	2	2 *	4	2	2	4	4	2
<b>Ficus rubiginosa (Moraceae)</b>	4	3	4 *	3	4	4	4	4	2
<b>Fraxinus uhdei (Oleaceae)</b>	3 *	3 *	5 *	3 *	3 *	2 *	5 *	5 *	3 *
<b>Furcraea foetida (Agavaceae)</b>	3	3	4 *	1	3	3	4	4	3
<b>Glycine wightii (Fabaceae)</b>	3	1	3 *	4	2	3	4	4	3
<b>Grevillea banksii (Proteaceae)</b>	3 *	3 *	4 *	4 *	3 *	3 *	4 *	3 *	3 *
<b>Grevillea robusta (Proteaceae)</b>	2	2	4 *	4	2	2	4	4	2
<b>Haematoxylum campechianum (Fabaceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Hedychium coronarium (Zingiberaceae)</b>	2 *	2 #	4 *	3 *	2 *	2 *	4 *	4 *	2 *
<b>Hedychium flavescens (Zingiberaceae)</b>	2	2	4 *	3	2	2	4	4	2
<b>Hedychium gardnerianum (Zingiberaceae)</b>	2 *	2 *	5 *	3 *	3 *	4 *	5 *	4 *	3 *
<b>Heliocarpus popayanensis (Tiliaceae)</b>	2	2	5 *	4	4	4	5	5	2
<b>Heterocentron subtriplinervium</b>	3 *	3 *	4 *	4 *	3 *	4 *	4 *	4 *	3 *
<b>Hiptage benghalensis (Malpighiaceae)</b>	4	1	5 *	4	4	4	5	5	3
<b>Holcus lanatus (Poaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Hyparrhenia rufa (Poaceae)</b>	2	2	4 *	4	3	2	4	4	2
<b>Hypochoeris radicata (Asteraceae)</b>	0	0	0	0	0	0	0	0	0
<b>Impatiens wallerana (Balsaminaceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Ipomoea alba (Convolvulaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Jasminum fluminense (?unresearched)</b>	3	4	4 *	4	1	4	4	4	1
<b>Juncus planifolius (Juncaceae)</b>	2 *	2 *	5 *	4 *	2 *	2 *	5 *	5 *	2 *
<b>Juncus polyanthemus (Juncaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Kalanchoe pinnata (Crassulaceae)</b>	2	2	3 *	2	2	2	1	4	2
<b>Lantana camara (Verbenaceae)</b>	2 *	2 *	2 *	2 *	2 *	2 *	1 #	2 *	2 *

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<i>Leptospermum scoparium</i> (Myrtaceae)	3 #	1 *	4 *	2 *	3 #	3 #	4 *	4 *	3 *
<i>Leucaena leucocephala</i> (Fabaceae)	2 *	2 *	2 *	2 *	2 *	2 *	3 *	2 *	2 *
<i>Lonicera japonica</i> (Caprifoliaceae)	3 *	2 *	5 *	3 #	3 #	3 #	4 *	4 *	3 *
<i>Lophostemon confertus</i> (Myrtaceae)	4 *	3 *	5 *	4 *	4 *	3 *	5 *	5 *	2 *
<i>Macaranga mappa</i> (Euphorbiaceae)	0	0	0	0	0	0	0	0	0
<i>Macaranga tanarius</i> (Euphorbiaceae)	0	0	0	0	0	0	0	0	0
<i>Medenilla cumingii</i> (?unresearched)	3 #	4 *	5 *	4 *	3 #	4 *	5 *	5 *	4 *
<i>Medinilla magnifica</i> (?unresearched)	3 #	4 *	5 *	4 *	3 #	4 *	5 *	5 *	4 *
<i>Medinilla venosa</i> (Melastomataceae)	4 *	4 *	5 *	4 *	3 *	4 *	5 *	5 *	4 *
<i>Melaleuca quinquenervia</i> (Myrtaceae)	2 *	2 *	4 *	2 #	2 *	2 *	4 *	4 *	2 *
<i>Melastoma candidum</i> (Melastomataceae)	2 *	2 *	5 *	4 *	4 *	4 *	4 *	4 *	1 *
<i>Melastoma sanguineum</i> (Melastomataceae)	3 *	4	4	4	4	4	4	4	3 *
<i>Melinis minutiflora</i> (Poaceae)	2 *	2 *	3 *	2 *	2 *	2 *	4 *	4 *	2 *
<i>Melochia umbellata</i> (Sterculiaceae)	2	4	5 *	4	4	4	5	5	1
<i>Miconia calvescens</i> (Melastomataceae)	1 *	1 *	5 *	4 *	1 #	4 *	5 *	5 *	1 *
<i>Montanoa hibiscifolia</i> (Asteraceae)	1	3	3 *	3	3	4	4	4	2
<i>Myrica cerifera</i> (Myricaceae)	3	4	4 *	4	1	4	5	5	4
<i>Myrica faya</i> (Myricaceae)	2 *	2 *	5 *	2 *	2 *	4 *	5 *	5 *	3 *
<i>Nicotiana glauca</i> (Solanaceae)	0	0	3 *	0	0	0	0	0	0
<i>Olea europea</i> (Oleaceae)	2 *	2 *	4 *	4 *	4 *	4 *	4 *	4 *	3 *
<i>Oxyspora paniculata</i> (Melastomataceae)	4 *	4 *	5 *	4 *	4 *	4 *	5 *	5 *	3 *
<i>Paederia scandens</i> (Rubiaceae)	2	2	5 *	4	1	4	5	5	2
<i>Panicum maximum</i> (Poaceae)	2 *	2 *	3 *	2 *	2 *	2 *	1 #	3 *	2 *
<i>Paraserianthes falcataria</i> (Fabaceae)	0	0	4 *	0	0	0	0	0	0
<i>Paspalum conjugatum</i> (Poaceae)	2	2	5 *	2	2	2	5	5	2
<i>Paspalum urvillei</i> (Poaceae)	2 *	2 *	5 *	2 *	2 *	2 *	5 *	5 *	2 *
<i>Passiflora edulis</i> (Passifloraceae)	2 *	2 *	3 *	3 *	2 *	2 *	4 *	4 *	2 *
<i>Passiflora laurifolia</i> (Passifloraceae)	3	3	4 *	4	4	4	5	4	2

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<b>Passiflora ligularis (Passifloraceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Passiflora mollissima (Passifloraceae)</b>	2 *	2 *	4 *	4 *	2 #	4 *	4 *	4 *	4 *
<b>Passiflora suberosa (Passifloraceae)</b>	2	3	4 *	3	2	4	4	4	2
<b>Pennisetum clandestinum (Poaceae)</b>	2	2	4 *	2	2	2	4	2	2
<b>Pennisetum setaceum (Poaceae)</b>	2	1	1 #	1	1	1	4	4	3
<b>Phormium tenax (Agavaceae)</b>	3 *	1 *	5 *	1 #	4 *	1 *	5 *	5 *	4 *
<b>Phyllostachys aurea (Poaceae)</b>	4	4	5 *	4	4	4	5	5	1
<b>Phyllostachys nigra (Poaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Pimenta dioica (?unresearched)</b>	3	3	4 *	4	3	4	5	4	2
<b>Pimenta racemosa (?unresearched)</b>	3	3	4 *	4	3	4	5	4	2
<b>Pinus caribaea (Pinaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Pinus patula (Pinaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Pinus pinaster (Pinaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Pinus radiata (Pinaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Pinus spp. loc. Molokai (Pinaceae)</b>	0	0	4 *	0	0	3	0	0	0
<b>Pinus spp. loc. other-than-taeda (Pinaceae)</b>	0	0	5 *	0	2	0	5	5	0
<b>Pinus taeda (Pinaceae)</b>	3 *	3 *	4 *	4 *	3 *	2 *	5 *	4 *	4 *
<b>Pittosporum undulatum (Pittosporaceae)</b>	3	4	4 *	1	4	4	4	4	4
<b>Pluchea indica (Asteraceae)</b>	0	0	0	0	0	0	0	0	0
<b>Pluchea sp. (Asteraceae)</b>	0	0	3 *	0	0	0	0	0	0
<b>Portulaca oleracea (Portulacaceae)</b>	2	2	2 *	2	2	2	3	2	2
<b>Prosopis pallida (Fabaceae)</b>	2 *	2 *	2 *	2 *	2 *	2 *	1 *	2 #	2 *
<b>Psidium cattleianum (Myrtaceae)</b>	2 *	2 *	5 *	2 *	2 *	2 *	5 *	5 *	2 *
<b>Psidium guajava (Myrtaceae)</b>	2	2	4 *	2	2	2	1	3	2
<b>Pterolepis glomerata (Melastomataceae)</b>	3 *	3 *	4 *	4 *	4 *	3 *	4 *	4 *	3 *
<b>Pueraria lobata (Fabaceae)</b>	3	1	5 *	4	3	4	5	5	3
<b>Pyracantha spp. loc. angustifolia+etc.</b>	2	1	5 *	4	3	4	5	5	1
<b>Rhizophora mangle (Rhizophoraceae)</b>	1	3	3 *	3	3	2	4	4	3

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<b>Rhodomirtus tomentosa (Myrtaceae)</b>	3 *	1 *	4 *	4 *	4 *	4 *	4 *	4 *	1 *
<b>Rhynchospora caduca (Cyperaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Rubus argutus (Rosaceae)</b>	2 *	2 *	5 *	4 *	2 *	2 *	5 *	5 *	2 *
<b>Rubus discolor (Rosaceae)</b>	4	4	4 *	4	4	4	0	0	1
<b>Rubus ellipticus (Rosaceae)</b>	2	4	5 *	4	4	4	5	5	4
<b>Rubus glaucus (Rosaceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Rubus niveus (Rosaceae)</b>	4	4	5 *	4	2	4	5	5	4
<b>Rubus rosifolius (Rosaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Rubus sieboldii (Rosaceae)</b>	4	3	5 *	4	4	4	5	5	4
<b>Sacciolepis indica (Poaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Schefflera actinophylla (Araliaceae)</b>	3 *	2 *	4 *	4 *	3 *	1 #	4 *	4 *	2 *
<b>Schinus terebinthifolius (Anacardiaceae)</b>	2 *	2 *	4 *	2 *	2 *	2 *	1 *	4 *	2 *
<b>Schizachyrium condensatum (Poaceae)</b>	2	2	4 *	4	4	4	4	4	4
<b>Senecio madascariensis (Asteraceae)</b>	2	1	4 *	4	4	4	4	4	4
<b>Senecio mikanioides (Asteraceae)</b>	2 *	4 *	4 *	4 *	1 *	4 *	4 *	4 *	3 #
<b>Setaria palmifolia (Poaceae)</b>	2 *	3 #	5 *	3 *	2 *	4 *	5 *	5 *	2 *
<b>Setaria verticillata (Poaceae)</b>	2	2	2 *	2	2	2	1	2	2
<b>Spathodea campanulata (Bignoniaceae)</b>	0	0	0	0	0	0	0	0	0
<b>Spathodea sp. (Bignoniaceae)</b>	0	0	4 *	0	0	0	0	0	0
<b>Sphaeropteris cooperi (Cyatheaceae)</b>	3	2	5 *	4	2	4	5	5	2
<b>Syzygium cumini (Myrtaceae)</b>	2	4	2 *	2	2	3	4	4	2
<b>Syzygium jambos (Myrtaceae)</b>	2 *	3 *	5 *	3 *	2 *	2 *	5 *	5 *	2 *
<b>Tetragonia tetragonioides (Aizoaceae)</b>	3	3	4 *	4	4	4	3	4	3
<b>Tetragonia voiniarianum (?unresearched)</b>	1	4	0	4	4	4	0	0	3
<b>Tetrazygia bicolor (Melastomataceae)</b>	3 *	0	4 *	0	0	0	0	0	3 *
<b>Tibouchina herbacea (Melastomataceae)</b>	2 *	4 *	5 *	3 #	2 *	4 *	5 *	5 *	3 #
<b>Tibouchina longifolia (Melastomataceae)</b>	3 *	4 *	4 *	4 *	4 *	4 *	4 *	4 *	4 *
<b>Tibouchina urvilleana var. urvilleana</b>	3 *	1 *	5 *	4 *	3 *	4 *	5 *	5 *	3 *

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	H	K	Ka	L	M	Mo	NW	Ni	O
<b>Toona ciliata (Meliaceae)</b>	3	3	4 *	3	3	1	4	4	2
<b>Trema orientalis (Ulmaceae)</b>	2	3	5 *	3	3	3	5	5	2
<b>Ulex europaeus (Fabaceae)</b>	2 *	4 *	5 *	4 *	2 *	1 #	5 *	5 *	4 *
<b>Verbascum thapsus (Scrophulariaceae)</b>	2	4	4 *	4	1	4	4	4	4
<b>Verbesina encelioides (Asteraceae)</b>	2	2	2 *	2	2	2	2	4	2
<b>Wedelia trilobata (Asteraceae)</b>	0	0	4 *	0	0	0	0	0	0

Controllability Code	Present-Absent-NoInfo	Brief code interpretation	Extended code interp
0	NoInfo	no info available	indicates that no one has indicated with confidence any specific presence/absence information for this species on this island (UNRESEARCHED; often because the species has been added to the matrix with incomplete [or no] information with the intent that the details are TO BE RESEARCHED at a later date)
1	Present	controllable (islandwide)	present on this island (curated specimen cited OR at least one knowledgeable person has indicated with confidence that this species is present on this island); deemed by expert opinion to be potentially controllable islandwide on this island
2	Present	uncontrollable (islandwide)	present on this island (curated specimen cited OR at least one knowledgeable person has indicated with confidence that this species is present on this island); deemed by expert opinion to be uncontrollable islandwide on this island
3	Present	present, controllability unknown	present on this island (curated specimen cited OR at least one knowledgeable person has indicated with confidence that this species is present on this island); controllability unknown islandwide (based on info from experts consulted)

**BRIEF Controllability Code Explanations (be SURE to see FULL EXPLANATIONS at the end of this report)**

0 = no info available                      1 = controllable (islandwide)                      2 = uncontrollable (islandwide)  
 3 = present, controllability unknown                      4 = potentially present                      5 = absent (no habitat)

\* indicates that one of our standard literature references confirms our presence/absence assessment [see HEAR Methods, Standards, & Conventions for info on which literature refs were checked]

# indicates NO CITEABLE references for this species-island distribution (therefore distribution info is based solely on expert opinion)

ABSENCE OF AN AUXILIARY SYMBOL indicates that this species-island distribution HAS NOT BEEN CHECKED against our standard literature references [see HEAR Methods, Standards, & Conventions for info on which literature refs were checked]

Controllability Code	Present-Absent-NoInfo	Brief code interpretation	Extended code interp
4	Absent	potentially present	at least one knowledgeable person has indicated that this species is not known from this island (and no one has indicated that it is OR HAS EVER BEEN known from this island), but suitable habitat for the species exists on this island; OR no one has indicated that they know that this species is (or has ever been) present on this island (and no one has asserted that the species could not be found on the island due to lack of suitable habitat), and "comprehensive" references that we've checked [i.e. Wagner et al. 1990, Wester 1992] do NOT indicate presence of this species on this island: therefore, searching for this species on this island may be warranted (ongoing, to monitor whether the species arrives on the island; and/or now, to confirm presence/absence)
5	Absent	absent (no habitat)	at least one knowledgeable person has indicated that this species is not known from this island, and that this species is not likely to become established on this island due to lack of suitable habitat islandwide (NOTE: Every attempt has been made to assign this category CONSERVATIVELY; it is used ONLY for Kahoolawe, Niihau, and the Northwest Hawaiian Islands.)