

# Hawai‘i Prevention Priority Species List

Updated 4/10/2022

This list was created to support the key actions outlined in Strategy 1 of the HISC & CGAPS 2025 Joint Strategy. To better communicate and measure progress toward the goal of improving invasive species prevention programs, we will use a non-regulatory Hawai‘i Prevention Priority List of different types of potential invaders which could arrive from a variety of source regions, and by different pathways. An invasion pathway is an intentional or unintentional route through which an invasive species is introduced to new locations. By focusing on the prevention of these example species and pathways, countless other potentially harmful species may also be prevented. Note that this is not a comprehensive list of all species of concern, nor is it intended to be a regulatory list—it is solely for planning, communication, and assessment purposes. Similarly, note that many invasive species can arrive via multiple pathways, and this list is intended to capture only the major pathway(s) per species. Pathway definitions follow the Convention on Biological Diversity (CBD).

For more information on CBD pathway definitions see: Harrower, C.A., R. Scalera, S. Pagad, K. Schonrogge, & H.E. Roy. 2018. Guidance for interpretation of CBD categories on introduction pathways. Technical note prepared by IUCN for the European Commission.

## Plant Pathogens

### Fungi

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Citrus black spot	<i>Phyllosticta citricarpa</i>	CTAHR	Transport Contaminant	Parasites on plants	Yes
Sheath net-blotch	<i>Calonectria morganii</i> (=anamorph <i>Cylindrocladium</i> <i>scoparium</i> )	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	Yes
Fusarium banana wilt disease	<i>Fusarium</i> <i>odoratissimum</i>	CABI-ISC	Transport Contaminant	Parasites on plants	No
	<i>Pestalotia</i> , <i>Pestalotiopsis</i>	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	Yes

(continued)

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Frosty pod	<i>Moniliophthora roreri</i>	CTAHR	Transport Contaminant	Parasites on plants	No
Armillaria root disease	<i>Armillaria spp.</i>	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	Yes
White-thread blight/Black rot	<i>Ceratobasidium noxium</i>	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	Yes
	<i>Fomitiporia spp.</i>	DeNitto et al. 2015	Transport Contaminant, Transport Stowaway	Logs, firewood not treated, woodpacking material	Yes
Brown tea root disease	<i>Phellinus noxius</i>	DeNitto et al. 2015	Transport Contaminant, Transport Stowaway	Parasites on plants	No
Pink disease	<i>Erythricium salmonicolor</i> (many synonyms)	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	Yes
Aecidium rusts	<i>Aecidium spp.</i>	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	No
Acacia gall rust	<i>Uromycladium tepperianum</i>	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	No
Uromyces rusts	<i>Uromyces spp.</i>	DeNitto et al. 2015	Transport Contaminant	Parasites on plants	No
Guava rust/Eucalyptus rust	<i>Austropuccinia psidii</i> , <i>Puccinia psidii</i> (many synonyms)	DeNitto et al. 2015	Transport Contaminant	Parasites on animals	Yes

## Bacteria

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Rathayibacter toxicus	<i>Rathayibacter toxicus</i>	CTAHR	Transport Contaminant	Parasites on plants	No
Citrus greening	<i>Candidatus Liberabacter asiaticus</i>	USDA-APHIS	Transport Contaminant	Parasites on plants	Yes

(continued)

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Ralstonia solanacearum R3B2	<i>Ralstonia solanacearum</i> race 3 biovar 2	CTAHR	Transport Contaminant	Parasites on plants	Yes
Citrus canker	<i>Xanthomonas axonopodis</i>	USDA-APHIS	Transport Contaminant	Parasites on plants	Yes
Pierce's disease	<i>Xylella fastidiosa</i>	CABI-ISC	Transport Contaminant	Parasites on plants	Yes
Lethal yellows	<i>Candidatus Phytoplasma palmae</i>	HAR 4-70-43	Transport Contaminant	Parasites on plants	Yes
Corn stunt Spiroplasma	<i>Spiroplasma kunkelii</i>	CTAHR	Transport Contaminant	Parasites on plants	Yes

## Viruses and Viroids

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Taro reovirus (TaRV)	<i>Taro reovirus</i>	CTAHR	Transport Contaminant	Parasites on plants	No
Citrus leprosis viruses	multiple species; one present and under eradication	CTAHR	Transport Contaminant	Parasites on plants	Eradicated
Cacao swollen shoot virus (CSSV)	<i>Cacao swollen shoot virus</i>	CTAHR	Transport Contaminant	Parasites on plants	No
Sweet potato chlorotic stunt virus (SPCSV)	<i>Sweet potato chlorotic stunt virus</i>	CTAHR	Transport Contaminant	Parasites on plants	Yes
Tomato brown rugose fruit virus (ToBRFV)	<i>Tomato brown rugose fruit virus</i>	CTAHR	Transport Contaminant	Parasites on plants	Eradicated
Groundnut bud necrosis virus (GBNV)	<i>Tospovirus Groundnut bud necrosis virus</i>	CTAHR	Transport Contaminant	Parasites on plants	No
Bobone disease; Colocasia bobone disease-associated virus (CBDaV)	<i>Colocasia bobone disease-associated virus</i>	HAR 4-70-51	Transport Contaminant	Parasites on plants	No
Cadang-cadang; Coconut cadang-cadang viroid (CCCVd)	<i>Coconut cadang-cadang viroid (CCCVd)</i>	HAR 4-70-43	Transport Contaminant	Parasites on plants	No

(continued)

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Tinangaja; Coconut tinangaja viroid	<i>Coconut tinangaja viroid</i>	HAR 4-70-43	Transport Contaminant	Parasites on plants	No

### Eukaryotic SAR supergroup

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Sudden oak death	<i>Phytophthora ramorum</i>	USDA-APHIS	Transport Contaminant	Parasites on plants	Yes

### Nematodes

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Red ring disease of palms	<i>Rhadinaphelenchus cocophilus</i>	CTAHR	Transport Contaminant	Parasites on plants	No

### Animal Pathogens

#### Fungi and Microsporidians

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Hepatopancreatic microsporidiosis	<i>Enterocytozoon hepatopenaei</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes

#### Bacteria

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Anaplasma marginale	<i>Anaplasma marginale</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Anaplasma phagocytophilum	<i>Anaplasma phagocytophilum</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Ehrlichiosis	<i>Ehrlichia spp</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Rocky mountain spotted fever	<i>Rickettsia rickettsii</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Acute hepatpancreatic necrosis disease	<i>virulent strains of Vibrio parahaemolyticus</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes

## Viruses

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Koi herpesvirus disease	<i>Koi herpesvirus; Cyprinid herpesvirus 3</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Ostreid herpesvirus 1	<i>Ostreid herpesvirus 1</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
West Nile virus	<i>Flavivirus</i>	DLNR-DOFAW	Transport Contaminant	Parasites on animals	Yes
Classical swine fever	<i>Pestivirus</i>	CTAHR	Transport Contaminant	Parasites on animals	Eradicated
Tilapia lake virus		CTAHR	Transport Contaminant	Parasites on animals	Yes
Avian influenza	<i>Influenza virus A</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Newcastle disease	<i>Avian paramyxovirus 1</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Rabies	<i>Rabies lyssavirus</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Vesicular stomatitis	<i>Vesiculovirus</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes
Porcine epidemic diarrhea virus		CTAHR	Transport Contaminant	Parasites on animals	Yes
Yellowhead disease	<i>Yellow head/Gill associated virus</i>	CTAHR	Transport Contaminant	Parasites on animals	No
Taura syndrome	<i>Taura syndrome virus</i>	CTAHR	Transport Contaminant	Parasites on animals	Reported
Foot and mouth disease	<i>Aphthovirus</i>	CTAHR	Transport Contaminant	Parasites on animals	No
Swine vesicular disease	<i>Enterovirus</i>	CTAHR	Transport Contaminant	Parasites on animals	No
African swine fever	<i>Asfarvirus</i>	CTAHR	Transport Contaminant	Parasites on animals	No

## Eukaryotes

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Tritrichomonas foetus	<i>Tritrichomonas foetus</i>	CTAHR	Transport Contaminant	Parasites on animals	Yes

## Prions

Common Name of the disease	Scientific Name of the causative agent	Source	Pathway Category	Pathway Subcategory	On Mainland
Bovine Spongiform Encephalopathy (BSE)	TSE prion	CTAHR	Transport Contaminant	Parasites on animals	No

## Other Non-Pathogenic Fungi

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Death cap mushroom	<i>Amanita phalloides</i>	HDOA	Transport Contaminant	Contaminant on plants	Yes

## Plants

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Swan milkweed	<i>Gomphocarpus fruticosus</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Horticulture; seed contaminant	Yes
Lightning weed	<i>Drymaria arenarioides</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Horticulture; seed contaminant	Yes
Trumpet tree, pumpwood	<i>Cecropia schreberiana</i>	HAR 4-70A (pending)	Escape from Confinement	Forestry; horticulture	No
Boneseed	<i>Chrysanthemoides monilifera</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Horticulture; seed contaminant	Yes

(continued)

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Stemless thistle	<i>Onopordum acaulon</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Horticulture; seed contaminant	No
Cape marguerite, Van Staden's river daisy, Sundays river daisy	<i>Osteospermum ecklonis</i>	HPWRA	Escape from Confinement	Horticulture	Yes
Creeping groudssel	<i>Senecio angulatus</i>	HAR 4-70A (pending)	Escape from Confinement	Agriculture; horticulture	Yes
Large senecio, woad-leaved ragwort	<i>Senecio glastifolius</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Horticulture; seed contaminant	Yes
Yellow snowflake	<i>Nymphoides geminata</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture; pet/aquarium/terrarium species	No
Himalayan balsam, ornamental jewelweed	<i>Impatiens glandulifera</i>	HPWRA	Escape from Confinement	Horticulture	Yes
Rhododendron	<i>Rhododendron ponticum</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	No
Speckled spur flower	<i>Plectranthus ciliatus</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	Yes
Mudmat	<i>Glossostigma diandrum</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture; pet/aquarium/terrarium species	No
Ngaio, mousehole tree, New Zealand manatoka	<i>Myoporum laetum</i>	HPWRA	Escape from Confinement	Horticulture	Yes
Weeping brown sedge	<i>Carex flagellifera</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Horticulture; seed contaminant	No
Bearskin festuca, bearskin fescue	<i>Festuca gautieri</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	Yes
Silver dollar plant, wheel cactus	<i>Opuntia robusta</i>	HAR 4-70A (pending)	Escape from Confinement	Agriculture; horticulture	Yes
Brazilian giant rhubarb	<i>Gunnera manicata</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	No
Magellan barberry, box-leaved barberry	<i>Berberis buxifolia</i>	HAR 4-70A (pending)	Escape from Confinement	Agriculture; horticulture	No
Sweet virgin's bower, fragrant virgin's bower	<i>Clematis flammula</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	Yes

(continued)

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Cape tulip	<i>Moraea ochroleuca</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	No
Trailing lily	<i>Bomarea multiflora</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	No
Silver wattle	<i>Acacia dealbata</i>	HPWRA	Escape from Confinement	Forestry; horticulture	Yes
Licorice, licorice root	<i>Glycyrrhiza glabra</i>	HPWRA	Escape from Confinement	Agriculture; horticulture	Yes
Dusky coral pea, red coral pea	<i>Kennedia rubicunda</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	No
Daily pine	<i>Psoralea pinnata</i>	HAR 4-70A (pending)	Escape from Confinement	Agriculture; horticulture	Yes
Butterfly bush, myrtle leaf milkwort, parrotbush	<i>Polygala myrtifolia</i>	HPWRA	Escape from Confinement	Horticulture	Yes
Tufted honey flower	<i>Melianthus comosus</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Horticulture; seed contaminant	No
Garden geranium	<i>Pelargonium alchemilloides</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	Yes
Stilted mangrove	<i>Rhizophora stylosa</i>	HPWRA	Release in Nature	Erosion control/ dune stabilization	No
Italian buckhorn	<i>Rhamnus alaternus</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	Yes
Gray leaf cotoneaster, bright bead cotoneaster	<i>Cotoneaster glaucophyllus</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	No
Spreading willow-leaf cotoneaster	<i>Cotoneaster salicifolius</i>	HAR 4-70A (pending)	Escape from Confinement	Horticulture	Yes
Giant bramble	<i>Rubus alceifolius</i>	HAR 4-70A (pending)	Escape from Confinement	Agriculture; horticulture	No
European blackberry	<i>Rubus fruticosus</i>	HAR 4-70A (pending)	Escape from Confinement; Transport Contaminant	Agriculture; horticulture; seed contaminant	Yes

## Land Planarians



Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Hammerhead flatworm	<i>Bipalium vagum</i>	HDOA	Transport Contaminant	Contaminant nursery material	Yes
Blue planarian	<i>Caenoplana coerulea</i>	HDOA	Transport Contaminant	Contaminant nursery material	Yes
Predatory Flatworm/land planarian	<i>Parakontikia ventrolineata</i>	HDOA	Transport Contaminant	Contaminant on plants	Yes

## Annelids and Molluscs

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	Regulatory Status	On Mainland
Terrestrial & aquatic leeches	<i>Hirudinida species</i>	HDOA	Transport Contaminant	Contaminant on plants		Yes
Apple snails (freshwater)	<i>Pomacea spp.</i>	HDOA	Escape from Confinement	Pet / aquarium / terrarium species (including live food for such species)		Yes
Banana rasp snail	<i>Archachatina marginata</i>	HDOA	Transport Contaminant; Transport Stowaway; Escape from Confinement			No
Terrestrial snail species	<i>Cerneuella spp.</i>	HDOA	Transport Contaminant	Contaminant on plants; transporation of habitat material		Reported
White garden snail	<i>Theba pisana</i>	HDOA	Transport Contaminant; Transport Stowaway; Escape from Confinement	Contaminant on plants; transporation of habitat material		Yes
Amber snail	<i>Succinea tenella</i>	HDOA	Transport Contaminant	Contaminant nursery material; contaminant on plants		Yes

(continued)

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	Regulatory Status	On Mainland
Bean slug	<i>Sarasinula plebeia</i>	HDOA	Transport Contaminant	Contaminant on plants		Yes
Asian green mussel	<i>Perna viridis</i>	DLNR-DAR	Transport Stowaway	Ship/boat hull fouling; ship/boat ballast water; aquaculture	HDOA Prohibited	Yes
Veined rapa whelk	<i>Rapana venosa</i>	DLNR-DAR	Escape from Confinement	Aquaculture/mariculture ballast water, hull fouling	HDOA Prohibited	Yes
Milk snail	<i>Otala lactea</i>	HDOA	Transport Contaminant; Transport Stowaway; Escape from Confinement	Vehicles		Yes

## Insects and Other Arthropods

### Crustaceans

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Coconut crab	<i>Birgus latro</i>	DLNR-DAR	Release in Nature	Other intentional release	No
Green crab	<i>Carcinus maenas</i>	DLNR-DAR	Transport Stowaway	Ship/boat ballast water; ship/boat hull fouling, aquaculture (contaminant)	Yes
Chinese mitten crab	<i>Eriocheir sinensis</i>	DLNR-DAR	Transport Stowaway; Escape from Confinement	Ship/boat ballast water	Yes

### Arachnids

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Asian longhorned tick	<i>Haemaphysalis longicornis</i>	HDOA	Transport Contaminant	Parasites on animals	Yes
Red palm mite	<i>Raoiella indica</i>	DLNR-DOFAW	Transport Contaminant	Contaminant on plants	Yes

## Insects

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
A false powder-post beetle	<i>Xylopsocus capucinus</i>	HDOA	Transport Contaminant	Timber trade; transportation of habitat material	Yes
Citrus longhorned beetle	<i>Anoplophora chinensis</i>	CABI-ISC	Transport Contaminant; Transport Stowaway	Contaminant nursery material	No
Asian longhorned beetle	<i>Anoplophora glabripennis</i>	Lowe et al. 2000	Transport Stowaway	Organic packing material, in particular wood packing	Yes
Lemon tree borer	<i>Oemona hirta</i>	DeNitto et al. 2015	Transport Contaminant	Contaminant nursery material	No
Kulsi teak borer	<i>Stromatium barbatum</i>	HDOA	Transport Contaminant; Transport Stowaway;	Timber trade; transportation of habitat material	No
Apple stem borer	<i>Trirachys holosericeus</i>	DeNitto et al. 2015	Transport Contaminant; Transport Stowaway	Untreated woodpacking material	No
Harlequin ladybird	<i>Harmonia axyridis</i>	HDOA	Release in Nature	Landscape/flora/fauna “improvement” in the wild	Yes
Keyhole ambrosia beetle	<i>Amasa truncata</i>	DeNitto et al. 2015	Transport Contaminant	Woodpacking material	No
Citrus root weevil	<i>Diaprepes abbreviatus</i>	HDOA	Transport Contaminant	Contaminant nursery material; contaminant on plants; parasites on plants	Yes
South American stem borer	<i>Diorymerellus laevimargo</i>	HAR 4-70-24	Transport Contaminant	Contaminant nursery material	No

(continued)

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
An ambrosia beetle	<i>Megaplatypus mutatus</i>	DeNitto et al. 2015	Transport Contaminant	Contaminant nursery material	No
Red palm weevil	<i>Rhynchophorus ferrugineus</i>	CABI-ISC	Transport Contaminant	Contaminant on plants	No
South American palm weevil	<i>Rhynchophorus palmarum</i>	CABI-ISC	Transport Contaminant	Contaminant nursery material	Yes
Redbay ambrosia beetle	<i>Xyleborus glabratus</i>	HDOA	Transport Contaminant	Timber trade; transportation of habitat material	Yes
Botany bay diamond weevil	<i>Chrysolopus spectabilis</i>	DeNitto et al. 2015	Transport Contaminant	Contaminant nursery material;	No
Khapra beetle	<i>Trogoderma granarium</i>	Lowe et al. 2000	Transport Contaminant	Food contaminant	No
Japanese beetle	<i>Popillia japonica</i>	HDOA	Transport Contaminant; Transport Stowaway	Container/bulk; hitchhikers in or on airplane; vehicles	Yes
Cabbage maggot	<i>Delia radicum</i>	HAR 4-70-21	Transport Contaminant	Contaminant nursery material	Yes
A gall midge of orchids	<i>Clinodiplosis cattleyae</i>	HAR 4-70-24	Transport Contaminant	Parasites on plants	No
A mosquito	<i>Aedes scutellaris</i>	HDOH	Transport Stowaway, Transport Contaminant		No
Western malaria mosquito	<i>Anopheles freeborni</i>	HDOH	Transport Stowaway, Transport Contaminant	Hitchhiker on airplane, hitchhiker on ship/boat, machinery equipment,	Yes
Common house mosquito	<i>Culex pipiens</i>	HDOH	Transport Stowaway	Hitchhiker on airplane, hitchhiker on ship/boat, machinery equipment,	Yes
Western encephalitis mosquito	<i>Culex tarsalis</i>	HDOH	Transport Stowaway,	Hitchhiker on airplane, hitchhiker on ship/boat, machinery equipment,	Yes
New Zealand black fly	<i>Austrosimulium australense</i>	HDOH	Transport Stowaway, Transport Contaminant	Hitchhiker on airplane, hitchhiker on ship/boat, machinery equipment,	No

(continued)

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Caribbean fruit fly	<i>Anastrepha suspensa</i>	HAR 4-70-47	Transport Contaminant; Transport Stowaway	Food contaminant	Yes
Soft wax scale	<i>Ceroplastes destructor</i>	DLNR-DOFAW	Transport Contaminant	Contaminant on plants	No
A soft scale on Erythrina	<i>Toumeyella erythrinae</i>	DeNitto et al. 2015	Transport Contaminant	Contaminant nursery material (plants for planting)	No
Mexican lac scale	<i>Tachardiella mexicana</i>	DLNR-DOFAW	Transport Contaminant	Contaminant on plants	Yes
False coconut scale	<i>Aspidiotus rigidus</i>	DLNR-DOFAW	Transport Contaminant	Transport contaminant	No
Camphor scale	<i>Pseudaonidia duplex</i>	DLNR-DOFAW	Transport Contaminant; Transport Stowaway	Contaminant nursery material	Yes
Spotted lanternfly	<i>Lycorma delicatula</i>	USDA-APHIS	Transport Contaminant; Transport Stowaway	Container/bulk	Yes
Cottonseed bug	<i>Oxycarenus hyalinipennis</i>	HDOA	Transport Contaminant	Contaminant nursery material; contaminant on plants; parasites on plants;	Yes
South American orchid bug	<i>Tenthecoris bicolor</i>	HAR-70-24	Transport Contaminant	Contaminant on plants	No
Brown marmorated stink bug	<i>Halyomorpha halys</i>	CABI-ISC	Transport Stowaway	Multiple pathways as transport stowaway (hitchhiker on plane; container/bulk; people and their luggage, etc)	Yes
Black bean bug	<i>Brachyplatys subaeneus</i>	HDOA	Transport Contaminant	Contaminant nursery material; contaminant on plants; parasites on plants	Yes
A mealybug	<i>Paracoccus mexicanus</i>	DLNR-DOFAW	Transport Contaminant	Contaminant on plants	No
Eugenia psyllid	<i>Trioza eugeniae</i>	DeNitto et al. 2015	Transport Contaminant	Contaminant nursery material (nursery stock)	Yes

(continued)

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
African citrus psyllid	<i>Trioza erytreae</i>	CABI-ISC	Transport Contaminant	Food contaminant	No
Africanized honey bee	<i>Apis mellifera scutellata</i>	DLNR-DOFAW	Transport Stowaway; Transport Contaminant; Release in Nature	Release in nature	Yes
Blue gum chalcid	<i>Leptocybe invasa</i>	DLNR-DOFAW	Transport Contaminant; Transport Stowaway	Contaminant nursery material	Yes
European fire ant	<i>Myrmica rubra</i>	HDOA	Transport Contaminant	Contaminant nursery material	Yes
Tawny crazy ant	<i>Nylanderia fulva</i>	HDOA	Transport Contaminant	Contaminant nursery material	Yes
Red imported fire ant	<i>Solenopsis invicta</i>	Lowe et al. 2000	Transport Contaminant	Contaminant nursery material, transportation of habitat material; container/bulk, machinery/equipment, organic packing material, vehicles	Yes
Asian giant hornet	<i>Vespa mandarina</i>	DLNR-DOFAW	Transport Contaminant; Transport Stowaway; Release in Nature	Container/bulk	Yes
Greater banded hornet	<i>Vespa tropica</i>	HDOA	Transport Contaminant; Transport Stowaway; Release in Nature	Container/bulk	No
German wasp	<i>Vespula germanica</i>	DLNR-DOFAW	Transport Stowaway:	Container/bulk	Yes
Box tree moth	<i>Cydalima perspectalis</i>	HDOA	Transport Contaminant	Contaminant on plants	No
Sugarcane borer	<i>Diatraea saccharalis</i>	HAR 4-70-2	Transport Contaminant	Contaminant nursery material	Yes
European corn borer	<i>Ostrinia nubilalis</i>	HAR 4-70-40	Transport Contaminant	Contaminant on plants	Yes

(continued)

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Spongy moth	<i>Lymantria dispar</i> (all subspecies)	Lowe et al. 2000	Transport Contaminant; Transport Stowaway	Container/bulk; vehicles; people and their luggage/equipment	Yes
South American tomato leafminer	<i>Tuta absoluta</i>	HDOA	Transport Contaminant	Contaminant nursery material; parasites on plants	No
Cocoa pod borer	<i>Conopomorpha cramerella</i>	HDOA	Transport Contaminant	Contaminant nursery material; parasites on plants	No
Pineapple borer	<i>Strymon megarus</i>	HAR 4-70-12	Transport Contaminant	Food contaminant	No
Old world boll worm	<i>Helicoverpa armigera</i>	HDOA	Transport Contaminant	Contaminant nursery material; contaminant on plants	Reported
Summer fruit tortrix moth	<i>Adoxophyes orana</i>	DeNitto et al. 2015	Transport Contaminant	Contaminant nursery material	No
False codling moth	<i>Thaumatotibia leucotreta</i>	USDA-APHIS	Transport Contaminant	Contaminant on plants	No
Coconut stick insect	<i>Graeffea crouanii</i>	DeNitto et al. 2015	Transport Contaminant	Contaminant nursery material (plant material)	No

## Echinoderms

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	On Mainland
Northern Pacific seastar	<i>Asterias amurensis</i>	DLNR-DAR	Transport Stowaway	Ship/boat hull fouling; ship/boat ballast water	No

## Vertebrates

Common Name	Scientific Name	Source	Pathway Category	Pathway Subcategory	Regulatory Status	On Mainland
Silver carp	<i>Hypophthalmichthys molitrix</i>	DLNR-DAR	Release in Nature	Fishery in the wild	HDOA Restricted B	Yes
Bighead carp	<i>Hypophthalmichthys nobilis</i>	DLNR-DAR	Release in Nature; Escape from Confinement	Fishery in the wild; aquaculture	HDOA Restricted B	Yes
Black carp	<i>Mylopharyngodon piceus</i>	DLNR-DAR	Release in Nature; Escape from Confinement	Fishery in the wild; aquaculture (contaminant)	HDOA Restricted B	Yes
Nile perch	<i>Lates niloticus</i>	DLNR-DAR	Release in Nature	Fishery in the wild	HDOA Prohibited	Introduced, but possibly no longer present
Burmese python	<i>Python molurus bivittatus</i>	HDOA	Release in Nature; Escape from Confinement	Pet/aquarium/terrarium species	HDOA Prohibited	Yes
Brown tree snake	<i>Boiga irregularis</i>	Lowe et al. 2000	Transport Stowaway	Hitchhiker in or on airplane	HDOA Prohibited	No



## Notes:

- Source column is often based on in-person communication with biologists at listed agencies, and also includes online and published sources. Acronyms and references are as follows:
- CABI-ISC: Centre for Agriculture and Bioscience International - Invasive Species Compendium
- CTAHR: College of Tropical Agriculture and Human Resources
- DeNitto et al. 2015: DeNitto, G.A., P. Cannon, A. Eglitis, J.A. Glaeser, H. Maffei, and S. Smith. 2015. Risk and pathway assessment for the introduction of exotic insects and pathogens that could affect Hawai'i's native forests. Gen. Tech. Rep. PSW-GTR-250. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. 171 p.
- DLNR-DAR: Department of Land and Natural Resources - Division of Aquatic Resources
- DLNR-DOFAW: Department of Land and Natural Resources - Division of Forestry and Wildlife
- HAR: Hawaii Administrative Rules
- HDOA: Hawaii Department of Agriculture
- HDOH: Hawaii State Department of Health
- Lowe et al. 2000: Lowe S., M. Browne, S. Boudjelas, M. De Poorter. 2000. 100 of the World's Worst Invasive Alien Species A selection from the Global Invasive Species Database. Published by The Invasive Species Specialist Group (ISSG) a specialist group of the Species Survival Commission (SSC) of the World Conservation Union (IUCN), 12pp.
- USDA-APHIS: United States Department of Agriculture - Animal and Plant Health Inspection Service
- HAR 4-70A is pending approval by the Board of Agriculture to implement the Restricted Plant Rules under HRS 150A. Included in the rules is a list of 36 high-risk plant species to be restricted from domestic importation into Hawai'i.
- CBD Horticulture and 'Ornamental purpose other than horticulture' pathways were combined and recorded as Horticulture.