Observations on invasive plant species in Micronesia[1]

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As requested by the Pacific Islands Committee, Council of Western State Foresters, we conducted a survey of selected Micronesian islands for invasive plant species. The objectives were three-fold: (1) To identify species on the islands that are presently causing problems; (2) to identify species that, even though they are not presently a major problem, could spread to other islands where they are not present, potentially causing problems; and (3) to look for invasive species known to cause problems in ecosystems similar to the islands visited. This report is based on perceptions gained from a three-week trip from July 19 to August 6, 1998, to the islands of Saipan and Tinian (Commonwealth of the Northern Marianas Islands); Peleliu, Babelthaup and Koror (Republic of Palau); Pohnpei and Yap (Federated States of Micronesia) and Guam.

The topic of invasive species is complex and it is difficult to predict the behavior of species introduced into new areas under different combinations of environmental parameters and degrees of disturbance of native plant communities. For a more in-depth discussion of invasive species some selected references are given in Appendix 1. "Plant Invaders" by Cronk and Fuller gives a concise and readable account of the problem of invasive species and their management.

During our visit we consulted with local experts familiar with plant pests as well as academic experts at the University of Guam and the Northern Marianas College. We also had access to a number of reference works, including Stone's "Flora of Guam;" Fosberg, Sachet and Oliver's geographical checklists of plants of Micronesia; checklists for a number of islands prepared by David Lorence and Tim Flynn of the National Tropical Botanical Garden based on Fosberg et al and supplemented by their observations during several trips to Micronesia; and lists of invasive species by Dr. Muniappan of the University of Guam. Our thanks to all who helped us with this survey.

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For convenience, we have grouped invasive species occurring in or of threat to Micronesian islands in five categories:

1. Species that are invasive elsewhere in similar ecosystems but were not seen on our visit and are not listed in the literature as being present in Micronesia (82 species).
2. Species that are invasive elsewhere and are also invasive in Micronesia (13 species).
3. Species that are not known to be particularly invasive elsewhere but are invasive in Micronesia (3 species).
4. Species that are invasive or weedy elsewhere and are common or weedy in Micronesia (117 species).
5. Native species that exhibit aggressive behavior (16 species).

These species are listed in Appendix 2. In addition, lists by location and a summary of information about each species are located on a World Wide Web site, http://www.hear.org/pier.

There are numerous species that are invasive weeds in gardens and pastures, but don't seem to pose a particular threat to native wildland ecosystems. These species are not included.

1. Dangerous species not known to be in Micronesia

While there are already a number of serious weed species in Micronesia, some other major pests have not yet arrived. The worst of these include the following:

Miconia calvescens (the purple plague), which has caused serious damage to the ecosystem of Tahiti in French Polynesia. It has also escaped in Hawaii and is the subject of an intensive and costly eradication effort there. Recently it was discovered in Queensland, Australia.

Passiflora mollissima (banana poka), a smothering vine that is a problem in Hawai'i and New Zealand.

Rubus species (blackberries and raspberries), many of which are pests (absent in Micronesia with the exception of *R. moluccanus*, which occurs on Kosrae).

Tibouchina herbacea (glorybush or cane ti), another species that is a major problem in Hawai'i.

Cecropia obtusifolia and *C. peltata*, invasive tree species that are a problem in Hawai'i and French Polynesia, respectively.

In general, all grasses, members of the Melastomataceae family, and *Ligustrum*, *Passiflora* or *Rubus* species not already present should be suspect and should be proven benign before they are allowed to be introduced.

A number of other invasive species that are problems elsewhere and could potentially cause problems in Micronesia are listed in Appendix 2, Table 1. These species should be seriously

considered for exclusion through plant quarantine and, if establishment is detected, promptly evaluated for eradication. Additional species will be added to this list if they are determined to be a potential threat.

2. Species that are invasive elsewhere and likewise invasive in Micronesia

Some known troublemakers have been introduced into Micronesia and are causing problems (see Appendix 2, Table 2). Those that have been introduced and spread widely on some islands, but are not yet widespread throughout Micronesia, include the following:

Antigonon leptopus (chain of hearts) is very prevalent on Guam. Occasional cultivated specimens were seen on Pohnpei.

Coccinia grandis (ivy or scarlet gourd), a smothering vine, is out of hand and showing potential for serious damage to the forests of Saipan. The vines form such dense cover that the forest underneath is completely shaded out and destroyed. It is also common on Guam and what is purported to be a horticultural variety has been introduced into Pohnpei.

Melinis minutiflora (molasses grass) is both invasive and causes a serious fire hazard,

Imperata cylindrica (cogon grass) has been introduced to Yap and has spread over 78 acres near the old airport. It has been evaluated and eradication recommended. Grasses that looked suspiciously like *Imperata* were seen on Palau and Saipan. Swarbrick (1997) lists it as present in Palau. Fosberg et al (1987) list *I. cylindrica* as being present in Saipan, Tinian and Guam and *I. conferta* as being present in Saipan, Tinian, Rota, Guam, Palau and Yap.

Clidemia hirta (Koster's curse) is present on Palau and American Samoa. It is localized on Palau, and should be evaluated for possible control measures. It is a problem species in Hawai'i.

Pennisetum setaceum (fountain grass) has been introduced on Guam. This species is a major problem in Hawai'i. *P. polystachyon* and *P. purpureum* have spread, especially on Guam and Saipan, and are spreading on other islands.

Rubus moloccanus (Molucca bramble) is recorded as being present on Kosrae. This species is a serious pest on the Mascarene Islands in the Indian Ocean.

A number of other species such as *Chromaeolena odorata* (Siam weed), *Lantana camera, Leucaena leucocephala* (tangan-tangan), and *Mimosa invisa* (giant sensitive plant) are already widespread where they have been introduced. About the only alternative for these pests is to introduce appropriate biological control agents, when available, and try to prevent introduction to any islands where they are not yet present.

3. Species that are not known to be invasive elsewhere but which have spread or appear to be spreading in Micronesia

A few species, which have not been particularly invasive elsewhere, are problems or potential

problems in Micronesia (Appendix 2, Table 3).

Clerodendrum quadrilocularae is suspicious because it appears to have the ability to invade intact or relatively intact native forests. A dense, monospecific understory of this species was seen growing in full shade beneath the forest canopy in Pohnpei, making it a likely candidate to invade intact or only slightly disturbed native forest stands.

Elaeis guineensis (African oil palm) is spreading on Pohnpei, particularly on drier sites.

Timonius timon (liberal) is widespread on the islands of Peleliu and Angaur, Republic of Palau. It is reported to be present in Koror, but this was not confirmed by us.

4. Species that are mentioned or listed as weedy or invasive elsewhere and are common or weedy in Micronesia

A number of other common or weedy introduced species were noted. Many of these species, which might best be termed aggressive weeds, are mostly prevalent along roadsides or on severely disturbed sites, although some species, particularly alien trees, are gradually spreading into forested ecosystems. In the case of vines and plants that form dense ground cover, the regeneration of native species can be inhibited. Some of these species could become a problem, since there is often a long lag time between introduction and when a species begins to cause serious impacts. These species (listed in Appendix 2, Table 4) should be seriously evaluated for inter-island quarantine to confine them to the islands where they are presently located.

We were especially interested in observing the behavior of *Acacia* species, since many of them have a reputation for invasiveness. In Micronesia, the most commonly planted acacias are *A. auriculiformis*, *A. confusa* and *A. mangium.* Only a few areas of naturally occurring seedlings of *Acacia* were observed on the trip; however, abundant seedlings have been reported in areas planted to *Acacia* on Guam and Palau. Although these species do not seem to be a problem in Micronesia at present, they should be evaluated and serious thought should be given before other species of acacia or other exotic trees are introduced. There would seem to be little reason to introduce new species or to plant them where they are not already present, since many exotic trees are invasive. Even though they may spread only gradually, eventually there is a significant effect on native ecosystems. A special case may be Guam, where getting anything to persist in the face of repeated fires is a problem. But even there, whether or not any tree species can survive repeated, high-frequency fires is problematical.

A number of species of acacia were planted in a now-abandoned Institute of Pacific Islands Forestry species trial in Yap. One species was observed to be sending up new plants from root suckers; it would probably be best to eliminate this species before it spreads further. *Cedrela odorata* (cigar box or Mexican cedar) and *Cordia alliodora* (laurel) have been introduced in species trials on Yap and possibly on other islands. Both of these species are known to be invasive elsewhere (*C. odorata* in the Galapagos and South Africa, *C. alliodora* in the Galapagos and Vanuatu). These and any other plantings should be closely monitored for spread or, if there is no further need for them, eliminated.

There are a number of other introduced trees that, left to their own devices, are gradually spreading in the vicinity of, into or through native forests. These include *Adenanthera pavonina* (coral bean tree), *Albizia lebbeck* (siris-tree), *Ceiba pentandra* (kapok), *Melaleuca quinquenervia* (paperbark), *Paraserianthes falcataria* (Molucca albizia, also known as tuhke kerosene on Pohnpei), *Samanea saman* (monkeypod), *Spathodea campanulata* (African tulip tree), and *Tecoma stans* (yellow-bells).

A wide variety of introduced grasses have become established, the most aggressive of which include the bur grasses, *Cenchrus brownii* and *Cenchrus echinatus*; *Cynodon dactylon* (Bermuda grass), *Ischaemum rugosum* (muraina grass) and other *Ischaemum* spp.; *Paspalum* spp., including *P. conjugatum* (Hilo grass), *P. dilatatum* (Dallis grass), *P. fimbriatum*, and *P. urvillei* (Vasey grass); *Pennisetum polystachyon* (mission grass); *Pennisetum pupureum* (elephant or napier grass) and *Sorghum halepense* (Johnson grass).

Other widespread weedy species include *Bidens pilosa* (beggar's tick) and *Wedelia trilobata.*

A number of other species present to some degree in Micronesia have bad reputations elsewhere. These should be monitored for invasive behavior and evaluated for quarantine. They include bamboos (*Bambusa* and other bamboo species), *Cestrum nocturnum* (night-flowering cestrum), *Eichhornia crassipes* (water hyacinth), *Eriobotrya japonica* (loquat), gingers (*Hedychium* spp.), *Melia azedarach* (Chinaberry), *Passiflora* spp. (passion fruits, granadillas, and related species), *Pluchea indica* (Indian fleabane), *Pluchea odorata* (sourbush), *Psidium cattleianum* (strawberry guava), *Psidium guajava* (guava), *Ricinus communis* (castor bean), *Schinus terebinthifolius* (Christmasberry), *Senecio mikanioides* (German ivy), *Syzgium cumini* (Java or jambolan plum), *Syzgium jambos* (rose apple), *Thunbergia* spp. (various vines) and *Tithonia diversifolia* (tree marigold).

5. Native and naturalized species exhibiting aggressive behavior

Some native species (or early introductions) exhibit characteristics that could make them problem species if they are introduced to islands where they are not present.

Probably the native species with the most aggressive behavior is *Merremia peltata*, (a smothering vine), particularly on Palau, Yap, Kosrae and Pohnpei. This species often aggressively expands into areas that are disturbed.

Heterospathe elata (palma brava) palms continue to spread in ravines and slopes of central Guam.

The grass *Ischaemum polystachyum* is very prevalent along roadsides and in disturbed areas, particularly on Pohnpei. Sword grass (*Miscanthus floridulus*) is especially common, sometimes in fairly pure stands on volcanic soils on Guam. It is also present in the Northern Marianas, Chuuk, Pohnpei and Kosrae as well as American Samoa.

While most of these species are widespread in Micronesia, they should not be introduced where not already present. For example, *Merremia peltata* is not known to be present in the Northern Marianas and, given its aggressive behavior elsewhere, it certainly should be excluded.

Strategies for dealing with invasive species

The first line of defense against invasive species is to keep them out. Control at ports of entry is essential, and land management officials should work closely with their plant protection and quarantine officials to make them aware of known and potential invasive species. Plant quarantine officers are familiar with many agricultural pests, but they may not be aware of pests that threaten wildland ecosystems. In cooperation with the plant quarantine organization, a list of noxious species to be excluded should be developed, and exclusion of these species should be backed by the force of law and regulation. Risk assessment and management techniques can be used to assess the likelihood and effects of possible introductions and to develop exclusion and eradication strategies.

Education of the public about the danger of introductions and encouraging the use of native species is helpful. What may just be a pretty flower to be planted in the yard or garden can turn out to be an invasive species. It is particularly important to work with local nurseries and botanical gardens, as these are often the source of new introductions. A positive approach is to develop a "white list" of both native and non-native species that the public can be encouraged to plant.

Land managers should be alert to new species that exhibit invasive behavior. Often, these species first show up in urban or farm areas because they are usually introduced by people and tend to become established in disturbed areas. Suspicious plant species should be promptly reported. A formal evaluation should be requested for any new species that appears to be invasive or is known to be invasive elsewhere. This evaluation should be by an expert who is familiar with the species and methods for its eradication or control and can recommend further action. Prompt action is essential, since once a species becomes widespread, control or eradication can be extremely costly or impossible.

It is also very helpful to have laws and regulations in place to aid in dealing with new introductions. This includes the ability of government to require the control of noxious species on private lands, or to take action on private lands if the landowner cannot be located or does not take prompt action. Provision for emergency funds to deal with immediate problems should also be in place. Model laws and regulations can be obtained from states and countries that have implemented them.

All Micronesian governments are encouraged to take advantage of the Federal assistance programs in dealing with invasive species problems. Cost-share funding is available to provide locally available expertise in forest health protection to land management agencies. Often this is in the form of an agreement with a local college or university to provide the necessary assistance. Experts are also on call from the Forest Service's Forest Health Protection staff, or they can arrange for expert consultation. Finally, cost-share funding can be provided to deal with forest health problems, including plant pests, under the Cooperative Forestry and Hawaii Tropical Forestry Recovery acts. Funding is subject to recommendations resulting from a professional evaluation of the problem and the overall availability of funds. Funding also tends to be prioritized based on an evaluation of cost-effectiveness, so rapid eradication of a pest species while it is still confined to a small area would undoubtedly take precedence over the chronic problem of a species that has escaped control.

Recommendations

In addition to the above strategies, we offer the following specific recommendations:

All islands:

- Make every effort to keep out all the species listed in Appendix 2, Table 1. These are known serious problems elsewhere, and there is no sense in running the risk that they will act the same in Micronesia. As we are able to gather more information on other species that might threaten Micronesian ecosystems, we will add them to the list. For those with Internet access, additional information and new listings can be found at http://www.hear.org/pier.

- Take special measures to keep *Miconia calvescens* out, to monitor for its occurrence, and to eradicate it immediately if found. Given how it has behaved in Tahiti and Hawai'i, it could be an ecological disaster if it is introduced. Warning posters should be produced to alert the public and encourage reporting of any introductions.

- For species listed in Tables 2 and 3, take all reasonable precautions to prevent movement to islands where they are not present, be vigilant to detect introductions, and take prompt action if they are found.

- Species listed in Table 4 are pests and, although they may not be presently causing serious damage to wildland ecosystems, they are certainly not desirable species. Some of them may turn out to be serious problems and there is always a chance that they could be introduced to an island ecosystem where they could do serious harm. It would be best to keep them off islands where they do not occur.

- Species listed in Table 5, even though are native to Micronesia, exhibit characteristics of invasive behavior and should not be introduced where they are not present.

- A number of tree species used in forestry and ornamental plantings are, at least to some degree, invasive. While many of these species have desirable ornamental or physical characteristics, planting exotics as opposed to native species is a policy question that needs to be carefully considered.

- Intact native forests are the most resistant to invasion. Any measures that limit the amount of disturbance will help keep invasive species out.

- Biological control agents for *Chromaeolena odorata* and *Lantana camera* were reportedly introduced to most islands where these species are present, but apparently little follow up was done. Biological control agents for *Mimosa invisa* were reportedly introduced to Yap and Palau, but it is not known if they have become established. If present, they seem to be having little effect. These agents should be evaluated to make sure they are still present. Assistance should be requested, if needed.

- Dr. Muniappan at the University of Guam is screening a new biological control agent for *Chromaeolena odorata*. When available, this agent should be evaluated for introduction into other Micronesian islands where *Chromaeolena* is present.

- A risk-rating scheme should be developed and the various known and potential invasive species evaluated for their risk of introduction, spread and potential damage.

- At the 1998 Pacific Heads of Forestry meeting, the following recommendation was adopted: "SPREP, USDA, and IUCN (ISSG) should jointly conduct training for the Pacific Island foresters, quarantine officers, and other individuals and organizations, in the recognition, exclusion, eradication, and control of invasive species." The Committee or individual governments may wish to request such training.

- Invasive species threats and problems are unique to each location. Strategies to deal with the threat of invasive species and protection of wildland ecosystems need to be developed on a state by state or island by island basis. If needed, assistance can be requested from U.S. or international agencies.

Yap:

- Eradicate the *Imperata cylindrica* that has become established at the old airport. Given the size of the infestation, this will probably require a number of treatments over time. Treatment needs to be started right away before it spreads further or becomes established elsewhere.

- Eradicate the *Acacia* species at the abandoned species trial site that is spreading by sending up new plants from the roots. Since there are no plans to plant this species, it should be eradicated. Seriously consider eradication of any other species in the trials not already present elsewhere on Yap (such as *Cedrela odorata* and *Cordia alliodora*).

Palau:

- Request a professional evaluation of *Clidemia hirta* (Koster's curse) for possible eradication or biological control. (One biocontrol agent was reportedly introduced, but its present status is unknown.)

- A grass that may be *Imperata cylindrica* is growing at the northern end of the airport runway and should be identified when in flower. If it is *Imperata cylindrica*, it should be evaluated and assistance requested for its eradication. The other tall introduced grasses growing along the airstrip should also be evaluated for invasiveness.

- Monitor proposed erosion abatement planting and seeding proposed for the Babelthaup Compact Road to make sure invasive species are not used. Request advice and assistance if needed.

- *Timonius timon* (liberal) is widespread on Peleliu and Angaur. It may be spread by fruit bats. It is also reported to be in Koror. It would be desirable to have a professional evaluation of this

species to see if there are options to limit its spread.

Guam:

- *Antigonon leptopus* (chain of love) should be evaluated for possible biological control.

- In conjunction with the infestations on Saipan and Pohnpei, scarlet (ivy) gourd (*Coccinia grandis*) on Guam should be evaluated for control and management measures.

- The limestone forest in the vicinity of the Anderson airfield and along the road to Tarague beach is threatened by a number of invasive species that were observed to be intermixed with native species, particularly along the edge of the forest. This forest, rich in native and endemic species, has been damaged by a series of typhoons, including super-typhoon Paka, as well as a record-breaking drought in 1998, and may be threatened by the presence of so many opportunistic invasive species. The threat of invasive species to Guam's native limestone forest should be evaluated and, if appropriate, abatement strategies developed.

Saipan:

- Scarlet (ivy) gourd (*Coccinia grandis*) is a serious problem on Saipan. As soon as possible it should be professionally evaluated for control and management recommendations. This should be done in conjunction with the staff of Northern Marianas College, who are working on the problem. The infestation on Guam and the introduction on Pohnpei should be evaluated at the same time.

- A field of grass that appears to be *Imperata cylindrica* was observed off the road from Kagman toward San Vincente to the southwest of the "Leaving Death Valley" sign. If it should turn out to be *Imperata cylindrica*, it should be immediately evaluated for eradication. Another similar-looking patch of grass is on the hillside behind the Bay View Market (J and Jeu Building) on the same road. It was in the distance and we did not have time to collect it, but it would be desirable if it could be collected for identification when in flower.

- If Cooperative Forest Health Management prevention funds are available, CNMI should try to negotiate an agreement, possibly either with Northern Marianas College or the University of Guam, to provide local pest management expertise.

Tinian:

- *Lantana camara* appears to be a major problem, and is reported to be worse on Agiguan and Rota. Certainly this is aggravated by heavy grazing in many areas, but it also raises the possibility that the biological control agents introduced to help control it may have failed on these islands. If assistance is needed to do a follow-up evaluation, it should be requested. If some or all of the control agents have failed to become established, they can then be re-introduced.

Pohnpei:

- What is purported to be a horticultural variety of scarlet (ivy) gourd (*Coccinia grandis*), has recently been introduced. Indeed, the leaves seem to be smaller, the flowers larger, and the plants growing less vigorously than those on Guam and Saipan. Nevertheless, this is a risky introduction and the safest course of action would be to eradicate the existing plants. Once this species becomes established, any form of biological control is likely to be difficult due to the presence of cultivated members of its family (Cucurbitaceae). If an evaluation is carried out on the populations on Guam and Saipan, Pohnpei should be included.

- Several isolated plants of *Antigonon leptopus* (chain of love) were noted in cultivation. While it can't be known if it will prove as invasive on Pohnpei as on Guam, it would be better not to take the chance. Perhaps the owners of these plants could be persuaded to give them up for the good of the island's ecosystem (or for a modest cash payment).

- *Clerodendrum quadriloculare* was observed invading under the shade of a forest canopy. A professional evaluation of this species for invasiveness and, if needed, control or eradication would be appropriate at this time, as it's not yet too widespread outside of ornamental plantings. It is planted as an ornamental on other islands as well (Rota, Tinian, Chuuk, Kosrae, Yap, Guam and Palau).

- *Clitoria ternatea* is planted as an ornamental. It bears watching for possible spread.

Kosrae:

While we did not visit Kosrae on this trip, *Rubus moloccanus* (Molucca bramble) is recorded as being present. This species is a serious pest and should be evaluated for control or possible eradication.

Plans for the future

This cursory survey has probably identified many of the major known and potential plant threats to Micronesian wildland ecosystems. However, due to limitations of time and funding, only selected islands could be visited, and only a few days spent on each. On-the-ground land managers, on the other hand, can see what is going on in their islands every day. We encourage reports to the authors of species we have missed, as well as new or suspicious species. We also welcome contributions of information to the database and web site and correction of erroneous information.

Priority for future work will be to: (1) Visit the rest of the major Micronesian islands and American Samoa to survey them for invasive species; (2) visit adjacent areas with similar ecosystems to survey for invasive species that might be transferred to Micronesia or American Samoa; (3) publish a hard-copy edition of the information for those who do not have Internet access; (4) continue to sponsor publication of public information leaflets and warning posters both in English and local languages; and (5) continue to maintain and update the data base and web site, contribute information to other international data bases, and encourage those with relevant information to contribute to ours.

We welcome inquiries on species that are suspicious or are causing problems so that we can help you keep them out of Micronesia and American Samoa. It has been our pleasure to assist you in protecting your island ecosystems.

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Appendix 1.

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Appendix 2

Table 1. Species that are invasive elsewhere in similar ecosystems but are not known to be present in Micronesia

Scientific Name	Common Names	Family
Acacia mearnsii	black wattle	Fabaceae
Acacia melanoxylon	Australian blackwood	Fabaceae
Acacia nilotica	prickly acacia, algaroba, tiare, babul	Fabaceae
other Acacia spp.	acacia	Fabaceae
Ailanthus altissima	tree of heaven	Simaroubaceae
Albizia chinensis		Fabaceae
Alternanthera philoxeroides	alligator weed	Amaranthaceae
Andropogon virginicus	broomsedge, yellow bluestem, whisky grass	Poaceae
Anredera cordifolia	Madeira vine, lamb's tails, mignonette vine	Basellaceae
Ardisia crenata	hen's eyes, Hilo holly, coral berry, arbre à noël	Myrsinaceae
Ardisia elliptica	shoebutton ardisia, ati popa'a	Myrsinaceae
Axonopus fissifolius	narrow-leaved carpetgrass	Poaceae
Bauhinia variegata	orchid tree, butterfly tree	Fabaceae
Bocconia frutescens	bocconia	Papaveraceae
Buddleia madagascariensis	butterfly bush, smoke bush	Buddleiaceae
Caesalpinia decapetala	cats claw, Mysore thorn, Mauritius thorn, wait-a-bit, cats claw, puakelekino	Fabaceae
Castilloa elastica	Panama rubber tree, Mexican rubber tree, puluvao	Moraceae
Casuarina glauca	swamp oak, saltmarsh ironwood, longleaf ironwood	Casuarinaceae
Cecropia obtusifolia	trumpet tree, guarumo, parasolier, faux-ricin, pisse-roux	Cecropiaceae
Chrysobalanus icaco	coco plum, icaco, icaque	Chrysobalanaceae
Chrysophyllum oliviforme	satin leaf, caimitillo	Sapotaceae
Cinchona pubescens	quinine tree	Rubiaceae
Cinnamomum burmannii	padang cassia	Lauraceae
Citharexylum caudatum	juniper berry	Verbenaceae
Citharexylum spinosum	fiddlewood	Verbenaceae
Clausena excavata	clausena	Rutaceae

Scientific Name	Common Names	Family
Clerodendrum japonicum	glorybower	Verbenaceae
Clusea rosea	signature tree, copey, Scotch attorney	Guttiferae
Cordia curassavica		Boraginaceae
Cordia glabra	broad-leaved cordia	Boraginaceae
Cortaderia jubata	Andean pampas grass, purple pampas grass	Poaceae
Cortaderia selloana	pampas grass, silver pampas grass	Poaceae
Corynocarpus laevigatus	New Zealand laurel, karakara nut	Corynocarpaceae
Dalbergia sissoo	Indian dalbergia, shisham	Fabaceae
Ficus benghalensis	banyan, Indian banyan, vada tree	Moraceae
Flindersia brayleyana	Queensland maple, silkwood	Rutaceae
Fuchsia boliviana		Onagraceae
Fuchsia hexapetalata		Onagraceae
Funtumia elastica	African rubber tree	Apocynaceae
Furcraea foetida	Mauritius hemp, sisal	Agavaceae
Grevillea banksii	kahili flower, Banks grevillea, haiku	Proteaceae
Gymnocoronis spilanthoides	Senegal tea, temple plant	Asteraceae
Haematoxylum campechianum	logwood, bloodwood tree, bloodwood tree, campeachy wood	Fabaceae
Heterocentron subtriplinervium	pearl flower	Melastomataceae
Hiptage benghalensis	hiptage, liane de cerf	Malpighiaceae
Hydrilla verticillata	hydrilla, Florida elodea, water thyme	Hydrocharitaceae
Hypochoeris radicata	hairy cat's ear, gosmore	Asteraceae
Ipomoea spp.	morning glory (non-native)	Convolvulaceae
Jacobinia carnea	pink plume-flower, pink jacobinia	Acanthaceae
Jasminum fluminense		Oleaceae
Leptospermum ericoides	tree manuka, tree manuba, kanuka	Myrtaceae
Leptospermum scoparium	New Zealand tea, manuka	Myrtaceae
Licuala grandis	ruffled fan palm, palmier-cuillère	Arecaceae
Ligustrum spp.	privet	Oleaceae
Lonicera japonica	Japanese honeysuckle, honekakala	Caprifoliaceae
Ludwigia peruviana	ludwigia, Peruvian primrose, water primrose	Onagraceae
Melastoma candidum		Melastomataceae
Miconia calvescens	miconia, purple plague, velvet leaf, bush current	Melastomataceae

Scientific Name	Common Names	Family
Mimosa pigra	catclaw mimosa, thorny sensitiveplant, giant mimosa, giant sensitive plant, zaraz, dormilona, bashful plant, amourette violet, amourette riviére	Fabaceae
Montanoa hibiscifolia	montanoa, tree daisy	Asteraceae
Myriophyllum aquaticum	parrot's feather, water feather, Brazilian water milfoil	Haloragaceae
Ochroma lagopus	balsa, corkwood	Bombacaceae
Paederia scandens	stink vine	Rubiaceae
Passiflora ligularis	sweet granadilla, yellow passionfruit	Passifloraceae
Passiflora mollissima	banana poka, banana passionfruit, bananadilla	Passifloraceae
Pennisetum clandestinum	kikuyugrass	Poaceae
Pueraria phaseoloides	tropical kudzu, puero	Fabaceae
Rhodomyrtus tomentosa	rose myrtle, downy myrtle, isenberg bush	Myrtaceae
Rubus alceaefolius	giant bramble	Rosaceae
Rubus rosifolius	roseleaf raspberry, thimbleberry, ola'a, framboisier	Rosaceae
other Rubus spp.	raspberries, blackberries, brambles	Rosaceae
Salvinia molesta	salvinia, water fern, kariba weed, African payal	Salviniaceae
Sanchezia nobilis	sanchezia	Acanthaceae
Senecio madagascarensis	fireweed	Asteraceae
Setaria palmifolia	palmgrass, short pitpit, hailans pitpit, broadleaved bristlegrass	Poaceae
Solandra maxima	cup of gold, golden cup	Solanaceae
Sphaeropteris cooperi	Australian tree fern	Cyatheaceae
Syncarpia glomulifera	turpentine tree	Myrtaceae
Syzygium floribundum		Myrtaceae
Tibouchina herbacea	glorybush, cane ti, tibouchina	Melastomataceae
Tibouchina urvileana	glorybush, lasiandra, princess flower	Melastomataceae
Tibouchina viminea		Melastomataceae

Table 2. Introduced species that are invasive elsewhere and are also invasive in Micronesia.

Scientific Name	Common Names	Family
Antigonon leptopus	Mexican creeper, mountain rose, Confederate vine, chain of love, hearts on chain, kadena de amor, love vine, coral vine	Polygonaceae
Chromaeolena odorata	Siam weed, triffid weed, kesengesil, masigsig, hagonoy, agonoi, huluhagonoi, mahsrihsrihk	Asteraceae
Clidemia hirta	Koster's curse, soap bush, kui, kúi, kaurasiga, kauresinga, kaurasinga, roinisinga, ndraunisinga, mbona na mbulamakau, vuti	Melastomataceae
Coccinia grandis	ivy gourd, scarlet-fruited gourd	Cucurbitaceae
Imperata cylindrica	blady grass, cogon grass, satintail, alang-alang, lalang, carrizo, kunai, ngi, paille de dys, paillotte, impérata cylindrique	Poaceae
Lantana camara	lantana, landana, rantana, randana, tukasuweth, te kaibuaka, talatala, kauboica, latora moa, tatara moa, ros fonacni, latana, lakana, talatala, talatala talmoa, te kaibuaja, taramoa, migiroa, kaumboitha, mbonambulumakau, mbona ra mbulumakau, tokalau, waiwai, taratara hamoa	Verbenaceae
Leucaena leucocephala	leucaena, faux-acacia, faux mimosa, koa haole, tangantangan tangan-tangan, talntangan, ganitnityuwan tangantan, telentund, namas, vaivai, vaivai ni vavalangi, tuhngantuhngan, rohbohtin, lopa samoa, pepe, siale mohemohe, fua pepe, nito, cassis, te kaitetua, balori	Fabaceae
Melinis minutiflora	molasses grass, herbe molasses, puakatau	Poaceae
Mikania micanthra	mile-a-minute weed, Chinese creeper, liane américaine, kwalo koburu, fue saina, fou laina, wa mbosuthu, wa mbosuvu, wa mbutako, wa ndamele, ovaova	Asteraceae
Mimosa invisa	giant sensitive plant, grande sensitive, sensitive gèante, singbiguin sasa, mechiuaiu, vao fefe palagi, la'au fefe tele, la'au fefe palagi, wa ngandrongandro levu, wa ngandrongandro ni wa ngalelevu	Fabaceae
Panicum maximum	Guinea grass, green panic, buffalograss, saafa, herbe de Guinéa, panic élevé, capime guiné, fataque	Poaceae
Pennisetum setaceum	fountain grass	Poaceae

Scientific Name	Common Names	Family
Rubus moluccanus	broad leafed bramble, Molucca bramble, Molucca raspberry, piquant lou-lou, kohkihl, soni, wa sori, wa ngandrongandro, wa votovotoa	Rosaceae

Table 3. Species that are not known to be particularly invasive elsewhere, but which have spread, appear to be spreading or are potentially invasive in Micronesia.

Scientific Name	Common Names	Family
Clerodendrum quadriloculare	bronze-leaved clerodendrum	Verbenaceae
Elaeis guineensis	African oil palm, opwirayasi	Arecaceae
Timonius timon	liberal, sakosia	Rubiaceae

Table 4. Species that are mentioned or listed as invasive or weedy elsewhere and are common or weedy in Micronesia.

Scientific Name	Common Names	Family
Acacia auriculiformis	Papuan wattle, auri, earleaf acacia; tuhkehn pweimau	Fabaceae
Acacia confusa	Formosa koa, Formosa acacia, sosigi, shoshigi, pilampwoia,ianángi, yanangi	Fabaceae
Acacia farnesiana	Ellington curse, aroma, klu, popinac, kandaroma, cassis, vaivai vaka-vatona, vaivai vakavotona, ban baburi, oki, te kaibakoa, debena, kolu	Fabaceae
Acacia mangium	mangium	Fabaceae
Adenanthera pavonina	coral bean tree, red sandalwood tree, red bead tree, lopa, pomea, bead tree, false wiliwili, kaikes, colales, culalis, kolales, kulales, kulalis, metekam, metkam, metkem, telengtúngd, telentundalel, mwetkwem, lera, lere ndamu, vaivai, vaivai ni vavalangi	Fabaceae
Albizia lebbeck	siris-tree, rain tree, East Indian walnut, bois noir, kokko, trongkon-mames, tronkon mames, mamis, kalaskas, ukall ra ngebard, gumorningabchey; ngumorrningobchey, 'ohai, vaivai, vaivai ni vavalangi	Fabaceae
Allamanda cathartica	yellow trumpet vine, allamanda, golden allamanda, golden cup, lani-ali'I, pua tanofo	Apocynaceae
Anonna glabra	pond apple, bullock's heart, uto ni mbulumakau, kaitambo, kaitambu	Annonaceae
Asystasia gangetica	Chinese violet, Philippine violet, coromandel	Acanthaceae
Bambusa spp.	bamboos, bambou, pehri en sapahn, bambuu, bambu, piao, piao palaoan	Poaceae
Bauhinia monandra	orchid-tree, St. Thomas-tree, flamboyant, flores mariposa, mariposa, pine fua loloa, pink butterfly tree	Fabaceae
Bauhinia purperea	orchid tree, purple butterfly tree, pink butterfly tree	Fabaceae
Bidens pilosa	beggar's tick, Spanish needle, Cobbler's pegs, piquants noirs, fisi'uli, kofe tonga, kofetoga, piripiri, tae puaka, mbatimandramandra, mbatikalawau, matakaro, matua kamate	Asteraceae
Brachiaria mutica	California grass, para grass, buffalo grass, Mauritius grass, puakatau	Poaceae
Brachiaria subquadripara	brachiaria, green summer grass	Poaceae

Scientific Name	Common Names	Family
Cananga odorata	ilang-ilang, alang-ilang, ylang-ylang, chiráng, irang, ilahnglahng, ilanlang, pwanang, pur-n-wai, pwurenwai, sair-n-wai, seirin wai, seir en wai, makasoi, moso'oi, makosoi, mokosoi mokohoi, motooi	Annonaceae
Cardiospermum halicacabum	balloon vine, heart pea, wa niu, vo niu	Sapindaceae
Cassia alata	candle bush, candalabra bush, Roman candle tree, Acapulco, arakak, akapuku, andadose, candalaria, take-biha, kerula besokel, yult, rakau honuki, truke-n-kili-n-wai, tuhkehn kilin wai, tirakahonuki, flay-n-sabouw, mulamula, akapuku, bakau plant, mbai ni thangi	Fabaceae
Cedrela odorata	cigar box cedar, Mexican cedar, West Indian cedar, Spanish cedar	Meliaceae
Ceiba pentandra	kapok, kapok tree, algodon de Manila, atgodon di Manila, koatoa, atagodon, batte ni gan' ken, bulik, kuhtin, kotin, cottin, koatoa, koatun, cutin, kalngebard, kalngebárd, kerrekar ngebard, vavau ni lokoloko, vavae, vauvau ni vavalangi, semar	Bombacaceae
Cenchrus brownii	burgrass, sand-bur	Poaceae
Cenchrus echinatus	burgrass, sand-bur, Mossman River grass, herbe a cateaux, vao tui tui, te anti, te kateketeke, motie vihilago, se mbulabula, piri-piri, cauit-cauitan, konpeito-gusa, 'ume'alu, hefa, mosie vihilango, cram-cram	Poaceae
Cestrum diurnum	inkberry, day jessamine, day cestrum, tinta ‘n-China, tentanchinu, tintan china, thauthau	Solanaceae
Cestrum nocturnum	night-flowering cestrum, queen (or lady) of the night, dama-de-noche, iki he po, thauthau, thauthau ni mbongi, kara	Solanaceae
Chloris barbata	swollen fingergrass, airport grass, mau‘u lei, purpletop chloris	Poaceae
Chloris radiata	plush-grass, radiate fingergrass	Poaceae
Cinnamomum camphora	camphor tree, camphor laurel	Lauraceae
Cinnamomum verum	cinnamon tree, ochod ra ngebard	Lauraceae
Clerodendrum paniculatum	pagoda plant, butcherechár, butecherechar	Verbenaceae
Clerodendrum philippinum	Honolulu rose, losa Honolulu, pikake hohono	Verbenaceae

Scientific Name	Common Names	Family
Clitoria ternatea	butterfly pea, buikike, bukike, paokeke, bukike paokeke, capa de la reina, kapa de la raina, putitainubia, pepe, latoela, nawa	Fabaceae
Cordia alliodora	laurel	Boraginaceae
Crassocephalum crepidoides	thickhead, fireweed, pualele, fisi puna, fua lele, maraburubo	Asteraceae
Crotalaria spp.	kaskabeles, cascanetas, rattlepod, rattlebox	Fabaceae
Cryptostegia grandiflora	rubber vine, India rubber vine, liane de gatope	Asclepiadaceae
Cuscuta campestris	golden dodder, field dodder, navereverelangi, wa vereverelangi, wa lawala, wa mbosuthu, wa ndanga, wa tikaivu, ndithangi	Convolvulaceae
Cynodon dactylon	Bermuda grass, giant Bermuda grass, bahama grass, devil's grass, couch grass, Indian doab, grama, devilgrass, couchgrass, manini, kambuta, pasto bermuda, zacate bermuda, grama dulce, gramón, hierba fina, grama-seda, chiendent, petit chiendent, chiendent pied-de-poule, motie molulu, manienie, balama grass, kabuta, mosie molulu, herbe de couverture	Poaceae
Cyperus rotundus	nut grass, nutsedge, purple nutsedge, cocograss, souchet rond, souchet à tubercules, herbe à oignon, chaguan humatag, kili'o'opu, soro na kambani, sora na kambani, malanga, vuthesa, mot ha, mumuta, pakopako, te mumute, vucesa, motha	Cyperaceae
Digitaria ciliaris	Henry's crabgrass, fingergrass, smooth crabgrass, tropical crabgrass, violet crabgrass, large crab grass, summer grass, kukaepua'a, saulangi	Poaceae
Digitaria insularis	cottongrass, sourgrass, feather-top grass	Poaceae
Digitaria violascens	smooth crabgrass, violet crabgrass, sau	Poaceae
Dissotis rotundifolia		Melostomataceae
Eichhornia crassipes	water hyacinth, jacinto de agua, lirio acuatico, jacinthe d'eau, bung el ralm, mbekambekairanga, ndambendambe ni nga, jal khumbe, bekabekairaga, dabedabe ne ga, jal khumbe, riri vai	Pontederiaceae
Elephantopus mollis	elephantopus, elephant’s foot, tobacco weed, papago vaca, papago halomtano, papago' halom tano, lata hina, tavako ni veikau, jangli tambaku, tapua erepani, faux tabac	Asteraceae

Scientific Name	Common Names	Family
Eleusine indica	goosegrass, wiregrass, goose foot, crow's foot, bullgrass, umog, reh takai, manienie ali'i, fahitalo, te uteute, deskim, keteketarmalk, kavoronaisivi, vorovoroisivi, mahkwekwe, ta'ata'a, takataka, ghoraya, lau ta'ata'a, chiendent patte de poule	Poaceae
Eriobotrya japonica	loquat, Japanese plum	Rosaceae
Ficus elastica	India rubber tree, rubber plant; komunoki, komunokí, rapah, gak'iynigoma	Moraceae
Flemingia strobilifera	besungelaiei	Fabaceae
Grevillea robusta	silk oak, silky oak, she-oak, silver oak	Proteaceae
Hedychium coronarium	white ginger, butterfly lily, sinter pwetepwet, thevunga, ndrove, tolon	Zingiberaceae
Hedychium flavescens	yellow ginger, awaphuhi melemele, awapuhi melemele	Zingiberaceae
Hedychium gardnerianum	kahili ginger	Zingiberaceae
Hyptis capitata	botones, batunes, t'aiegarabao, knobweed	Lamiaceae
Hyptis pectinata	comb hyptis, mint weed, purple top, mumutun lahe, mumutun palaoan, mumutan ademelon, fausse menthe, tamoli ni vavalangi, timothi ni vavalangi, wavuwavu, ndamoli, ben tulsia	Lamiaceae
Hyptis sauveolens	wild spikenard, mumutun	Lamiaceae
Ischaemum rugosum	muraina grass, tho muraina, co muraina, wrinkle duck-beak, saramattagrass	Poaceae
Jatropha gossypifolia	bellyache bush, cotton-leaved physic nut	Euphorbiaceae
Kalanchoe pinnata	life plant, air plant, Canterbury bells	Crassulaceae
Melaleuca quinquenervia	paperbark, cajeput, punk tree, niaouli	Myrtaceae
Melia azedarach	Chinaberry, pride-of-India, white cedar, indian lilac, persian lilac, lilas des Indes, paraiso, para'isu, lelah, prais, tili, dake, bakain	Meliaceae
Merremia tuberosa	wood rose	Convolvulaceae
Mikania scandens	climbing hempweed	Asteraceae
Mimosa pudica	sensitive plant, sleeping grass, sensitive, betguen sosa, tuitui, cogadrogadro, lajwania, memege, mechiuaiu, vao fefe, mateloi, pohe ha'avare, ra kau pikikaa, laau fefe, tho ngandrongandro, tho kandrodandro	Fabaceae

Scientific Name	Common Names	Family
Momordica charantia	balsam-apple, cerasee, bitter-melon, bitter gourd, balsam pear, peria, squirting cucumber, atmagoso, almagosa, atmagosu, markoso, kerala	Cucurbitaceae
Odontonema tubaeforme	fire spike	Acanthaceae
Operculina ventricosa	paper rose, alalag, palulu, fue hina	Convolvulaceae
Panicum repens	torpedo grass, panic rampant, wainaku grass, couch panicum, creeping panic	Poaceae
Paraserianthes falcataria	Moluccca albizia, tuhke kerosene, tuhke kerosin, ukall ra ngebard	Fabaceae
Parkinsonia aculeata	parkinsonia, Jerusalem thorn, horse-bean, retama	Fabaceae
Paspalum conjugatum	Hilo grass, T grass, ti grass, sour grass, herbe créole, herbe de tauère, rehn wei, motie vailima, udel ra ngebei, muhsrasre, vaolima, vailima matafao, vailima	Poaceae
Paspalum dilatatum	dallis grass, paspalum, water grass, hiku nua, paspalum dilaté, herbe sirop, herbe de miel	Poaceae
Paspalum fimbriatum	fimbriate or Panama paspalum, Colombia grass	Poaceae
Paspalum paniculatum	Russell river grass, galmarra grass	Poaceae
Paspalum urvillei	vasey grass	Poaceae
Passiflora edulis	passion fruit, purple granadilla, yellow passion fruit, purple passion fruit, liliko'I, qarandila, vaine tonga, pasio	Passifloraceae
Passiflora foetida	love-in-a-mist, wild passion fruit, passionflower, dulce, stinking passionflower, passiflore, tomates, kudamono, pasio vao, vaine 'ae kuma, pohapoha, tea biku, sou, loliloli ni kalavo	Passifloraceae
Passiflora laurifolia	yellow granadilla, belle apple, pasio	Passifloraceae
Passiflora maliformis		Passifloraceae
Passiflora quadrangularis	granadilla, giant granadilla, parapotina maata, palatini, vine fua lalahi, tinitini, pasione, pasio, kudamono	Passifloraceae
Passiflora suberosa	wild passionfruit, devil's pumpkin, indigo berry, corky passionflower, passiflore, grenadille, huehue haole	Passifloraceae
Pennisetum polystachyon	mission grass, feathery pennisetum, queue de chat	Poaceae

Scientific Name	Common Names	Family
Pennisetum purpureum	elephant grass, napier grass, merker grass, bokso, puk-soh, acfucsracsracsr, herbe éléphant, fausse canne à sucre	Poaceae
Piper aduncum	spiked pepper, yaqona ni Onolulu, yanggona ni Onolulu	Piperaceae
Pistia stratiotes	water lettuce, tropical duckweed, laitue d'eau, pistie, lechuguita de agua, repollo de agua, apon-apon, apoe-apoe, beo-cai, chawk	Araceae
Pithecellobium dulce	Madras thorn, Manila tamarind, camachili, kamachile, kamachiles, kamachili, kamatire, kamatsiri, kamatsíri 'opiuma, kataiya	Fabaceae
Pittosporum undulatum	Victorian box, Victorian laurel, Australian cheesewood, mock orange, sweet pittosporum	Pittosporaceae
Pluchea indica	Indian fleabane, Indian pluchea	Asteraceae
Pluchea symphytifolia	sour bush	Asteraceae
Psidium cattleianum	strawberry guava, cherry guava, cattley guava, Chinese guava, kuahpa, waiawi, ngguava, goyavier de Chine, tuava tinito	Myrtaceae
Psidium guajava	guava, abas, apas, guabang, kuabang, guahva, kuahpa, kuava, amrut, kautoga, ku'ava, kuhfahfah, kautonga, kuawa, goyavier, ku'avu, tu'avu, te kuawa, kuwawa, nguava, ngguava ni India	Myrtaceae
Pueraria lobata	kudzu, acha, nepalem, aka, a'a, yaka, wa yaka, nggariaka, Japanese arrowroot	Fabaceae
Rhynchelytrum repens	Natal redtop, Natal grass, red Natal grass, Holme's grass, blanketgrass, salapona, herbe du Natal, herbe rose, herbe pappangue, tricholène	Poaceae
Ricinus communis	castor bean, castor-oil plant, agaliya, gelug, maskerekur, uluchula skoki, mbele ni vavalagi, toto ni vavalagi, utouto, lama papalagi, tuitui, tuitui fua ikiiki, koli, lama palagi, lepo, ricin	Euphorbiaceae
Saccharum spontaneum	wild cane, ahlek, ahlec, banga ruchel, ac	Poaceae
Samanea saman	monkeypod, rain tree, ‘ohai saman, tronkon mames, gumor ni spanis, vaivai ni vavalangi	Fabaceae
Schefflera actinophylla	octopus tree, umbrella tree, ivy palm	Araliaceae
Schinus terebinthifolius	Christmas-berry, Brazilian pepper, Florida holly, faux poivrier, poivre rose, warui	Anacardiaceae
Senecio	German ivy, Italian ivy, cape ivy	Asteraceae

Scientific Name	Common Names	Family
mikanioides		
Setaria pallide-fusca	foxtail, Queensland pigeon grass, cat's tail grass	Poaceae
Solanum torvom	prickly solanum, devil's fig, turkeyberry, terongan, fausse aubergine, aubergine sauvage épineuse, piko, tisaipale, kausoni, soni, kauvoto-votua, kaisurisuri, katai, bhankatiya	Solanaceae
Sorghum halepense	Johnson grass, Aleppo grass, Aleppo milletgrass, sorgo de Alepo, zacate Johnson, grama China, cañuela, Don Carlos, gumai, kola, sorgho d' Alep, herbe de Cuba	Poaceae
Spathodea campanulata	African tulip tree, fireball, fountain tree, tulipier du Gabon, pisse-pisse, rarningobchey	Bignoniaceae
Stachytarpheta urticifolia	blue rat's tail, dark-blue snakeweed, false verbena; herbe bleue, louch beluu, mautofutala, mautofu tala, mautofu Samoa, iku'i kuma, hiku 'i kuma, mautofu vao, matofu fualanumanoa, te uti, turulakaka, tumbutumbu, serakawa, lavenia	Verbenaceae
Stylosanthes guianensis	stylo, Brazilian lucerne, tropical lucerne	Fabaceae
Syzgium cumini	Java plum, jambolan plum, duhat, mesegerak, mesekerrak, mesekerrák, mesigerak, jamelonguier, kavika ni India, jammun, faux-pistachier, jamelon-guier	Myrtaceae
Syzgium jambos	malabar plum,rose apple, iouen wai, youenwai, apel en wai, kavika, kavika ni vavalangi, kavika ni India, ahi'a popa'a	Myrtaceae
Tecoma stans	yellow bells, yellow-elder, tagamimi, piti, peeal	Bignoniaceae
Thunbergia alata	black-eyed susan vine	Acanthaceae
Thunbergia grandiflora	Bengal trumpet, blue trumpet vine	Acanthaceae
Thunbergia laurifolia	purple allamanda, laurel-leaved thunbergia, laurel clock vine	Acanthaceae
Tithonia diversifolia	tree marigold, Mexican sunflower, Japanese sunflower	Asteraceae
Triphasia trifolia	limeberry, limon-China, limoncito, lemon China, lemon de China	Rutaceae
Triumfetta rhomboidea	Chinese burr, paroquet burr, burr bush, dadangsi, masiksik lahe, mo'osipo, mosipo, mautofu	Tiliaceae
Triumfetta semitriloba	Sacramento bur, dadangsi, masiksik lahe	Tiliaceae

Scientific Name	Common Names	Family
Urena lobata	hibiscus burr, aramina, caesarweed, pink Chinese burr, urena burr, dadangsi, dadangsi apaka, dadangsi machingat, dádangse, chosuched e kui, karap, korop, nognuk, osuched a rechui, motipo, mautofu, mo'osipo, manutofu, qatima, gataya, jute africain, nggatima	Malvaceae
Wedelia trilobata	wedelia, Singapore daisy, dihpw ongohng, ngesil ra ngebard, rosrangrang, atiat	Asteraceae
Zebrina pendula	wandering zebrina, wandering jew	Commelinaceae

Table 5. Native and naturalized species that exhibit aggressive behavior

Scientific Name	Common Names	Family
Bischofia javanica	bischofia, bishopwood, toog, koka, tongotongo, koka ndamu, tongo, tongatonga, tea	Euphorbiaceae
Caesalpinia bonduc	gray nickers, wait-a-bit, pacap, pakao, tochedulik, sers mekemad, togodulik, talamoa, talatalamoa, talmoa foto, kakalaioa, tataramoa, talatala'amoa, 'anaoso, soni	Fabaceae
Caesalpinia major	yellow nickers, pakao, kakalaioa, hihikolo, kinikini	Fabaceae
Canna indica	canna, canna lily, Indian shot, mongos halum-tano, lu iu en wai, fagamanu, gasau ni ga, te riti, misimisi, ali'ipoe, li'ipoe, poloka, apeellap, oruuru	Cannaceae
Cassythia filiformis	agasi, agase, agace, mayagas, mai'agas, anau, op pucnpucn, buk, kohtokot-shau, kotokotasahu, techellela chull, feteinoa, kauna'oa pehu, taino'a, tainoka, fetai, fatai, wa vere lagi, wa lutu mai lagi, mai'agas, te ritanini, denuwanini, fetai, elaw	Lauraceae
Chrysopogon aciculatus	Mackie's pest, lovegrass, seed grass, golden beardgrass, seedy grass, herbe plate, herbe à piquant, inifuk, palaii, iul, manienie 'ula, mutia tai, matapekepeke	Poaceae
Costus speciosus	crepe ginger, wild ginger, isebsab	Zingiberaceae
Erythrina varigata	coral-tree, tiger claw, gaogao, gabgab, gaogao, gaogao gabgab, gapgap, tronkon gaogao, gau-gau, lolo, par, ral, rar, pahr, par, roro, rorou, róro, gate, ngate, wiliwili haole, 'atae, gatae, ngatae, drala dina	Fabaceae
Heterospathe elata	palma brava, palma braba, asbo, demailei, demailéi, domaile, domailei, ebouch, buag bbuag	Arecaceae
Ischaemum polystachyum	paddle grass, reh padil, mah	Poaceae
Kyllinga nemoralis	white kyllinga, kili'o'opu, mo'u upo'o, tuise, pakopako	Cyperaceae
Melochia umbellata	melochia	Sterculiaceae
Merremia peltata	merrimia, lohl, yol, kebeas, lagon, lagun, pala, fue, fue vao, fue kula, iol, puhlah, fue lautetele, fue mea, grobihi, arosumou, wa mbula, wa ndamu, viliyawa, wiliviwa, veliyana, wiliao	Convolvulaceae
Miscanthus floridulus	miscanthus, swordgrass, sawgrass, reed grass, Japanese silvergrass, Chinese silvergrass, Chinese fairygrass, eulalia, nete, neti, tupon nette, tupun-neti, nette, mah, sapala, sapeleng, sapalang, aset, banga ruchel, medecherecher bokso, pagaluel, ngasau, 'u	Poaceae

Scientific Name	Common Names	Family
Mucuna gigantea	small sea-bean, ox-eye bean, gayetan, bayogo dikike, kikiki gaogao, bayogon-dailaili, akankan, bayogon dikiké, dikiki gaogao, gaggao dálalai, kakatea, feteka uli, bayogo, keldellel, ka'e'e, tutae pua'a, tupe, pa'anga 'ae kuma, valai, wa kore, wa kurikuri, wa tikuri	Fabaceae
Trema orientalis	charcoal tree, gunpowder tree, agaunai, banahl, elodechoel, uanin, ndrou, ndroundrou, ndrikanaithembe, bulasisi	Ulmaceae

Appendix 2

Scientific name synonyms

This table lists commonly used scientific name synonyms of the listed invasive species. Names sometimes change because better information is available on the taxonomy of a species or precedence is given to an earlier author.

Synonym	Listed as	Family
Adenoropium gossypifolium	Jatropha gossypifolia	Euphorbiaceae
Adnropogon halepensis	Sorghum halepense	Poaceae
Albizia falcataria	Paraserianthes falcataria	Fabaceae
Albizia saman	Samanea saman	Fabaceae
Aleurites triloba	Aleurites moluccana	Euphorbiaceae
Allamanda hendersonii	Allamanda cathartica	Apocynaceae
Ardisia crispa	Ardisia crenata	Myrsinaceae
Ardisia humilis	Ardisia elliptica	Myrsinaceae
Ardisia solanacea	Ardisia elliptica	Myrsinaceae
Ardisia squamulosa	Ardisia elliptica	Myrsinaceae
Axonopus affinis	Axonopus fissifolius	Poaceae
Brachiaria purpurascens	Brachiaria mutica	Poaceae
Brassaia actinophylla	Schefflera actinophylla	Araliaceae
Bryonia grandis	Coccinea grandis	Cucurbitaceae
Buddleja madagascarienses	Buddleia madagascarienses	Buddleiaceae
Caesalpinia crista	Caesalpinia bonduc	Fabaceae
Caesalpinia sepiaria	Caesalpinia decapetala	Fabaceae
Cenchrus brevisetus	Cenchrus echinatus	Poaceae
Cenchrus quinquevalvis	Cenchrus echinatus	Poaceae
Cenchrus setosus	Pennisetum polystachion	Poaceae
Cenchrus viridis	Cenchrus echinatus	Poaceae
Cenchrus. pungens	Cenchrus echinatus	Poaceae
Chloris inflata	Chloris barbata	Poaceae
Chloris paraguayensis	Chloris barbata	Poaceae
Chlorocyperus rotundus	Cyperus rotundus	Cyperaceae
Cinchona succirubra	Cinchona pubescens	Rubiaceae
Cinnamomum zeylanicum	Cinnamomum verum	Lauraceae
Citharexylum quadrangulare	Citharexylum spinosum	Verbenaceae
Clerodendrum chinense	Clerodendrum philippinum	Verbenaceae
Clerodendrum fragrans	Clerodendrum philippinum	Verbenaceae
Coccinea Cordifolia	Coccinea grandis	Cucurbitaceae
Cordia collococca	Cordia glabra	Boraginaceae
Croton moluccanus	Aleurites moluccana	Euphorbiaceae
Cyathea cooperi	Sphaeropteris cooperi	Cyatheaceae

Synonym	Listed as	Family
Cyperus kyllingia	Kyllinga nemoralis	Cyperaceae
Cyperus purpuro-variegatus	Cyperus rotundus	Poaceae
Cyperus stoloniferum pallidus	Cyperus rotundus	Poaceae
Cyperus tetrastachyos	Cyperus rotundus	Poaceae
Cyperus tuberosus	Cyperus rotundus	Poaceae
Delairea odorata	Senecio mikanioides	Asteraceae
Elephantopis scaber	Elephantopis mollis	Asteraceae
Eugenia cumini	Syzygium cumini	Myrtaceae
Eugenia jambos	Syzygium jambos	Myrtaceae
Eupatorium odoratum	Chromolaena odorata	Asteraceae
Guilandina bonduc	Caesalpinia bonduc	Fabaceae
Gynura crepidioides	Crassocephalum crepidioides	Asteraceae
Hiptage madablota	Hiptage benghalensis	Malpighiaceae
Imperata arundinacea	Imperata cylindrica	Poaceae
Imperata conferta	Imperata cylindrica	Poaceae
Ipomoea peltata	Merremia peltata	Convolvulaceae
Ipomoea tuberosa	Merremia tuberosa	Convolvulaceae
Ischaemum digitatum var. polystachyum	Ischaemum polystachyum	Poaceae
Jussiaea grandiflora	Ludwigia peruviana	Onagraceae
Jussiaea peruviana	Ludwigia peruviana	Onagraceae
Justica carnea	Jacobinia carnea	Acantaceae
Kunzea ericoides	Leptospermum ericoides	Myrtaceae
Kunzea scoparium	Leptospermum scoparium	Myrtaceae
Kyllinga cephalotes	Kyllinga nemoralis	Cyperaceae
Kyllinga monocephala	Kyllinga nemoralis	Cyperaceae
Leucaena glauca	Leucaena leucocephala	Fabaceae
Malaleuca leucadendra	Malaleuca quinquenervia	Myrtaceae
Melochia compacta	Melochia umbellata	Sterculiaceae
Melochia indica	Melochia umbellata	Sterculiaceae
Merremia nymphaeifolia	Merremia peltata	Convolvulaceae
Miconia magnifica	Miconia calvescens	Melostomataceae
Mimosa diplotricha	Mimosa invisa	Fabaceae
Mimosa dulcis	Pithecellobium dulce	Fabaceae
Mimosa lebbeck	Albizia lebbeck	Fabaceae
Miscanthus japonicus	Miscanthus floridulus	Poaceae
Ochroma pyramidale	Ochroma lagopus	Bombacaceae
Odontonema callistachyum	Odontonema tubaeforme	Acanthaceae
Odontonema strictum	Odontonema tubaeforme	Acanthaceae
Operculina peltata	Merremia peltata	Convolvulaceae
Paederia foetida	Paederia scandens	Rubiaceae
Panicum barbinode	Brachiaria mutica	Poaceae
Panicum guadeloupense	Brachiaria mutica	Poaceae

Synonym	Listed as	Family
Panicum melinis	Melinis minutiflora	Poaceae
Panicum minutiflora	Melinis minutiflora	Poaceae
Panicum muticum	Brachiaria mutica	Poaceae
Panicum palmaefolium	Setaria palmifolia	Poaceae
Panicum purpurascens	Brachiaria mutica	Poaceae
Panicum subquadriparum	Brachiaria subquadripara	Poaceae
Pennisetum polystachion	Pennisetum polystachyon	Poaceae
Pennisetum ruppelii	Pennisetum setaceum	Poaceae
Pennisetum setosum	Pennisetum polystachyon	Poaceae
Pithecellobium saman	Samanea saman	Fabaceae
Pluchea odorata	Pluchea symphytifolia	Asteraceae
Poinciana regia	Delonix regia	Fabaceae
Psidium littorale	Psidium Cattleianum	Myrtaceae
Pueraria harmsii	Pueraria lobata	Fabaceae
Pueraria novo-guiniensis	Pueraria lobata	Fabaceae
Pueraria thunbergiana	Pueraria lobata	Fabaceae
Pueraria trilolba sensu	Pueraria lobata	Fabaceae
Saccharum floridulum	Miscanthus floridulus	Poaceae
Sanchezia nobilis	Sanchezia speciosa	Acanthaceae
Senna alata	Cassia alata	Fabaceae
Solandra hartwigii	Solandra maxima	Solanaceae
Solandra nitida	Solandra maxima	Solanaceae
Stachytarpheta urticaefolia	Stachytarpheta urticifolia	Verbenaceae
Thelechitonia trilobata	Wedelia trilobata	Asteraceae
Thunbergia harrisii	Thunbergia laurifolia	Acanthaceae
Tradescantia zebrina	Zebrina pendula	Commelinaceae
Trema cannabina	Trema orientalis	Ulmaceae
Trichachne insularis	Digitaria insularis	Poaceae
Tricholaena repens	Rhynchelytrum repens	Poaceae
Tricholaena rosea	Rhynchelytrum repens	Poaceae
Triopteris jamaicensis	Hiptage benghalensis	Malpighiaceae
Triumfetta bartramia	Triumfetta rhomboidea	Tiliaceae
Urena sinuata	Urena lobata	Malvaceae
Urochloa mutica	Brachiaria mutica	Poaceae