

**Invasive Plant Species on Rota, Commonwealth of the
Northern Mariana Islands**

James C. Space, Barbara Waterhouse, Julie S. Denslow and Duane Nelson

U.S.D.A. Forest Service
Pacific Southwest Research Station
Institute of Pacific Islands Forestry
Honolulu, Hawai'i, USA

25 October 2000

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This is a continuation of the survey of islands in Micronesia and American Samoa for invasive plant species requested by the Pacific Islands Committee, Council of Western State Foresters. A survey of other Micronesian islands was conducted in 1998 and was discussed in a previous report². This report summarizes a survey of the island of Rota, Commonwealth of the Northern Mariana Islands, on 5 April 2000. The objectives, as with the previous survey, were three-fold: (1) To identify plant species on the island that are presently causing problems to natural and semi-natural ecosystems; (2) to identify species that, even though they are not presently a major problem, could spread more widely or spread to other islands where they are not present, potentially causing problems; and (3) to confirm the absence of species that are a problem elsewhere and, if introduced to Rota, could be a threat there.

During our visit James Manglona of the Department of Lands and Natural Resources showed us sites of known infestations. We also had available copies of various botanical and weed surveys conducted in the past (see Appendix 1, References). A visit of such short duration does not permit an exhaustive survey of the weed biota of the island. However, the intent was to conduct an overall survey. Additional surveys of individual species or sensitive areas can and should be

1 Former Director, Pacific Southwest Research Station, USDA Forest Service (now retired); Botanist, Australian Quarantine and Inspection Service; Research Ecologist/Team Leader, Institute of Pacific Islands Forestry, USDA Forest Service and Forest Health Coordinator, Institute of Pacific Islands Forestry, USDA Forest Service, respectively.

2 Space, James C. and Marjorie Falanruw (1999). Observations on invasive plant species in Micronesia. Report prepared for the meeting of the Pacific Islands Committee, Council of Western State Foresters, Majuro, Republic of the Marshall Islands, February 22-26, 1999.

conducted as needed. This report summarizes our findings and makes some suggestions for further action.

For convenience and to be consistent with the Micronesia report, invasive species occurring in or of threat to Rota have been grouped into four categories:

1. Species that are invasive elsewhere in similar ecosystems but were not seen on our visit and are not reported in the literature as being present on Rota (230 species).
2. Species that are invasive elsewhere and are also invasive or potentially invasive on Rota (12 species).
3. Species that are invasive or weedy elsewhere and are common, weedy or cultivated on Rota (63 species).
4. Native species that exhibit aggressive behavior (10 species).

These species are listed in Appendix 2. Additional information about each species is located on a World Wide Web site, <http://www.hear.org/pier>, and on the PIER-CD.

There are a number of other species that are invasive weeds in gardens, fields and pastures and along roadsides but don't seem to pose a particular threat to wildland ecosystems. These species are not included.

1. Dangerous species not known to be on Rota

A large number of invasive species have yet to reach Rota. These are listed in Appendix 2, Table 1. The worst of these include the following:

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

Cinnamomum verum (cinnamon), found to be very invasive in American Samoa and elsewhere.

Clerodendrum chinense, a species that can form dense thickets that exclude other species. It tolerates shade well and suckers profusely.

Clidemia hirta (Koster's curse), a serious problem species in Hawai'i and in other locations. In Micronesia it is only present in Palau, but would be a serious problem if introduced as it grows well in the shade of closed forests.

Coccinia grandis (ivy or scarlet gourd), a smothering vine that is showing potential for serious damage to the forests of Saipan. The vines climb over trees and form such dense cover that the forest underneath is completely shaded out and destroyed. It is also invasive in Guam and Hawai'i. The proximity of the plant in Saipan poses a grave threat to Rota.

Cordia alliodora, introduced as a forestry tree to Vanuatu and demonstrated to be quite invasive. It should not be planted.

Dieffenbachia maculata (spotted Dieffenbachia or dumb cane), a house plant that often escapes cultivation (primarily through the dumping of plants or cuttings) and is potentially a very

bothersome species as it reproduces vegetatively and can thrive in the dense shade of an intact native forest canopy.

Two rubber trees, *Funtumia elastica* (African rubber tree) and *Castilla elastica* (Panama rubber tree), species that have proven very invasive in Samoa. While not known to be present in Micronesia (*Castilla elastica* is present in Hawai'i) and thus posing a lesser threat, their highly invasive nature makes these species prime candidates for prompt eradication if found.

Lantana camara (lantana) has reportedly been eradicated from Rota and none was seen on our survey. It is very prevalent on Saipan and Tinian and is thus a candidate for possible reintroduction. Rota is to be commended for eradicating this pest species.

Merremia peltata, a native vine found throughout the Caroline Islands, is not present in the Northern Marianas. Even though it is native (or an aboriginal introduction) in the Carolines it is quite aggressive there. It would no doubt also prove quite invasive on Rota (as it has on other Pacific islands where it has been introduced), so it would be wise to be alert to its possible introduction.

A number of grass species, including:

- *Melinis minutiflora* (molasses grass), a species that is both invasive and causes a serious fire hazard. It has fostered the establishment of fire regimes on many islands where it has been introduced. It is present on Guam and is thus a threat to Rota.
- *Pennisetum setaceum* (fountain grass), another grass that is a major problem in Hawai'i. It is also present on Guam.
- A number of other grass species of various degrees of invasiveness, including *Andropogon gayanus*, *Andropogon glomeratus*, *Andropogon virginicus*, *Axonopus fissifolius*, *Brachiaria mutica*, *Brachiaria subquadripata*, *Cenchrus ciliaris*, *Cortaderia jubata*, *Cortaderia selloana*, *Digitaria insularis*, *Digitaria violascens*, *Echinochloa polystachya*, *Hymenachne amplexicaulis*, *Hyparrhenia rufa*, *Ischaemum rugosum*, *Ischaemum timorense*, *Panicum repens*, *Paspalum dilatatum*, *Paspalum fimbriatum*, *Paspalum urvillei*, *Pennisetum clandestinum*, *Rhynchelytrum repens*, *Schizachyrium condensatum*, *Setaria pallide-fusca*, *Setaria palmifolia* and *Tripsacum latifolium*. Grasses are easily introduced as contaminants in imported seed, imported sand and gravel or on used machinery.

Miconia calvescens (the purple plague), which has caused serious damage to the ecosystem of Tahiti in French Polynesia. It has spread to other islands in French Polynesia and has also escaped in Hawai'i where it is the subject of an intensive and costly eradication effort. Recently it was discovered in north-east Queensland, Australia, where eradication is also being attempted. It is an attractive garden plant and might be introduced this way or as tiny seeds on shoes or used equipment.

Paraserianthes falcataria (Molucca albizia), a common introduced species throughout the Caroline Islands and present on Guam. It has the potential, over time, of spreading widely through the forest (as can be seen on Pohnpei). Introduction of this tree should be discouraged.

Passiflora foetida is present on Rota, but several invasive members of this invasive genus are absent, including:

- *Passiflora mollissima* (banana poka), a smothering vine that is a problem in Hawai'i and New Zealand.
- *Passiflora edulis* (although it may be in cultivation), *Passiflora laurifolia*, *Passiflora ligularis*, *Passiflora maliformis*, *Passiflora quadrangularis* and *Passiflora rubra*.

Piper auritum (eared pepper, locally called “false sakau”), recently introduced to Pohnpei. This species suckers profusely and produces many small seeds that are spread by birds, rodents and bats. An attempt is being made to eradicate it on Pohnpei and it should not be introduced to other islands.

Psidium cattleianum (strawberry guava), a small tree that forms dense thickets and is a major problem species in Hawai'i, Tahiti and elsewhere. It is presently only on Pohnpei and Palau in Micronesia.

Rubus spp., a number of which are problem species on tropical islands.

Spathodea campanulata (African tulip tree), a commonly planted ornamental present on Saipan and Guam. This tree has become a major problem in Fiji, the Hawaiian Islands and some other places. It was not seen on Rota and it would be good to exclude it from the island.

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

Thunbergia alata, *T. grandiflora* and *T. laurifolia*, climbing vines that are present on Guam.

The best indicator that a species might be invasive is the fact that it is invasive elsewhere. However, each island ecosystem is unique, and invasiveness cannot be predicted with certainty. A good strategy is to be extremely cautious and exclude these and other species known to be invasive or weedy elsewhere (although an even better strategy, adopted by countries such as Australia and New Zealand, is to exclude all species not shown by risk analysis to be of negligible risk). Known problem species that have the potential to cause problems in tropical island ecosystems and are not yet present in Rota are listed in Appendix 2, Table 1. These species should be excluded through plant quarantine and, if establishment is detected, promptly evaluated for eradication. In addition, species that are present in Saipan, Tinian and Guam but are not present in Rota are listed in Appendix 3. There is high risk of introduction of these species because of traffic between these islands and Rota.

2. Species that are invasive elsewhere and are likewise invasive or have the potential to become so on Rota

Some known invasive plants that are causing trouble in similar ecosystems have been introduced into Rota (Appendix 2, Table 2). Some of them are already causing problems while others are not. Some are cultivated plants that have not (yet) escaped and their potential for causing damage is so far unknown. However, one of the best predictors of invasiveness is the behavior of the species elsewhere, and these are known troublemakers.

Adenanthera pavonina (the coral bean tree), invasive in secondary forests.

Antigonon leptopus (chain of hearts). This climbing vine has become a widespread pest on Guam. It favors soils derived from limestone and, thus, there is plenty of it on Rota.

Bidens pilosa (beggar's tick) is widespread, as on many Pacific islands.

Chromolaena odorata (Siam weed), a highly invasive pan-tropical weed, is very prevalent on Rota. Biological controls are available that are effective in open areas, less so in shaded stands.

Clerodendrum quadriloculare, not seen but reported present, probably as an ornamental. It is an attractive shrub often planted in yards. It is suspicious because it appears to have the ability to invade intact or relatively intact native forests. This species is notorious for being a prolific producer of root suckers and, in fact, the plant is easily propagated by means of root cuttings. A dense, monospecific understory of this species was observed growing in full shade beneath the forest canopy on Pohnpei, making it a likely candidate to invade intact or only slightly disturbed native forest stands.

Imperata cylindrica (cogon grass), a very invasive grass species present on Guam and Saipan as well.

Mikania micrantha (mile-a-minute weed) is widespread. It is very invasive at a number of locations in the Pacific.

Mimosa invisa (giant sensitive plant) and *Mimosa pudica* (sensitive plant) are both present on Rota. *Mimosa invisa* is a particularly nasty plant as it is covered with thorns and forms dense tangles that are difficult to walk through. *Mimosa pudica*, a smaller plant with only small prickles, can form dense mats. Both will undoubtedly spread further unless control action is taken.

Momordica charantia (bitter-melon), a member of the cucumber family, is a climbing vine and its fruit is a host for fruit flies. It is quite prevalent on Rota

Syngonium podophyllum, a climbing aroid, is probably another escape from cultivation. Like *Dieffenbachia maculata*, it has the ability to spread in the deep shade of intact forests. It is difficult to eradicate by hand as it is able to reproduce from a single node and bits and pieces of the stems or roots are easily overlooked. It is very common on Rota, on cliff faces as well as in the forest.

3. Species that are mentioned or listed as weedy or invasive elsewhere and are common or weedy in Rota

A large 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 disturbed sites, although some species, particularly alien trees, can gradually spread 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 in the future, 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 3) should be monitored for spread and possible control, if necessary.

Invasive or potentially invasive tree species include *Acacia auriculiformis* (earleaf acacia), *Acacia confusa* (Formosa acacia), *Albizia lebbbeck*, *Bauhinia monandra* (orchid tree), *Ceiba pentandra* (kapok), *Delonix regia* (flame tree), *Leucaena leucocephala* (tangan-tangan), *Moringa oleifera* (horseradish tree), *Pithecellobium dulce* (Madras thorn), *Samanea saman* (monkeypod), and *Tecoma stans* (yellow bells). Some naturalization of *Acacia confusa*, *Albizia lebbbeck*, *Ceiba pentandra* and *Pithecellobium dulce* was noted and further planting of these trees should be discouraged. *Delonix regia* was common both as planted and naturalized specimens. *Leucaena leucocephala*, as is the case on most islands with limestone-derived soils, is very common.

A number of introduced grasses have become established, including *Cenchrus brownii* (bur grass); *Chloris radiata* (plush-grass, radiate fingergrass), *Cynodon dactylon* (Bermuda grass), *Digitaria ciliaris* (fingergrass, smooth crabgrass); *Eleusine indica* (goose grass), *Paspalum conjugatum* (Hilo grass), *Pennisetum polystachyon* (mission grass) and *Pennisetum purpureum* (elephant or napier grass). *Digitaria ciliaris*, *Pennisetum polystachyon* and *Pennisetum purpureum* are especially prevalent.

Other widespread weedy species include *Blechnum brownei* (blackweed), *Stachytarpheta jamaicensis* and *S. urticifolia* (blue rat's tail), *Hyptis capitata* (botones) and *H. pectinata* (comb hyptis) and *Sansevieria trifasciata*.

Carica papaya was noted as an adventive invader of recently burned and other disturbed areas.

Centrosema pubescens (centro), an introduced pasture legume, is quite prevalent on forest tracks and climbing on trees.

Melia azedarach (Chinaberry) was noted growing in the forestry nursery. Its seeds are bird-dispersed and it is a problem in South Africa, Hawai'i and some of the islands of French Polynesia.

Some *Triphasia trifolia* (limeberry) was noted. It has become quite prevalent in forest edges on Guam and is likely to become so on Rota as well. Presence of intact populations of frugivorous avian dispersers, such as the Mariana Fruit Dove (totot), makes this more likely.

Wedelia trilobata (Singapore daisy) is not yet widespread, unlike most Pacific islands. Possibly it is a recent introduction that has not had time to become fully established.

4. Native species exhibiting aggressive behavior

Some native species (or early introductions) exhibit aggressive characteristics. These species are listed in Appendix 2, Table 4.

Casuarina equisetifolia, if it is in fact native, seems to be spreading to a considerable extent.

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 plant protection and quarantine officials to make them aware of known and potential invasive plant species. Plant quarantine officers are familiar with most agricultural pests, but they may not be aware of some of the 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. Better yet is to go to the approach recently adopted by Australia and under serious consideration by a number of other countries. That is to exclude all alien species not shown to be of negligible risk. 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 can be helpful. People need to understand why they should follow the quarantine regulations, why they shouldn't dump garden cuttings in the woods, and why they should report suspicious plants. What may just be a pretty flower to be planted in a yard or garden can turn out to be an invasive species. Education of schoolchildren is especially important, as this is the most impressionable age. Children can also have a notable effect on the actions of their parents.

The public also needs to understand that the immediate eradication of a small area of a problem species, even if it involves the use of herbicides, may be better than living with a problem species forever. There are many instances where you hear people say "I wish we'd taken action when this pest was first noticed". It may even be worthwhile to take people to a place where they can be shown the full extent of a problem if the infestation is allowed to spread so that they will accept and support eradication. For example, anyone visiting Tahiti would very likely come away convinced that *Miconia calvescens* is an ecological disaster and that it should be prevented from becoming established on other Pacific islands.

The public should also be encouraged to report suspicious plants. Public service announcements on television or radio can encourage this. Funding can be requested to prepare PSA's or "wanted" posters. Prompt follow-up to public reports is essential to maintain the credibility of such a program.

It is particularly important to work with any local nurseries, botanical gardens or plant importers, as these are often sources of new introductions. A positive approach is to work together to

develop a “white list” of both native and non-native species that the public can be encouraged to plant.

Foresters, conservation officers, extension agents and others that spend time in the field 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 first become established in flower gardens and disturbed areas. Suspicious plant species should be promptly reported. Periodically scheduled surveys can also be conducted for new or expanding infestations. An evaluation should be conducted for any new species that appears to be invasive or is known to be invasive elsewhere. Assistance by an expert who is familiar with the species and methods for its eradication or control should be requested if needed. Prompt action is essential, since once a species becomes widespread, control or eradication can be extremely costly or impossible. Assistance is also available on-line from experts through the Pacific Pestnet and Aliens list-servers.

Laws and regulations should be reviewed to make sure they are adequate to deal 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.

The CNMI government is encouraged to take advantage of the Federal assistance programs in dealing with invasive plant species. Cost-share funding is available to provide locally available expertise in forest health protection. 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 requested 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 economic 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:

- Make every effort to keep out all the species listed in Appendix 2, Table 1, with special emphasis on those listed in Appendix 3 (those species present in Saipan, Tinian and Guam but not yet on Rota). All of these are known invasive species elsewhere, and there is no sense in running the risk that they will act the same in Rota. As we are able to gather more information on other species that might threaten tropical island 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>. The information is also available on CD for local use. Assistance from experts in identifying and managing invasive species can also be obtained by subscribing to and posting inquiries on the Aliens and Pacific Pestnet list servers.

- Take special measures to keep out *Castilla elastica*, *Cecropia obtusifolia/peltata*, *Cinnamomum verum*, *Clerodendrum chinense*, *Clidemia hirta*, *Coccinia grandis*, *Cordia alliodora*, *Dieffenbachia maculata*, *Funtumia elastica*, *Imperata cylindrica*, *Lantana camara*, *Merremia peltata*, *Melinis minutiflora*, *Miconia calvescens*, *Paraserianthes falcataria*, *Passiflora* spp., *Pennisetum setaceum*, *Psidium cattleianum*, *Rubus* spp., *Spathodium campanulata* and the other species listed in Appendix 2, Table 1, to monitor for their occurrence, and to eradicate them immediately if found. These are all well-documented problem species that have had a major impact on natural ecosystems elsewhere. The risk from these species is very high. Warning posters should be produced to alert the public and encourage reporting of any introductions. Any infestations picked up from public reporting or scouting should be promptly eradicated before the plants set seed.

To prevent the introduction of *Miconia calvescens*, quarantine officers should be alert to visitors from Hawai'i who might have been in the woods or rural areas, especially on the Big Island of Hawai'i, and inspect their shoes or boots for seeds. Any trucks or equipment coming from Hawai'i that have been used in rural areas must be power washed or steam cleaned.

- An evaluation should be conducted to make sure that the biological controls for *Chromolaena odorata* are in place. If not, they should be introduced. Dr. Muniappan at the University of Guam may be able to provide assistance.
- Rota should be surveyed for the location of any specimens of *Clerodendrum quadriloculare* and they should then be monitored for possible naturalization and any wild plants eradicated. People should be discouraged from planting it and encouraged to eliminate any specimens they have.
- Species listed in Appendix 2, Table 3 are pests and, although they may not be presently causing serious damage to wildland ecosystems, they are certainly not desirable species. They should not be more widely distributed.
- A number of 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. Most species that naturalize to any extent will gradually spread throughout available and suitable habitat, given enough time. In this regard, consider discontinuing distribution of *Melia azedarach* (Chinaberry).
- Require steam-cleaning or power washing of all used equipment coming into Rota. This is desirable not only from the standpoint of excluding invasive plants, but also insects and diseases. Especially suspect are roadbuilding machinery, military equipment and off-road vehicles. Equipment that has been in Hawai'i is of especially high risk because of the danger of introducing *Miconia calvescens* and some other especially noxious species prevalent there. Guam, Saipan and Tinian are of only slightly lower risk, as many invasive species are present there that are not on Rota.

- Change the customs arrival form to have people indicate if they have been in forests as well as farms. This would then alert quarantine officers to inspect boots and other clothing for soil and seeds. New Zealand uses this language on its entry forms.
- Intact native forests are the most resistant to invasion. Any measures that limit the amount of disturbance will help keep invasive species out.
- 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. The Institute of Pacific Islands Forestry is looking at whether the Australian risk assessment system can be adapted to the needs of the Pacific..
- A joint training session/workshop should be conducted for foresters, land managers, extension agents, quarantine officers and other interested individuals and organizations in the recognition, exclusion, eradication, and control of invasive species. The goal of the training and workshop should be to foster cooperation and joint action against invasive species. We are looking into cooperating with the Secretariat of the Pacific Community to provide such training through their quarantine assistance program.
- The purpose of this survey was to give an overall assessment of the situation. Individual species of concern should be more fully evaluated as needed as to extent, invasiveness, and the possibility for control or eradication. Technical assistance should be requested, if needed, to evaluate individual species.

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 Rota

Scientific Name	Common Names	Family	Habit
<i>Acacia farnesiana</i>	Ellington curse, aroma, klu, popinac, kandaroma, cassie, vaivai vaka-vatona, vaivai vakavotona, ban baburi, oki, te kaibakoa, debena, kolu	Fabaceae	shrub
<i>Acacia mangium</i>	mangium, tuhkehrn pwelmwahu	Fabaceae	tree
<i>Acacia mearnsii</i>	black wattle	Fabaceae	tree
<i>Acacia melanoxylon</i>	Australian blackwood, blackwood acacia	Fabaceae	tree
<i>Acacia nilotica</i>	prickly acacia, algaroba, tiare, babul	Fabaceae	tree
<i>Acacia spp.</i>	acacia	Fabaceae	shrub/tree
<i>Ailanthus altissima</i>	tree of heaven	Simaroubaceae	tree
<i>Albizia chinensis</i>		Fabaceae	tree
<i>Aleurites moluccana</i>	candlenut, bancoulier, lama, lumbang, raguar, sakan, shakan, kukui, lauthe, lauthi, nggerenggere, toto, sikethi, tuitui, waiwai, sikeli, 'ama	Euphorbiaceae	tree
<i>Allamanda cathartica</i>	yellow trumpet vine, allamanda, golden allamanda, golden cup, lani-ali'i, puataunofu	Apocynaceae	shrub
<i>Alternanthera philoxeroides</i>	alligator weed	Amaranthaceae	herb
<i>Anacardium occidentale</i>	cashew, cashew nut, 'apu initia, kesiu	Anacardiaceae	tree
<i>Andropogon gayanus</i>	gamba grass	Poaceae	grass
<i>Andropogon glomeratus</i>	bush beardgrass	Poaceae	grass
<i>Andropogon virginicus</i>	broomsedge, yellow bluestem, whisky grass	Poaceae	grass
<i>Annona glabra</i>	pond apple, alligator apple, bullock's heart, cherimoyer, uto ni mbulumakau, uto ni bulumakau, kaitambo, kaitambu	Annonaceae	tree
<i>Annona squamosa</i>	sugar apple, sweetsop, custard apple, sugar apple, atis, ates, ngel ra ngebard	Annonaceae	tree
<i>Anredera cordifolia</i>	Madeira vine, lamb's tails, mignonette vine	Basellaceae	vine
<i>Ardisia crenata</i>	hen's eyes, Hilo holly, coral berry, Australian holly, arbre à Noël	Myrsinaceae	shrub
<i>Ardisia elliptica</i>	shoebuttan ardisia, ati popa'a	Myrsinaceae	shrub
<i>Argyreia nervosa</i>	elephant creeper, Hawaiian baby woodrose, silver morning glory, woolly morning glory, coup d'air, liane a minguet, liane d' argent	Convolvulaceae	vine
<i>Aristolochia littoralis</i>	Dutchman's pipe	Aristolochiaceae	vine
<i>Austro eupatorium inulaefolium</i>		Asteraceae	herb
<i>Axonopus fissifolius</i>	narrow-leaved carpetgrass	Poaceae	grass
<i>Azadirachta indica</i>	neem	Meliaceae	tree
<i>Barleria lupulina</i>		Acanthaceae	shrub
<i>Barleria prionitis</i>	barleria	Acanthaceae	
<i>Bauhinia purpurea</i>	orchid tree, purple butterfly tree, pink butterfly tree	Fabaceae	tree
<i>Bauhinia variegata</i>	orchid tree, butterfly tree	Fabaceae	
<i>Bischofia javanica</i>	bischofia, bishopwood, toog, koka, tongotongo, koka ndamu, tongo, tongatonga, tea, 'o'a	Euphorbiaceae	tree
<i>Bocconia frutescens</i>	bocconia	Papaveraceae	shrub
<i>Brachiaria mutica</i>	California grass, para grass, buffalo grass, Mauritius grass, puakatau	Poaceae	grass
<i>Brachiaria subquadripa</i>	brachiaria, green summer grass	Poaceae	grass

Scientific Name	Common Names	Family	Habit
Brillantaisia lamium		Acanthaceae	
Buddleia asiatica	dog tail	Loganiaceae	shrub
Buddleia madagascariensis	butterfly bush, smoke bush	Buddleiaceae	shrub
Caesalpinia decapetala	cats claw, Mysore thorn, Mauritius thorn, wait-a-bit, cats claw, puakelekino	Fabaceae	shrub
Calliandra calothyrsus	powderpuff	Fabaceae	
Calliandra haematocephala	red powder puff	Fabaceae	
Calotropis gigantea	calotrope	Asclepiadaceae	
Cardiospermum grandiflorum	balloon vine; heart seed	Sapindaceae	vine
Cassia obtusifolia	habuacha	Fabaceae	herb
Cassia siamea	cassod tree	Fabaceae	tree
Castilla elastica	Panama rubber tree, Mexican rubber tree, pulu mamoe	Moraceae	tree
Casuarina glauca	swamp oak, saltmarsh ironwood, longleaf ironwood	Casuarinaceae	tree
Cecropia obtusifolia	trumpet tree, guarumo, parasolier, faux-ricin, pisse-roux	Cecropiaceae	tree
Cedrela odorata	cigar box cedar, Mexican cedar, West Indian cedar, Spanish cedar, Mexican cedar, sita hina	Meliaceae	tree
Cenchrus ciliaris	buffelgrass, African foxtail grass, anjan grass	Poaceae	grass
Cestrum diurnum	inkberry, day jessamine, day cestrum, China berry, tinta 'n-China, tentanchinu, tintan china, thauthau	Solanaceae	shrub
Cestrum nocturnum	night-flowering cestrum, night-flowering jasmine, queen (or lady) of the night, dama-de-noche, iki he po, thauthau, thauthau ni mbongi, kara, teine o le po, ali'i o le po	Solanaceae	shrub
Chrysobalanus icaco	coco plum, icaco, apolo, icaque	Chrysobalanaceae	shrub
Chrysophyllum oliviforme	satin leaf, caimitillo	Sapotaceae	tree
Cinchona pubescens	quinine tree	Rubiaceae	tree
Cinnamomum burmannii	padang cassia	Lauraceae	tree
Cinnamomum camphora	camphor tree, camphor laurel	Lauraceae	tree
Cinnamomum verum	cinnamon tree, ochod ra ngebard, tinamoni	Lauraceae	tree
Citharexylum caudatum	juniper berry	Verbenaceae	tree
Citharexylum spinosum	fiddlewood, masese	Verbenaceae	tree
Clausena excavata	clausena	Rutaceae	tree
Clerodendrum chinense	Honolulu rose, losa Honolulu, pikake hohono, pikake wauke, pitate mama	Verbenaceae	shrub
Clerodendrum japonicum	glorybower	Verbenaceae	
Clerodendrum paniculatum	pagoda plant, pagoda flower, butcherechár, butecherechar, butcherechár tukehrn sousou	Verbenaceae	shrub
Clidemia hirta	Koster's curse, soap bush, kui, kúi, kaurasiga, kauresinga, kaurasinga, roinisinga, ndraunisinga, mara na bulumakau, mbona na mbulamakau, vuti	Melastomataceae	shrub
Clusea rosea	signature tree, autograph tree, copey, Scotch attorney	Guttiferae	tree
Coccinia grandis	ivy gourd, scarlet-fruited gourd, aipikohr, kundru	Cucurbitaceae	vine
Commelina diffusa	commelina, dayflower, wandering Jew, semprebiban-damalong, honohono, mau'utoga, mau'u Tonga, mohuku vai, ai rorongi, ai rongorongi, airogorogo, cobulabula, rongomatailevu, thombulambula, matembulambula, drano, duludauwere, ndrano, ndulandauwere, luna, tho nggalonggalo	Commelinaceae	herb
Cordia alliodora	laurel, Ecuador laurel, salmwood, kotia	Boraginaceae	tree
Cordia curassavica	black sage	Boraginaceae	shrub
Cordia glabra	broad-leaved cordia	Boraginaceae	tree

Scientific Name	Common Names	Family	Habit
<i>Cortaderia jubata</i>	Andean pampas grass, purple pampas grass	Poaceae	grass
<i>Cortaderia selloana</i>	pampas grass, silver pampas grass	Poaceae	grass
<i>Corynocarpus laevigatus</i>	New Zealand laurel, karakara nut	Corynocarpaceae	tree
<i>Costus speciosus</i>	crepe ginger, crape ginger, wild ginger, Malay ginger, isebsab	Zingiberaceae	herb
<i>Crassocephalum crepidoides</i>	thickhead, fireweed, pualele, fisi puna, fua lele, maraburubo, se vuka	Asteraceae	herb
<i>Cryptostegia grandiflora</i>	rubber vine, India rubber vine, liane de gatope	Asclepiadaceae	vine
<i>Cupaniopsis anacardioides</i>	carrotwood	Sapindaceae	
<i>Cuscuta campestris</i>	golden dodder, field dodder, navereverelangi, wa vereverelangi, wa lawala, wa mbosuthu, wa ndanga, wa tikaivu, ndithangi	Convolvulaceae	vine
<i>Dalbergia sissoo</i>	Indian dalbergia, shisham	Fabaceae	tree
<i>Derris malaccensis</i>	New Guinea creeper, 'ava niukini, nduva, tuva, nduva ni niukini, kava fisi	Fabaceae	vine
<i>Desmodium nicaraguense</i>		Fabaceae	tree
<i>Desmodium tortuosum</i>	Florida beggar weed, Spanish clover	Fabaceae	herb
<i>Dichrostachys cinerea</i>	marabú, Sen Domeng, Saint Domingue, acacia Saint Domingue	Fabaceae	
<i>Dieffenbachia maculata</i>	spotted dieffenbachia, dumb cane, yalu ni vavalagi	Araceae	herb
<i>Digitaria insularis</i>	cottongrass, sourgrass, feather-top grass	Poaceae	grass
<i>Digitaria violascens</i>	smooth crabgrass, violet crabgrass, sau	Poaceae	grass
<i>Dissotis rotundifolia</i>	dissotis	Melastomataceae	herb
<i>Doxantha unguis-cati</i>	cat's claw creeper	Bignoniaceae	vine
<i>Echinochloa polystachya</i>	aleman grass, carib grass	Poaceae	grass
<i>Elaeis guineensis</i>	African oil palm, apwiraiasi	Arecaceae	tree
<i>Erigeron karvinskianus</i>	Mexican daisy, seaside daisy, daisy fleabane	Asteraceae	herb
<i>Eriobotrya japonica</i>	loquat, Japanese plum	Rosaceae	tree
<i>Eugenia uniflora</i>	Surinam cherry, red Brazil cherry, kafika, kafika paplaga, pitanga	Myrtaceae	tree
<i>Eupatorium catarium</i>	praxelis	Asteraceae	herb
<i>Ficus benghalensis</i>	Banyan, Indian banyan, vada tree	Moraceae	
<i>Ficus benjamina</i>	Weeping fig, baka, ovava' fisi	Moraceae	tree
<i>Ficus elastica</i>	India rubber tree, rubber plant; komunoki, komunokí, rapah, gak'iynigoma	Moraceae	tree
<i>Flacourtia rukam</i>	Indian plum, Indian prune, governor's plum, filimoto	Flacourtiaceae	tree
<i>Flemingia macrophylla</i>		Fabaceae	tree
<i>Flemingia strobilifera</i>	Besungelaiei	Fabaceae	shrub
<i>Flindersia brayleyana</i>	Queensland maple, silkwood	Rutaceae	tree
<i>Fuchsia boliviana</i>	Fuchsia	Onagraceae	tree
<i>Fuchsia magellanica</i>	Fuchsia	Onagraceae	shrub
<i>Funtumia elastica</i>	African rubber tree, pulu vao	Apocynaceae	tree
<i>Furcraea foetida</i>	Mauritius hemp, sisal, faumalila, fau malila	Agavaceae	succulent
<i>Gliricidia sepium</i>	Mother of cacao, madre de cacao	Fabaceae	tree
<i>Grevillea banksii</i>	kahili flower, Banks grevillea, haiku	Proteaceae	tree
<i>Grevillea robusta</i>	silk oak, silky oak, she-oak, silver oak, oke'	Proteaceae	tree
<i>Grewia asiatica</i>		Tiliaceae	tree
<i>Gymnocoronis spilanthoides</i>	Senegal tea, temple plant	Asteraceae	herb
<i>Haematoxylum campechianum</i>	Logwood, bloodwood tree, bloodwood tree, campeachy wood	Fabaceae	tree
<i>Harungana madagascariensis</i>	Harungana	Clusiaceae	tree

Scientific Name	Common Names	Family	Habit
Hedychium coronarium	white ginger, butterfly lily, sinter pwetepwet, thevunga, ndrove, tolon, cevuga vula, dalasika	Zingiberaceae	herb
Hedychium flavescens	Yellow ginger, awapuhi melemele, awapuhi melemele	Zingiberaceae	herb
Hedychium gardnerianum	kahili ginger, cevuga dromodromo, sinter weitakta	Zingiberaceae	herb
Hemigraphis alternata	metal leaf; cemetery plant	Acanthaceae	herb
Heterocentron subtripplinervium	pearl flower	Melastomataceae	herb
Heterospathe elata	palma brava, palma braba, asbo, demailei, demailéi, domaile, domailei, ebouch, buag bbuag	Arecaceae	tree
Hiptage benghalensis	Hiptage, liane de cerf	Malpighiaceae	
Hydrilla verticillata	Hydrilla, Florida elodea, water thyme	Hydrocharitaceae	herb
Hymenachne amplexicaulis	Hymenachne	Poaceae	grass
Hyparrhenia rufa	Jaragua grass	Poaceae	grass
Hypochoeris radicata	hairy cat's ear, gosmore	Asteraceae	herb
Hyptis suaveolens	wild spikenard, mumutun	Lamiaceae	herb
Indigofera suffruticosa	indigo, aniles, 'akauveli	Fabaceae	shrub
Ipomoea spp.	Morning glory (non-native)	Convolvulaceae	herb
Ischaemum rugosum	Muraina grass, tho muraina, co muraina, wrinkle duck-beak, saramattagrass	Poaceae	grass
Ischaemum timorense	Centipede grass, waidoi grass	Poaceae	grass
Jacobinia carnea	pink plume-flower, pink jacobinia	Acanthaceae	shrub
Jasminum fluminense		Oleaceae	vine
Jatropha gossypifolia	Bellyache bush, cotton-leaved physic nut	Euphorbiaceae	shrub
Khaya senegalensis	African mahogany, Senegal mahogany	Meliaceae	tree
Kyllinga polyphylla	Navua sedge, tuise tele, tuise fiti, pakopako	Cyperaceae	sedge
Lantana camara	Lantana, landana, lanitana, rantana, rahndana, tukasuweh, te kaibuaka, talatala, kauboica, latora moa, tatar moa, ros fonacni, latana, lakana, talatala, talatala talmoa, te kaibuaja, taramoa, migiroa, kaumboitha, mbonambulmakau, mbona ra mbulumakau, tokalau, waiwai, taratara hamoa	Verbenaceae	shrub
Leptospermum ericoides	tree manuka, tree manuba, kanuka	Myrtaceae	tree
Leptospermum scoparium	New Zealand tea, manuka	Myrtaceae	tree
Licuala grandis	Ruffled fan palm, palmier-cuillère	Arecaceae	tree
Ligustrum spp.	Privet	Oleaceae	tree
Lonicera japonica	Japanese honeysuckle, honekakala	Caprifoliaceae	vine
Lophostemon confertus	brush box, Brisbane box, vinegar tree	Myrtaceae	tree
Ludwigia peruviana	Ludwigia, Peruvian primrose, water primrose	Onagraceae	shrub
Macroptilium atropurpureum	Siratro	Fabaceae	herb
Melaleuca quinquenervia	Paperbark, cajeput, punk tree, niaouli	Myrtaceae	tree
Melastoma candidum		Melastomataceae	tree
Melinis minutiflora	Melinis, molasses grass, herbe molasses, puakatau	Poaceae	grass
Memecylon floribundum		Melastomataceae	
Merremia peltata	Merrimia, lohl, yol, kebeas, fitau, lagon, lagun, pala, fue, fue vao, fue kula, iol, pul, puhlah, fue lautetele, fue mea, abui, grobihi, arosoumou, wa mbula, wa bula, wa damu, wa ndamu, viliyawa, wiliwiwa, veliyana, wiliao	Convolvulaceae	vine
Miconia calvescens	Miconia, purple plague, velvet leaf, bush current	Melastomataceae	tree
Mikania scandens	Climbing hempweed	Asteraceae	vine

Scientific Name	Common Names	Family	Habit
Mimosa pigra	Catclaw mimosa, thorny sensitiveplant, giant mimosa, giant sensitive plant, zaraz, dormilona, bashful plant, amourette violet, amourette riviére	Fabaceae	shrub
Montanoa hibiscifolia	Montanoa, tree daisy, Anzac flower	Asteraceae	shrub
Myriophyllum aquaticum	parrot's feather, water feather, Brazilian water milfoil	Haloragidaceae	aquatic herb
Neonotonia wightii	glycine	Fabaceae	vine
Ochroma pyramidale	balsa, corkwood	Bombacaceae	tree
Odontonema tubaeforme	fire spike, cardinal flower	Acanthaceae	shrub
Opuntia spp.	prickly pear, lengua de vaca	Cactaceae	succulent shrub
Orthosiphon aristatus	cat's whiskers, kumi ni pusi, kava 'i pusi	Lamiaceae	herb
Paederia scandens	stink vine	Rubiaceae	vine
Panicum repens	torpedo grass, panic rampant, wainaku grass, couch panicum, creeping panic	Poaceae	grass
Paraserianthes falcataria	Moluccca albizia, tuhke kerosene, tuhkehn karisihn, ukall ra ngebard, tamaligi palagi	Fabaceae	tree
Parkinsonia aculeata	parkinsonia, Jerusalem thorn, horse-bean, retama	Fabaceae	tree
Paspalum dilatatum	dallis grass, paspalum, water grass, hiku nua, paspalum dilaté, herbe sirop, herbe de miel	Poaceae	grass
Paspalum fimbriatum	fimbriate or Panama paspalum, Columbia grass	Poaceae	grass
Paspalum urvillei	vasey grass	Poaceae	grass
Passiflora edulis	passion fruit, purple granadilla, yellow passion fruit, purple passion fruit, liliko'i, qarandila, vaine tonga, pasio	Passifloraceae	vine
Passiflora laurifolia	yellow granadilla, belle apple, pasio, vaine tintina	Passifloraceae	vine
Passiflora ligularis	sweet granadilla, yellow passionfruit	Passifloraceae	vine
Passiflora maliformis	vaine kai, pasio	Passifloraceae	vine
Passiflora mollissima	banana poka, banana passionfruit, bananadilla	Passifloraceae	vine
Passiflora quadrangularis	granadilla, giant granadilla, parapotina maata, palatini, vine fua lalahi, tinitini, pasione, pasio, kudamono	Passifloraceae	vine
Passiflora rubra	red passionfruit	Passifloraceae	vine
Pennisetum clandestinum	kikuyugrass, kikuyo	Poaceae	grass
Pennisetum setaceum	fountain grass	Poaceae	grass
Pinus caribaea	Caribbean pine, Bahamas pine	Pinaceae	tree
Piper aduncum	spiked pepper, yaqona ni Onolulu, yanggona ni Onolulu	Piperaceae	tree
Piper auritum	eared pepper, anise piper, hoja santa, anisillo, hinojo, sabalero, hoja de la estrella, Hawaiian sakau, false sakau, false kava	Piperaceae	shrub
Pittosporum undulatum	Victorian box, Victorian laurel, Australian cheesewood, mock orange, sweet pittosporum	Pittosporaceae	tree
Pluchea indica	Indian fleabane, Indian pluchea	Asteraceae	shrub
Pluchea symphytifolia	sour bush	Asteraceae	shrub
Prosopis spp.	mesquite, algaroba	Fabaceae	tree
Psidium cattleianum	strawberry guava, cherry guava, cattley guava, Chinese guava, kuaHPa, waiawi, ngguava, goyavier de Chine, tuava tinito	Myrtaceae	tree
Pueraria lobata	kudzu, acha, nepalem, aka, a'a, yaka, wa yaka, nggariaka, Japanese arrowroot	Fabaceae	vine
Pueraria phaseoloides	tropical kudzu, puero	Fabaceae	vine
Rhodomyrtus tomentosa	rose myrtle, downy myrtle, isenberg bush	Myrtaceae	shrub
Rhynchelytrum repens	Natal redtop, Natal grass, red Natal grass, Holme's grass, blanketgrass, salapona, herbe du Natal, herbe rose, herbe pappangue, tricholène	Poaceae	grass

Scientific Name	Common Names	Family	Habit
<i>Rubus alceifolius</i>	giant bramble	Rosaceae	shrub
<i>Rubus moluccanus</i>	broad leaved bramble, Molucca bramble, Molucca raspberry, piquant lou-lou, kohkihl, soni, wa sori, wa ngandongandro, wa votovotoa	Rosaceae	shrub
<i>Rubus rosifolius</i>	roseleaf raspberry, thimbleberry, ola'a, framboisier	Rosaceae	shrub
<i>Rubus spp.</i>	raspberries, blackberries, brambles	Rosaceae	shrub
<i>Salvinia molesta</i>	salvinia, water fern, kariba weed, African payal	Salviniaceae	fern
<i>Sambucus mexicana</i>	elderberry, Mexican elder	Caprifoliaceae	small tree
<i>Sanchezia nobilis</i>	sanchezia	Acanthaceae	shrub
<i>Sanchezia parvibracteata</i>	sanchezia	Acanthaceae	shrub
<i>Schefflera actinophylla</i>	octopus tree, umbrella tree, ivy palm	Araliaceae	tree
<i>Schinus terebinthifolius</i>	Christmas-berry, Brazilian pepper, Brazilian holly, Florida holly, faux poivrier, poivre rose, warui	Anacardiaceae	tree
<i>Schizachyrium condensatum</i>	little bluestem, bush beardgrass	Poaceae	grass
<i>Senecio madagascarensis</i>	fireweed	Asteraceae	herb
<i>Senecio mikanioides</i>	German ivy, Italian ivy, cape ivy	Asteraceae	vine
<i>Sesbania grandiflora</i>	hummingbird tree, sesban, katurai, agati, agathi	Fabaceae	small tree
<i>Setaria pallide-fusca</i>	foxtail, Queensland pigeon grass, cat's tail grass	Poaceae	grass
<i>Setaria palmifolia</i>	palmgrass, short pitpit, hailans pitpit, broadleaved bristlegrass	Poaceae	grass
<i>Solandra maxima</i>	cup of gold, golden cup	Solanaceae	shrub
<i>Solanum mauritianum</i>	bugweed, wild tobacco, tree tobacco, pula	Solanaceae	shrub
<i>Solanum seafortianum</i>	potato creeper, Brazilian nightshade	Solanaceae	herb
<i>Solanum tampicense</i>	wetland nightshade, aquatic soda apple	Solanaceae	aquatic herb
<i>Solanum torvum</i>	prickly solanum, devil's fig, turkeyberry, terongan, fausse aubergine, aubergine sauvage épineuse, piko, tisaipale, kausoni, soni, kauvoto-votua, kaisurisuri, katai, bhankatiya, soni ni valalagi	Solanaceae	shrub
<i>Solanum viarum</i>	tropical soda apple	Solanaceae	
<i>Spathodea campanulata</i>	African tulip tree, fireball, fountain tree, tulipier du Gabon, pisse-pisse, ramingobchey, tuhke dulip, tiulipe, taga mimi	Bignoniaceae	tree
<i>Sphaeropteris cooperi</i>	Australian tree fern	Cyatheaceae	fern
<i>Stylosanthes guianensis</i>	stylo, Brazilian lucerne, tropical lucerne	Fabaceae	herb
<i>Syncarpia glomulifera</i>	turpentine tree, lustre wood	Myrtaceae	tree
<i>Syzygium cumini</i>	Java plum, jambolan plum, duhat, mesegerak, mesekerrak, mesekerrák, mesigerak, jamelonguier, kavika ni India, jammun, faux-pistachier, jamelon-guier	Myrtaceae	tree
<i>Syzygium floribundum</i>	weeping myrtle	Myrtaceae	tree
<i>Syzygium jambos</i>	malabar plum, rose apple, iouen wai, youenwai, apel en wai, kavika, kavika ni valalangi, kavika ni India, ahi'a popa'a	Myrtaceae	tree
<i>Thunbergia alata</i>	black-eyed susan vine	Acanthaceae	vine
<i>Thunbergia grandiflora</i>	Bengal trumpet, blue trumpet vine, clock vine	Acanthaceae	vine
<i>Thunbergia laurifolia</i>	purple allamanda, laurel-leaved thunbergia, laurel clock vine	Acanthaceae	vine
<i>Tibouchina herbacea</i>	glorybush, cane ti, tibouchina	Melastomataceae	herb
<i>Tibouchina urvilleana</i>	glorybush, lasiandra, princess flower	Melastomataceae	herb
<i>Timonius timon</i>	liberal, sakosia	Rubiaceae	tree
<i>Tithonia diversifolia</i>	tree marigold, Mexican sunflower, Japanese sunflower, matala	Asteraceae	shrub
<i>Tribulus cistoides</i>	puncture vine, caltrop, te maukinikini	Zygophyllaceae	herb
<i>Triplaris weigeltiana</i>		Polygonaceae	tree
<i>Tripsacum latifolium</i>		Poaceae	grass

Scientific Name	Common Names	Family	Habit
Triumfetta rhomboidea	Chinese burr, paroquet burr, burr bush, dadangsi, masiksik lahe, mo'osipo, mosipo, mautofu, qatima	Tiliaceae	shrub
Turbina corymbosa	turbina	Convolvulaceae	vine
Turnera ulmifolia		Turneraceae	herb
Urena lobata	hibiscus burr, aramina, caesarweed, pink Chinese burr, urena burr, dadangsi, dadangsi apaka, dadangsi machingat, dádangse, chosuched e kui, karap, korop, nogruk, ocher, osuched a rechui, motipo, mosipo, mautofu, mo'osipo, manutofu, qatima, gataya, jute africain, nggatima	Malvaceae	shrub
Vitex parviflora		Verbenaceae	shrub/tree
Zebrina pendula	wandering zebrina, wandering jew	Commelinaceae	herb
Ziziphus mauritiana	Indian jujube, manzanas, manzanita, jujube, baer, bahir, baher	Rhamnaceae	tree

NOTE: The common names in this and the following tables are from the PIER data base and web site and include names in use at various locations throughout the Pacific. Additional information, including the locations where the various names are used, can be found in the individual species summaries at the PIER web site, <http://www.hear.org/pier>, or on the PIER CD.

Table 2. Introduced species that are invasive elsewhere and are also invasive or potentially invasive in Rota.

Scientific Name	Common Names	Family	Habit
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	tree
Antigonon leptopus	Mexican creeper, mountain rose, Confederate vine, chain of love, hearts on chain, kadena de amor, love vine, coral vine, rohsapoak	Polygonaceae	vine
Bidens pilosa	beggar's tick, Spanish needle, Cobbler's pegs, piquants noirs, fisi'uli, kofetonga, kofetoga, pipiriri, tae puaka, batimadramadra, mbatimadramandra, mbatikalawau, matakaro, matua kamate	Asteraceae	herb
Chromolaena odorata	Siam weed, trifid weed, bitter bush, herbe du Laos, otuot, kesengesil, masigsig, hagonoy, agonoi, huluhagonoi, mahsrihsrihk	Asteraceae	herb
Clerodendrum quadriloculare	bronze-leaved clerodendrum, tuhkehñ palau	Verbenaceae	shrub
Imperata cylindrica	blady grass, cogon grass, satintail, alang-alang, lalang, carrizo, kunai, gi, ngi, paille de dys, pailotte, impérata cylindrique	Poaceae	grass
Leucaena leucocephala	leucaena, wild tamarind, lead tree, faux-acacia, faux mimosa, koa haole, tangantangan tangan-tangan, talntangan, ganitnityuwan tangantan, telentund, namas, vaivai, vaivai dina, vaivai ni vavalangi, tuhngantuhngan, rohbohtin, lopa samoa, pepe, siale mohemohe, fua pepe, nito, cassis, te kaitetua, balori	Fabaceae	tree
Mikania micrantha	mile-a-minute weed, Chinese creeper, American Rope, liane américaine, kwalo koburu, fue saina, fou laina, wa mbosuthu, wa mbosuvu, wa mbutako, wa ndamele, ovaova, wa bosucu, usuvanua	Asteraceae	vine
Mimosa invisa	giant sensitive plant, grande sensitive, sensitive gèante, singbiguin sasa, mechiuaiu, vao fefe palagi, la'au fefe tele, la'au fefe palagi, wa ngandongandro levu, wa ngandongandro ni wa ngalelevu, limemeihr laud, co gadrogadro	Fabaceae	shrub
Panicum maximum	Guinea grass, green panic, buffalograss, saafa, herbe de Guinée, panic élevé, capime guiné, fataque	Poaceae	grass
Stizolobium pruriens	cow itch, velvet bean, Bengal bean, Mauritius bean, akangkang dangkulo	Fabaceae	vine
Syngonium podophyllum	arrowhead plant, goosefoot plant	Araceae	climber

Table 3. Species that are reported as invasive or weedy elsewhere and are common or weedy in Rota.

Scientific Name	Common Names	Family	Habit
Acacia auriculiformis	Papuan wattle, auri, earleaf acacia; tuhkehrn pwelmwahu	Fabaceae	tree
Acacia confusa	Formosa koa, Formosa acacia, sosigi, shoshigi, pilampwoia, ianángi, yanangi	Fabaceae	tree
Albizia lebbek	siris-tree, rain tree, East Indian walnut, bois noir, kokko, trongkon-mames, tronkon mames, mamis, kalaskas, ukall ra ngebard, gumorningabchey; ngumorningobchey, 'ohai, vaivai, vaivai ni vavalangi, vaivai ni vavalagi	Fabaceae	tree
Annona muricata	soursop, prickly custard apple, laguana, laguná, lagunaha, lagunaba, labuanaha, sei, sae, truka shai, jojaab,sasaf, sausab, sausau, sosap, syasyap	Annonaceae	tree
Asystasia gangetica	Chinese violet, Philippine violet, coromandel	Acanthaceae	herb
Bambusa spp.	bamboos, bambou, pehri en sapahn, bambuu, bambu, pi'ao, pi'ao palaoan, bwai	Poaceae	tree
Bauhinia monandra	orchid-tree, St. Thomas-tree, flamboyant, flores mariposa, mariposa, pine fua loloa, pink butterfly tree	Fabaceae	tree
Blechnum brownei	blackweed, yerbas babui, vao uliuli	Acanthaceae	herb
Calopogonium mucunoides	calopo, akankan-guakag	Fabaceae	vine
Cananga odorata	ilang-ilang, alang-ilang, ylang-ylang, lengileng, chiráng, irang, ilahnglahng, ilanlang, pwanang, pur-n-wai, pwurenwai, sair-n-wai, seirin wai, seir en wai, makasoi, moso'oi, moto'oi' mata'oi, makosoi, mokosoi, mokohoi, motoi, ilanilan	Annonaceae	tree
Cardiospermum halicacabum	balloon vine, heart pea, wa niu, vo niu	Sapindaceae	vine
Ceiba pentandra	kapok, kapok tree, algodón 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	tree
Cenchrus brownii	burggrass, sand-bur	Poaceae	grass
Cenchrus echinatus	burggrass, sand-bur, Mossman River grass, herbe a cateaux, loklok, lellik, karmwijnwij, tuitui, vao tuitui, te anti, te kateketeke, motie vihilago, se mbulabula, piri-piri, cauit-cauitan, konpeito-gusa, 'ume'alu, hefa, mosie vihilango, cram-cram	Poaceae	grass
Centrosema pubescens	centro, pi ni ndola	Fabaceae	herb
Chloris barbata	swollen fingergrass, airport grass, mau'u lei, purpletop chloris	Poaceae	grass
Chloris radiata	plush-grass, radiate fingergrass	Poaceae	grass
Clitoria ternatea	butterfly pea, buikike, bukike, paokeke, bukike paokeke, capa de la reina, kapa de la raina, putitainubia, pepe, latoela, nawa	Fabaceae	vine
Coffea arabica	coffee, kove, kofe	Rubiaceae	tree
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	grass
Cyperus rotundus	nut grass, nutsedge, purple nutsedge, cocoglass, souchet rond, souchet à tubercules, herbe à oignon, chaguan humatag, kili'o'opu, soro na kambani, sora na kambani, soro ni kabani, ivako, malanga, vuthesa, tuteoneon, mot ha, mumuta, pakopako, te mumute, vucesa, motha, vucesa, oni ani	Cyperaceae	sedge
Delonix regia	flame tree, flamboyant, poinciana; arbol del fuego, atbot, atbot det fuegu, nangiosákura, nangyo, pilampwoia weitahta, sakuraniorow, sekoula, ohai'	Fabaceae	tree

Scientific Name	Common Names	Family	Habit
Derris elliptica	derris, tuba, bagin, dub, peinuhp, nduva, duva ni vavalagi, nduva ni vavalangi	Fabaceae	vine
Desmanthus virgatus		Fabaceae	herb
Digitaria ciliaris	Henry's crabgrass, fingergrass, smooth crabgrass, tropical crabgrass, violet crabgrass, large crab grass, summer grass, kukaepua'a, saulangi	Poaceae	grass
Duranta repens	golden dewdrop	Verbenaceae	shrub
Eichhornia crassipes	water hyacinth, jacinto de agua, lirio acuatico, jacinthe d'eau, bung el ralm, mbekambekairanga, ndambendambe ni nga, jal khumbe, bekabekairaga, dadedabe ne ga, jal khumbe, riri vai	Pontederiaceae	aquatic herb
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, lau veveli	Asteraceae	herb
Eleusine indica	goosegrass, wiregrass, goose foot, crow's foot, bullgrass, umog, reh takai, manienie ali'i, fahitalo, te uteute, deskim, keteketarmalk, kavoronaisivi, vorovorosisivi, mahkwekwe, ta'ata'a, takataka, ghoraya, lau ta'ata'a, chiendent patte de poule, katejukjuk, mohuku siamane, mosie fahitalo, takataka 'a leala	Poaceae	grass
Hippobroma longiflora	star of Bethlehem	Campanulaceae	herb
Hyptis capitata	botones, batunes, t'aiegarabao, knobweed	Lamiaceae	herb
Hyptis pectinata	comb hyptis, mint weed, purple top, mumutun lahe, mumutun palaoan, mumutan ademelon, fausse menthe, tamole ni veikau, tamoli ni vavalangi, timothi ni vavalangi, wawuwavu, ndamoli, ben tulsia	Lamiaceae	herb
Ipomoea aquatica	aquatic morning glory, kang kong, cancon, ota karisa, ota karisi, wa kumala, ndrnikava, luve ne tombithi, lorenzo, te kang kong	Convolvulaceae	aquatic herb
Kalanchoe pinnata	life plant, air plant, resurrection plant, Canterbury bells, Mexican love plant, bulatawamudu	Crassulaceae	herb
Melia azedarach	Chinaberry, pride-of-India, white cedar, indian lilac, Persian lilac, lilas des Indes, paraiso, para'isu, lelah, prais, tili, dake, bakain, sita	Meliaceae	tree
Merremia tuberosa	wood rose	Convolvulaceae	vine
Mimosa pudica	sensitive plant, sleeping grass, sensitive, betguen sosa, tuitui, cogadrogadro, lajwania, memege, mechiuaiu, vao fefe, mateloi, pohe ha'avare, ra kau pikikaa, tho ngandongandro, tho kandrodandro, limemeihr	Fabaceae	herb
Momordica charantia	balsam-apple, cerasee, bitter-melon, bitter gourd, balsam pear, peria, squirting cucumber, atmagoso, almagosa, atmagosu, markoso, kerala, meleni 'ae kuma; vaine 'initia	Cucurbitaceae	vine
Moringa oleifera	horseradish tree, drumstick tree, marunggai, malungay, katdes, sajina	Moringaceae	tree
Muntingia calabura	jam tree, Jamaican cherry, Singapore cherry, Panama cherry, Panama berry, ornamental cherry, calabura, sirsen, budo, manzanilla, mansanita, manzanita, capulin	Tiliaceae	tree
Operculina ventricosa	paper rose, alalag, palulu, fue hina	Convolvulaceae	vine
Paspalum conjugatum	Hilo grass, T grass, ti grass, sour grass, sour palpalum, herbe créole, herbe de tauère, rehn wei, motie vailima, udel ra ngebei, muhsrasre, vao lima, vailima matafao, vailima	Poaceae	grass
Paspalum paniculatum	Russell river grass, galmarra grass	Poaceae	grass
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, bombom, pompom, pwomwpomw, qaranidila	Passifloraceae	vine
Passiflora suberosa	wild passionfruit, devil's pumpkin, indigo berry, corky passionflower, passiflore, grenadille, huehue haole	Passifloraceae	vine
Pennisetum polystachyon	mission grass, feathery pennisetum, queue de chat, mechen katu, pwokso, o tamata	Poaceae	grass

Scientific Name	Common Names	Family	Habit
Pennisetum purpureum	elephant grass, napier grass, merker grass, bokso, puk-soh, acfucsracsracsr, herbe éléphant, fausse canne à sucre	Poaceae	grass
Pistia stratiotes	water lettuce, tropical duckweed, laitue d'eau, pistie, lechuguita de agua, repollo de agua, apon-apon, apoe-apoe, beo-cai, chawk	Araceae	aquatic herb
Pithecellobium dulce	Madras thorn, Manila tamarind, camachili, kamachile, kamachiles, kamachili, kamatire, kamatsiri, kamatsiri 'opiuma, kataiya	Fabaceae	tree
Psidium guajava	guava, abas, apas, guabang, kuabang, guahva, quwawa, kuahpa, kuava, amrut, kautoga, ku'ava, kuhfahfah, kautonga, kuawa, goyavier, ku'avu, tu'avu, te kuawa, kuwawa, nguava, ngguava ni India	Myrtaceae	tree
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, lepo, ricin, koli, lepohina	Euphorbiaceae	shrub
Saccharum spontaneum	wild cane, ahlek, ahlec, banga ruchel, ac	Poaceae	grass
Samanea saman	monkeypod, rain tree, 'ohai saman, tronkon mames, gumor ni spanis, vaivai ni vavalangi, vaivai ni vavalagi, kasia	Fabaceae	tree
Sansevieria trifasciata		Agavaceae	herb
Senna alata	candle bush, candalabra bush, Roman candle tree, ringworm bush, Acapulco, arakak, akapuku, andadose, candalaria, take-biha, kerula besokel, yult, rakau honuki, truke-n-kili-n-wai, tuhkehn kilin wai, tirakahonuki, flay-n-sabouw, mulamura, akapuku, bakau plant, mbai ni thangi, te'elango	Fabaceae	shrub
Sorghum halepense	Johnson grass, Aleppo grass, Aleppo milletgrass, sorgo de Alepo, zacate Johnson, grama China, cañuela, Don Carlos, gumai, kola, sorgo d' Alep, herbe de Cuba	Poaceae	grass
Stachytarpheta urticifolia	blue rat's tail, dark-blue snakeweed, false verbena; herbe bleue, sakura, louch beluu, mautofutala, mautofu tala, mautofu Samoa, hiku 'i kuma, hiku'kuma, 'iku 'i kuma, mautofu vao, matofu fualanumanoa, te uti, turulakaka, tumbutumbu, serakawa, lavenia, se karakarawa	Verbenaceae	herb
Tabebuia heterophylla	pink tecoma, pink trumpet tree, white cedar, calice du pape	Bignoniaceae	tree
Tecoma stans	yellow bells, yellow-elder, tagamimi, piti, peeal	Bignoniaceae	small tree
Thevetia peruviana	yellow oleander, be-still tree	Apocynaceae	small tree
Triphasia trifolia	limeberry, limon-China, limoncito, lemon China, lemon de China	Rutaceae	shrub
Triumfetta semitriloba	Sacramento bur, dadangsi, masiksik lahe	Tiliaceae	shrub
Wedelia trilobata	wedelia, Singapore daisy, dihpw ongohng, ngesil ra ngebard, rosrangrang, atiat, ate	Asteraceae	herb

Table 4. Native species (or early introductions) that exhibit aggressive behavior

Scientific Name	Common Names	Family	Habit
Caesalpinia bonduc	gray nickers, wait-a-bit, nickaeoo, pacap, pakao, tochedulik, sers mekemad, togodulik, talamoa, talatalamoa, talmoa foto, kakalaioa, tataramoa, talatala'amoa, 'anoso, 'anaoso, soni, jeimota	Fabaceae	vine
Caesalpinia major	yellow nickers, 'anaoso, pakao, kakalaioa, hihikolo, kinikini	Fabaceae	vine
Canna indica	canna, canna lily, Indian shot, mongos halum-tano, lu iu en wai, fagamanu, fanamanu, gasau ni ga, te riti, misimisi, ali'ipoe, li'ipoe, poloka, apeellap, oruuru, fagafaga	Cannaceae	herb
Casuarina equisetifolia	casuarina, ironwood, Australian pine, she-oak, horsetail tree, gagu, gago, nokonoko, te katurina, toa	Casuarinaceae	tree
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, matapekapeka, mosie fisi	Poaceae	grass
Ischaemum polystachyum	paddle grass, reh padil, mah	Poaceae	grass
Kyllinga nemoralis	white kyllinga, kili'o'opu, mo'u upo'o, tuise, pakopako, pakopako 'ae kuma	Cyperaceae	sedge
Melochia umbellata	melochia	Sterculiaceae	tree
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, kaho tonga	Poaceae	grass
Trema orientalis	charcoal tree, gunpowder tree, agaunai, banahl, elodechoel, uanin, ndrrou, ndrroundrou, ndrrikanaitembe, bulasisi	Ulmaceae	tree

Appendix 3

Invasive species present on Saipan, Tinian or Guam but not present in Rota

Species present: .

Scientific Name	Present on:		
	Saipan	Tinian	Guam
<i>Acacia farnesiana</i>	.	.	.
<i>Acacia mangium</i>	.	.	.
<i>Aleurites moluccana</i>	.	.	.
<i>Allamanda cathartica</i>	.	.	.
<i>Anacardium occidentale</i>	.	.	.
<i>Annona squamosa</i>	.	.	.
<i>Aristolochia littoralis</i>	.	.	.
<i>Bauhinia purpurea</i>	.	.	.
<i>Brachiaria mutica</i>	.	.	.
<i>Brachiaria subquadripara</i>	.	.	.
<i>Buddleia asiatica</i>	.	.	.
<i>Calotropis gigantea</i>	.	.	.
<i>Cassia obtusifolia</i>	.	.	.
<i>Cestrum diurnum</i>	.	.	.
<i>Cestrum nocturnum</i>	.	.	.
<i>Cinnamomum camphora</i>	.	.	.
<i>Clerodendrum paniculatum</i>	.	.	.
<i>Coccinia grandis</i>	.	.	.
<i>Commelina diffusa</i>	.	.	.
<i>Crassocephalum crepidoides</i>	.	.	.
<i>Cryptostegia grandiflora</i>	.	.	.
<i>Cuscuta campestris</i>	.	.	.
<i>Desmodium tortuosum</i>	.	.	.
<i>Dieffenbachia maculata</i>	.	.	.
<i>Digitaria insularis</i>	.	.	.
<i>Digitaria violascens</i>	.	.	.
<i>Elaeis guineensis</i>	.	.	.
<i>Eriobotrya japonica</i>	.	.	.
<i>Eugenia uniflora</i>	.	.	.
<i>Ficus elastica</i>	.	.	.
<i>Flemingia strobilifera</i>	.	.	.
<i>Gliricidia sepium</i>	.	.	.
<i>Grevillea robusta</i>	.	.	.
<i>Hedychium coronarium</i>	.	.	.
<i>Hedychium flavescens</i>	.	.	.
<i>Hemigraphis alternata</i>	.	.	.
<i>Hyparrhenia rufa</i>	.	.	.
<i>Hyptis suaveolens</i>	.	.	.
<i>Indigofera suffruticosa</i>	.	.	.
<i>Ipomoea spp.</i>	.	.	.
<i>Ischaemum rugosum</i>	.	.	.
<i>Justicia carnea</i>	.	.	.
<i>Jatropha gossypifolia</i>	.	.	.
<i>Lantana camara</i>	.	.	.
<i>Macroptilium atropurpureum</i>	.	.	.
<i>Melaleuca quinquenervia</i>	.	.	.

Scientific Name	Present on:		
	Saipan	Tinian	Guam
Melinis minutiflora	.	.	.
Merremia peltata	.	.	.
Mikania scandens	.	.	.
Odontonema tubaeforme	.	.	.
Opuntia spp.	.	.	.
Panicum repens	.	.	.
Paraserianthes falcataria	.	.	.
Parkinsonia aculeata	.	.	.
Paspalum dilatatum	.	.	.
Paspalum fimbriatum	.	.	.
Paspalum urvillei	.	.	.
Passiflora edulis	.	.	.
Pennisetum setaceum	.	.	.
Pittosporum undulatum	.	.	.
Pluchea indica	.	.	.
Pluchea symphytifolia	.	.	.
Rhynchelytrum repens	.	.	.
Sambucus mexicana	.	.	.
Schefflera actinophylla	.	.	.
Schinus terebinthifolius	.	.	.
Sesbania grandiflora	.	.	.
Setaria pallide-fusca	.	.	.
Solanum torvum	.	.	.
Spathodea campanulata	.	.	.
Syzygium cumini	.	.	.
Syzygium jambos	.	.	.
Thunbergia alata	.	.	.
Thunbergia grandiflora	.	.	.
Thunbergia laurifolia	.	.	.
Tithonia diversifolia	.	.	.
Tribulus cistoides	.	.	.
Tripsacum latifolium	.	.	.
Triumfetta rhomboidea	.	.	.
Urena lobata	.	.	.
Vitex parviflora	.	.	.
Zebrina pendula	.	.	.
Ziziphus mauritiana	.	.	.

Appendix 4

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
<i>Adenoropium gossypifolium</i>	<i>Jatropha gossypifolia</i>	Euphorbiaceae
<i>Albizia falcataria</i>	<i>Paraserianthes falcataria</i>	Fabaceae
<i>Albizia saman</i>	<i>Samanea saman</i>	Fabaceae
<i>Aleurites triloba</i>	<i>Aleurites moluccana</i>	Euphorbiaceae
<i>Allamanda hendersonii</i>	<i>Allamanda cathartica</i>	Apocynaceae
<i>Andropogon condensatus</i>	<i>Schizachyrium condensatum</i>	Poaceae
<i>Andropogon halepensis</i>	<i>Sorghum halepense</i>	Poaceae
<i>Andropogon marcrourus</i>	<i>Andropogon glomeratus</i>	Poaceae
<i>Andropogon rufus</i>	<i>Hyparrhenia rufa</i>	Poaceae
<i>Antelaea azadirachta</i>	<i>Azadirachta indica</i>	Meliaceae
<i>Ardisia humilis</i>	<i>Ardisia elliptica</i>	Myrsinaceae
<i>Ardisia solanacea</i>	<i>Ardisia elliptica</i>	Myrsinaceae
<i>Ardisia squamulosa</i>	<i>Ardisia elliptica</i>	Myrsinaceae
<i>Argyreia speciosa</i>	<i>Argyreia nervosa</i>	Convolvulaceae
<i>Aristolochia elegans</i>	<i>Aristolochia littoralis</i>	Aristolochiaceae
<i>Arum seguine</i>	<i>Dieffenbachia maculata</i>	Araceae
<i>Axonopus affinis</i>	<i>Axonopus fissifolius</i>	Poaceae
<i>Bidens alba</i>	<i>Bidens pilosa</i>	Asteraceae
<i>Blechum pyramidatum</i>	<i>Blechum brownei</i>	Acanthaceae
<i>Brachiaria purpurascens</i>	<i>Brachiaria mutica</i>	Poaceae
<i>Brassaia actinophylla</i>	<i>Schefflera actinophylla</i>	Araliaceae
<i>Bryonia grandis</i>	<i>Coccinea grandis</i>	Cucurbitaceae
<i>Bryophyllum pinnatum</i>	<i>Kalanchoë pinnata</i>	Crassulaceae
<i>Buddleja madagascarienses</i>	<i>Buddleia madagascarienses</i>	Buddleiaceae
<i>Caesalpinia crista</i>	<i>Caesalpinia bonduc</i>	Fabaceae
<i>Caesalpinia sepiaria</i>	<i>Caesalpinia decapetala</i>	Fabaceae
<i>Cascabela thevetia</i>	<i>Thevetia peruviana</i>	Apocynaceae
<i>Cassia alata</i>	<i>Senna alata</i>	Fabaceae
<i>Castilloa elastica</i>	<i>Castilla elastica</i>	Moraceae
<i>Casuarina littorea</i>	<i>Casuarina equisetifolia</i>	Casuarinaceae
<i>Cenchrus brevisetus</i>	<i>Cenchrus echinatus</i>	Poaceae
<i>Cenchrus pungens</i>	<i>Cenchrus echinatus</i>	Poaceae
<i>Cenchrus quinquevalvis</i>	<i>Cenchrus echinatus</i>	Poaceae
<i>Cenchrus setosus</i>	<i>Pennisetum polystachyon</i>	Poaceae
<i>Cenchrus viridis</i>	<i>Cenchrus echinatus</i>	Poaceae
<i>Chloris inflata</i>	<i>Chloris barbata</i>	Poaceae
<i>Chloris paraguayensis</i>	<i>Chloris barbata</i>	Poaceae
<i>Chlorocyperus rotundus</i>	<i>Cyperus rotundus</i>	Cyperaceae

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<i>Cinchona succirubra</i>	<i>Cinchona pubescens</i>	Rubiaceae
<i>Cinnamomum zeylanicum</i>	<i>Cinnamomum verum</i>	Lauraceae
<i>Citharexylum quadrangulare</i>	<i>Citharexylum spinosum</i>	Verbenaceae
<i>Clerodendrum fragrans</i>	<i>Clerodendrum chinense</i>	Verbenaceae
<i>Clerodendrum philippinum</i>	<i>Clerodendrum chinense</i>	Verbenaceae
<i>Coccinea cordifolia</i>	<i>Coccinea grandis</i>	Cucurbitaceae
<i>Cordia collococca</i>	<i>Cordia glabra</i>	Boraginaceae
<i>Cordia macrostachya</i>	<i>Cordia curassavica</i>	Boraginaceae
<i>Croton moluccanus</i>	<i>Aleurites moluccana</i>	Euphorbiaceae
<i>Cyathea cooperi</i>	<i>Sphaeropteris cooperi</i>	Cyatheaceae
<i>Cyperus aromaticus</i>	<i>Kyllinga polyphylla</i>	Cyperaceae
<i>Cyperus kyllingia</i>	<i>Kyllinga nemoralis</i>	Cyperaceae
<i>Cyperus purpuro-variegatus</i>	<i>Cyperus rotundus</i>	Poaceae
<i>Cyperus stoloniferum pallidus</i>	<i>Cyperus rotundus</i>	Poaceae
<i>Cyperus tetrastachyos</i>	<i>Cyperus rotundus</i>	Poaceae
<i>Cyperus tuberosus</i>	<i>Cyperus rotundus</i>	Poaceae
<i>Delairea odorata</i>	<i>Senecio mikanioides</i>	Asteraceae
<i>Desmodium rensonii</i>	<i>Desmodium nicaraguense</i>	Fabaceae
<i>Dieffenbachia picta</i>	<i>Dieffenbachia maculata</i>	Araceae
<i>Dieffenbachia seguine</i>	<i>Dieffenbachia maculata</i>	Araceae
<i>Dolichos pruriens</i>	<i>Stizolobium pruriens</i>	Fabaceae
<i>Elephantopus scaber</i>	<i>Elephantopus mollis</i>	Asteraceae
<i>Eugenia cumini</i>	<i>Syzygium cumini</i>	Myrtaceae
<i>Eugenia jambos</i>	<i>Syzygium jambos</i>	Myrtaceae
<i>Eupatorium inulaefolium</i>	<i>Austroeupatorium inulaefolium</i>	Asteraceae
<i>Eupatorium odoratum</i>	<i>Chromolaena odorata</i>	Asteraceae
<i>Gliricidia maculata</i>	<i>Gliricidia sepium</i>	Fabaceae
<i>Glycine javanica</i>	<i>Neonotonia wightii</i>	Fabaceae
<i>Glycine wightii</i>	<i>Neonotonia wightii</i>	Fabaceae
<i>Guilandina bonduc</i>	<i>Caesalpinia bonduc</i>	Fabaceae
<i>Gynura crepidioides</i>	<i>Crassocephalum crepidioides</i>	Asteraceae
<i>Hemigraphis colorata</i>	<i>Hemigraphis alternata</i>	Acanthaceae
<i>Hiptage madablota</i>	<i>Hiptage benghalensis</i>	Malpighiaceae
<i>Imperata arundinacea</i>	<i>Imperata cylindrica</i>	Poaceae
<i>Imperata conferta</i>	<i>Imperata cylindrica</i>	Poaceae
<i>Ipomoea peltata</i>	<i>Merremia peltata</i>	Convolvulaceae
<i>Ipomoea tuberosa</i>	<i>Merremia tuberosa</i>	Convolvulaceae
<i>Ischaemum digitatum</i> var. <i>polystachyum</i>	<i>Ischaemum polystachyum</i>	Poaceae
<i>Isotoma longiflora</i>	<i>Hippobroma longiflora</i>	Campanulaceae
<i>Jussiaea grandiflora</i>	<i>Ludwigia peruviana</i>	Onagraceae
<i>Jussiaea peruviana</i>	<i>Ludwigia peruviana</i>	Onagraceae
<i>Justicia carnea</i>	<i>Jacobinia carnea</i>	Acantaceae
<i>Kunzea ericoides</i>	<i>Leptospermum ericoides</i>	Myrtaceae
<i>Kunzea scoparium</i>	<i>Leptospermum scoparium</i>	Myrtaceae
<i>Kyllinga cephalotes</i>	<i>Kyllinga nemoralis</i>	Cyperaceae
<i>Kyllinga monocephala</i>	<i>Kyllinga nemoralis</i>	Cyperaceae

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<i>Kyllinga monophylla</i>	<i>Kyllinga polyphylla</i>	Cyperaceae
<i>Laurentia longiflora</i>	<i>Hippobroma longiflora</i>	Campanulaceae
<i>Leucaena glauca</i>	<i>Leucaena leucocephala</i>	Fabaceae
<i>Macfadyena unguis-cati</i>	<i>Doxantha unguis-cati</i>	Bignoniaceae
<i>Meibomia nicaraguense</i>	<i>Desmodium nicaraguense</i>	Fabaceae
<i>Meibomia rensonii</i>	<i>Desmodium nicaraguense</i>	Fabaceae
<i>Melia azadirachta</i>	<i>Azadirachta indica</i>	Meliaceae
<i>Melinis repens</i>	<i>Rhynchelytrum repens</i>	Poaceae
<i>Melochia compacta</i>	<i>Melochia umbellata</i>	Sterculiaceae
<i>Melochia indica</i>	<i>Melochia umbellata</i>	Sterculiaceae
<i>Merremia nymphaeifolia</i>	<i>Merremia peltata</i>	Convolvulaceae
<i>Miconia magnifica</i>	<i>Miconia calvescens</i>	Melastomataceae
<i>Mimosa diplotricha</i>	<i>Mimosa invisiva</i>	Fabaceae
<i>Mimosa dulcis</i>	<i>Pithecellobium dulce</i>	Fabaceae
<i>Mimosa lebeck</i>	<i>Albizia lebeck</i>	Fabaceae
<i>Miscanthus japonicus</i>	<i>Miscanthus floridulus</i>	Poaceae
<i>Moghania strobilifera</i>	<i>Flemingia strobilifera</i>	Fabaceae
<i>Moringa pterygosperma</i>	<i>Moringa oleifera</i>	Moringaceae
<i>Mucuna pruriens</i>	<i>Stizolobium pruriens</i>	Fabaceae
<i>Notonia wightii</i>	<i>Neonotonia wightii</i>	Fabaceae
<i>Ochroma lagopus</i>	<i>Ochroma pyramidale</i>	Bombacaceae
<i>Odontonema callistachyum</i>	<i>Odontonema tubaeforme</i>	Acanthaceae
<i>Odontonema strictum</i>	<i>Odontonema tubaeforme</i>	Acanthaceae
<i>Operculina peltata</i>	<i>Merremia peltata</i>	Convolvulaceae
<i>Oplismenus polystachyus</i>	<i>Echinochloa polystachya</i>	Poaceae
<i>Orthosiphon stamineus</i>	<i>Orthosiphon aristatus</i>	Lamiaceae
<i>Paederia foetida</i>	<i>Paederia scandens</i>	Rubiaceae
<i>Panicum barbinode</i>	<i>Brachiaria mutica</i>	Poaceae
<i>Panicum guadeloupense</i>	<i>Brachiaria mutica</i>	Poaceae
<i>Panicum melinis</i>	<i>Melinis minutiflora</i>	Poaceae
<i>Panicum minutiflora</i>	<i>Melinis minutiflora</i>	Poaceae
<i>Panicum muticum</i>	<i>Brachiaria mutica</i>	Poaceae
<i>Panicum palmaefolium</i>	<i>Setaria palmifolia</i>	Poaceae
<i>Panicum purpurascens</i>	<i>Brachiaria mutica</i>	Poaceae
<i>Panicum subquadriparum</i>	<i>Brachiaria subquadripara</i>	Poaceae
<i>Passiflora mixta</i>	<i>Passiflora mollissima</i>	Passifloriaceae
<i>Passiflora tripartita</i>	<i>Passiflora mollissima</i>	Passifloriaceae
<i>Pennisetum cenchroides</i>	<i>Cenchrus ciliaris</i>	Poaceae
<i>Pennisetum ciliare</i>	<i>Cenchrus ciliaris</i>	Poaceae
<i>Pennisetum polystachion</i>	<i>Pennisetum polystachyon</i>	Poaceae
<i>Pennisetum ruppelii</i>	<i>Pennisetum setaceum</i>	Poaceae
<i>Pennisetum setosum</i>	<i>Pennisetum polystachyon</i>	Poaceae
<i>Phaseolus atropurpureus</i>	<i>Macroptilium atropurpureum</i>	Fabaceae
<i>Pithecellobium saman</i>	<i>Samanea saman</i>	Fabaceae
<i>Pluchea odorata</i>	<i>Pluchea symphytifolia</i>	Asteraceae
<i>Poinciana regia</i>	<i>Delonix regia</i>	Fabaceae

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<i>Praxelis clematidea</i>	<i>Eupatorium catarium</i>	Asteraceae
<i>Pseudechinolaena polystachya</i>	<i>Echinochloa polystachya</i>	Poaceae
<i>Psidium littorale</i>	<i>Psidium cattleianum</i>	Myrtaceae
<i>Pueraria harmsii</i>	<i>Pueraria lobata</i>	Fabaceae
<i>Pueraria novo-guiniensis</i>	<i>Pueraria lobata</i>	Fabaceae
<i>Pueraria thunbergiana</i>	<i>Pueraria lobata</i>	Fabaceae
<i>Pueraria triloba</i>	<i>Pueraria lobata</i>	Fabaceae
<i>Ruellia alternata</i>	<i>Hemigraphis alternata</i>	Acanthaceae
<i>Saccharum floridulum</i>	<i>Miscanthus floridulus</i>	Poaceae
<i>Salvinia auriculata</i>	<i>Salvinia molesta</i>	Salviniaceae
<i>Sanchezia speciosa</i>	<i>Sanchezia nobilis</i>	Acanthaceae
<i>Senna obtusifolia</i>	<i>Cassia obtusifolia</i>	Fabaceae
<i>Solandra hartwigii</i>	<i>Solandra maxima</i>	Solanaceae
<i>Solandra nitida</i>	<i>Solandra maxima</i>	Solanaceae
<i>Solanum auriculatum</i>	<i>Solanum mauritianum</i>	Solanaceae
<i>Solanum houstonii</i>	<i>Solanum tampicense</i>	Solanaceae
<i>Solanum verbascifolium</i>	<i>Solanum mauritianum</i>	Solanaceae
<i>Stachytarpheta urticaefolia</i>	<i>Stachytarpheta cayennensis</i>	Verbenaceae
<i>Stachytarpheta urticaefolia</i>	<i>Stachytarpheta urticifolia</i>	Verbenaceae
<i>Stizolobium aterrimum</i>	<i>Stizolobium pruriens</i>	Fabaceae
<i>Stizolobium deeringianum</i>	<i>Stizolobium pruriens</i>	Fabaceae
<i>Stizolobium niveum</i>	<i>Stizolobium pruriens</i>	Fabaceae
<i>Syngonium angustatum</i>	<i>Syngonium podophyllum</i>	Araceae
<i>Tabebuia pallida</i>	<i>Tabebuia heterophylla</i>	Bignoniaceae
<i>Tabebuia pentaphylla</i>	<i>Tabebuia heterophylla</i>	Bignoniaceae
<i>Thelechitonia trilobata</i>	<i>Wedelia trilobata</i>	Asteraceae
<i>Thevetia nerifolia</i>	<i>Thevetia peruviana</i>	Apocynaceae
<i>Thunbergia harrisii</i>	<i>Thunbergia laurifolia</i>	Acanthaceae
<i>Trachypogon rufus</i>	<i>Hyparrhenia rufa</i>	Poaceae
<i>Tradescantia zebrina</i>	<i>Zebrina pendula</i>	Commelinaceae
<i>Trema cannabina</i>	<i>Trema orientalis</i>	Ulmaceae
<i>Trichachne insularis</i>	<i>Digitaria insularis</i>	Poaceae
<i>Tricholaena repens</i>	<i>Rhynchelytrum repens</i>	Poaceae
<i>Tricholaena rosea</i>	<i>Rhynchelytrum repens</i>	Poaceae
<i>Triopteris jamaicensis</i>	<i>Hiptage benghalensis</i>	Malpighiaceae
<i>Triplaris surinamensis</i>	<i>Triplaris weigeltiana</i>	Polygonaceae
<i>Triumfetta bartramia</i>	<i>Triumfetta rhomboidea</i>	Tiliaceae
<i>Urena sinuata</i>	<i>Urena lobata</i>	Malvaceae
<i>Urochloa mutica</i>	<i>Brachiaria mutica</i>	Poaceae