

## **What are the five worst invasive species on Guam that are likely to spread to other Micronesian Islands?**

Here's my answer to the above question which was posed to me by the *Micronesian Forester Newsletter* team.

As the extension entomologist at the University of Guam, I am often asked to predict which invasive species are likely to invade Micronesian islands. There are a lot to choose from. The [Regional Biosecurity Plan for Micronesia and Hawaii](#) contains a list entitled *Exotic Plant Pests with the Potential to be Introduced into the Micronesia Region*. This list is 68 pages long and it contains hundreds of species. Not very useful!

A much better reference for answering the current question is the [New Pest Advisory](#) series maintained online by the Hawaii Department of Agriculture. Many invasive species detected in Hawaii are subsequently found in Micronesia a few years later. I am not suggesting that Hawaii is a major source of invasive species for Micronesia. Many invasive species arrive in Hawaii and Micronesia from a common source. There are also many cases where invasive species are first detected in Micronesia and later in Hawaii.

So let's have a look at invasive species which are included in the Hawaiian New Pest Alerts which have also invaded Guam. These species cause enough damage in Hawaii to warrant a New Pest Advisory, are already on Guam, have been "on the move" in recent years, and are likely to end up elsewhere in Micronesia. My choice of "five worst" is based on severity of potential damage to forests.

### **1. Coconut rhinoceros beetle (CRB), *Oryctes rhinoceros* [New Pest Advisory](#)**

#### **First island records for Hawaii and Micronesia:**

Palau 1940s; Guam 2007; Hawaii (Oahu 2013); CNMI (Rota 2017)

#### **Interceptions:**

Hawaii (Big Island 2010, Oahu 2013); CNMI (Saipan 2006, Saipan 2017)

#### **Potential impact:**

With high populations of CRB in Guam and Palau it is only a matter of time before this major pest spreads elsewhere in Micronesia. If CRB gets to atolls where islanders depend on coconut as *the tree of life*, impacts will be catastrophic.

### **2. Little fire ant (LFA), *Wasmannia auropunctata* [New Pest Advisory](#)**

#### **First island records for Hawaii and Micronesia:**

Hawaii (Big Island 1999, Kauai 1999, Maui 2009, Oahu 2013); Guam 2011; FSM (Yap 2017)

#### **Potential impact:**

In addition to being a nuisance because of its sting, LFA kills small animals including beneficial insects, while protecting sap sucking pests. Predicted economic costs to the island of Hawaii alone are likely to exceed \$100 million annually.

### 3. Asian cycad scale, *Aulacaspis yasumatsui* [New Pest Advisory](#)

#### **First island records for Hawaii and Micronesia:**

Hawaii (Oahu 1998, Big Island 2000, Kauai 2003); Guam 2003; Palau 2005; CNMI (Rota 2005, Tinian 2019)

#### **Potential impact:**

It is estimated that this scale insect has killed 96% of fadang, *Cycas micronesica*, on Guam and no reproduction is taking place. Two decades ago, fadang was the most abundant tree in Guams forests. A large uninfested cycad population in Yap State is at high risk from scale insects arriving via transport links from Palau and Guam.

### 4. Acacia whitefly, *Tetraleurodes acaciae* [New Pest Advisory](#)

#### **First island records for Hawaii and Micronesia:**

Guam 2007, Hawaii (Oahu 2021)

#### **Potential impacts:**

This whitefly is capable of rapid defoliation of many tree species.

### 5. Lobate lac scale, *Paratachardina pseudolobata* [New Pest Advisory](#)

#### **First island records for Hawaii and Micronesia:**

Hawaii (Oahu **2012**), Guam 2018

This scale insect is capable of infesting and killing many tree species.

#### **Statistics**

Number of NPA New Pest Advisories: 45

Number of NPA species occurring in Hawaii and Guam: 11

Number of NPA species detecting on Guam before Hawaii: 5

[Data source](#)

#### **Reference**

Moore, Aubrey 2020. Predicting Invasive Species Arrivals on Guam. Presented at the Forestry Workshop on Invasive Insects, University of Guam, Mangilao, Guam, February 11, 2020. <https://aubreymoore.github.io/guam-ias-bolo>

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Created 2022-02-24

Updated 2022-04-02