

# Invasive ants as a biosecurity threat Part 2 of 2

Last week, we looked at what are invasive ants, where do they mostly come from and how do they disperse. This week, we will cover what impacts they have and how ant invasions can be prevented and controlled.

## Impacts

Invasive ants can negatively impact agriculture and forestry. Many species directly damage plants by eating fruit and seeds, tunneling into stems and removing bark from seedlings. Some ant species farm phytophagous sap feeding insects such as aphids, scale insects or mealybugs for the honeydew they produce. This may result in high densities of the sap-feeding insects that may reduce crop productivity and even cause host plant death. Ants increase the risk of disease transmission to plants by enhancing populations of insects that can be virus and bacteria vectors.

Invasive ants have the potential to severely affect human health and social amenity. Several species of invasive ants such as red imported fire ant and little fire ant have extremely painful stings that can cause anaphylactic shock in persons allergic to the ants' venom and blindness in animals when stung in the eyes. Many ant species can damage infrastructure, especially electrical equipment by chewing through wires, causing short-circuits and sometimes fires.

## Environmental impacts

Invasive ants are often able to completely displace or extirpate other native ant species, and a majority of other native invertebrates. Similarly, they can have significant impact on vertebrates, especially ground-dwelling species such as lizards and nesting birds.

For example, on Christmas Island the yellow crazy ant has killed over 20 million land crabs which has had a dramatic effect on seedling recruitment, weed spread and leaf litter breakdown in the forest, completely changing forest structure.



Top left – swellings from little fire ant stings in Papua New Guinea (Photo copyright: Dr. Cas Vanderwoude)

Top right – domestic animals blinded by little fire ant bites (Photo copyright: Dr. Cas Vanderwoude)

Bottom left – red tailed tropicbird being swarmed by yellow crazy ants (Photo copyright: Stefan Kropidowski / USFWS)

Bottom right – African big-headed ants (*Pheidole megacephala*) harm seabirds as well. Ants cover a bonin petrel on Kure Atoll, Hawaii (Photo copyright: Sheldon Plentovich)

## How ant invasions can be prevented and controlled

Preventing ants arriving with international goods is the most effective method of preventing invasion through thorough inspections and sanitation. When an incursion occurs, a rapid and thorough response to the incursion is paramount. Public awareness and support is critical when eradication is undertaken. Public assistance is also critical in the early detection of new incursions. Pre-developed risk assessments and rapid response protocols will assist in responding quickly to new

incursions. Many methods are used to find invasive ants at high risk locations, including visual inspections, regular use of baits and lures and odour detection dogs.

## Surveillance

Surveillance programmes facilitate early detection of invasive ant species, allowing response to be rapid. In addition, regular surveillance assures trade partners that exports are safe. The information gathered also contributes to our wider knowledge of rates of spread of pest species.

Prevention is better (and cheaper) than cure! Surveillance of high risk sites is the best form of post-border defence against incursions of invasive ant species. High risk areas for entry of invasive ant species include seaports, airports, devanning sites, sea container storage sites and transitional facilities.

If an unwanted ant does invade, movement controls will ensure that it doesn't spread, particularly to high value sites.

Two broad approaches to surveillance are:

**Active surveillance:** where surveys are undertaken using a number of techniques including visual surveys, pitfall traps and attractive lures

**Passive surveillance:** involves building public awareness of emerging biosecurity risks and acting on any sightings of target organisms that are reported

Surveillance can require a lot of resources, particularly time, but these costs are only a tiny fraction of what would need to be spent to control an established invader or of the economic and social costs invasive species can impose. The Biosecurity Authority of Fiji (BAF) has an ant surveillance program in place to detect exotic and invasive species. If you suspect you have noticed ants that you have never seen before, try to capture the ant(s) without harming yourself or getting bitten and notify your nearest BAF office immediately.



BAF officers discussing ant surveillance procedures, dos and don'ts at a container yard in Lautoka

Adopted in part from: FAO, 2018 I8939EN/1/03.18

Some information also from: <http://piat.org.nz/>

## For Further Information Please Contact:

Biosecurity Authority of Fiji on 3312512 or Short Codes: General Enquiries - 5994,

Termites - 5996, Giant Invasive Iguana (GII) - 5995,

Animal Disease Surveillance - 5997

or email [info@baf.com.fj](mailto:info@baf.com.fj), visit BAF website [www.baf.com.fj](http://www.baf.com.fj)