

Invasive ants as a biosecurity threat Part 1 of 2

Invasive ants are a diverse group of aggressive, competitive ant species that can rapidly establish and spread. Several ant species are amongst the most serious global invasive species. Their broad diets, nesting habits, ability to breed rapidly and adaptability to varied habitats make them excellent invaders. Agricultural, economic, environmental and social wellbeing are threatened by these ants, many of which have been introduced to, and established in, many countries.

About invasive ants

Invasive ants include a variety of aggressive ant species that displace native species through competition and predation. Commonly recognized invasive ant species include African big-headed ant (*Pheidole megacephala*), Argentine ant (*Linepithema humile*), little fire ant (*Wasmannia auropunctata*), yellow crazy ant (*Anoplolepis gracilipes*), red imported fire ant (*Solenopsis invicta*), tropical fire ant (*Solenopsis geminata*), Singapore ant (*Trichomyrmex destructor*), Asian needle ant (*Pachycondyla chinensis*), raspberry ant (*Nylanderia fulva*) and browsing ant (*Lepisiota frauenfeldi*). Invasive ants are often difficult to distinguish visually from native ants, as most species are tiny (under 5 mm), have few evident distinguishing features and do not construct obvious nests.



Top left – close-up view of minors and majors (with the giant heads) of the African big-headed ant (Picture copyright: Western Australian Agriculture Authority, 2013–2016)

Top right – Argentine ant queen (bottom centre) and workers (Picture copyright: Phil Lester)

Bottom left – Little fire ant workers are tiny! (Picture copyright: Alex Wild)

Bottom right – Red imported fire ant biting and stinging (Picture copyright: Alex Wild)

Where are invasive ants found?

Invasive ants originate from many global locations and occupy all major biomes, except the poles and the coldest habitats. Many species originate from South America including red imported fire ant, Argentine ant, raspberry ant and little fire ant. Tropical fire ant originates in the Americas. Browsing ant is native to Europe, African big-headed ant and Singapore ant from Africa, Asian needle ant is native to eastern Asia and yellow crazy ant is thought to originate from South East Asia.

Tropical environments are particularly prone to ant invasions as most invasive ant species are tropical. However, some invasive ants originate from or are capable of surviving in temperate climates.



Top left – Yellow crazy ant worker (left) and queen (right) (Photo copyright: Phil Lester)

Top right – Yellow crazy ant workers (Photo copyright: Phil Lester)

Bottom left – Tropical fire ants come in a wide range of sizes (Photo copyright: Eli Sarnat, Creative Commons Attribution, Share Alike CC BY-SA License)

Bottom right - Singapore ants foraging (Photo copyright: Eli Sarnat, Creative Commons Attribution, Share Alike CC BY-SA License)

How do invasive ants disperse?

Increasing trade and commerce have led to the unintended transport of ants across the world. Invasive ants can be introduced internationally by hitchhiking on imported sea and air cargo, machinery and cargo containers. Plants, soil, nursery stock, timber and various other imported commodities (vehicles, parts and machineries) can harbour hitchhiking ants. As these diverse entrance pathways may not be subject to phytosanitary inspection, intercepting and preventing the establishment of invasive ants is difficult.

Most invasive ant species form “supercolonies” with multiple queens, allowing rapid colonization and population growth. Regional dispersal often occurs when people accidentally disperse the ants. Ants may also be further spread over greater distances through accidental human transport.

Next week, we will look at environmental impacts from invasive ant infestation and how ant invasions can be prevented and controlled.

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Some pictures retrieved from: <http://piat.org.nz/>

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