Invasive Insects: Risks and Pathways Project

EUROPEAN FIRE ANT

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Invasive insects are a huge biosecurity challenge. We profile some of the most harmful insect invaders overseas to show why we must keep them out of Australia.

Species

European fire ant / *Myrmica rubra*. Also known as the common red ant, European imported fire ant.

Main impacts

Reaches extremely high densities, reducing other insects and displacing nearly all other ants, including from intact forest habitats. Attacks small mammals and kills nestling birds. Spreads weed seeds. Stings people and pets aggressively, rendering yards, parks and campgrounds uninhabitable. The bites sometimes require medical care.

Native range

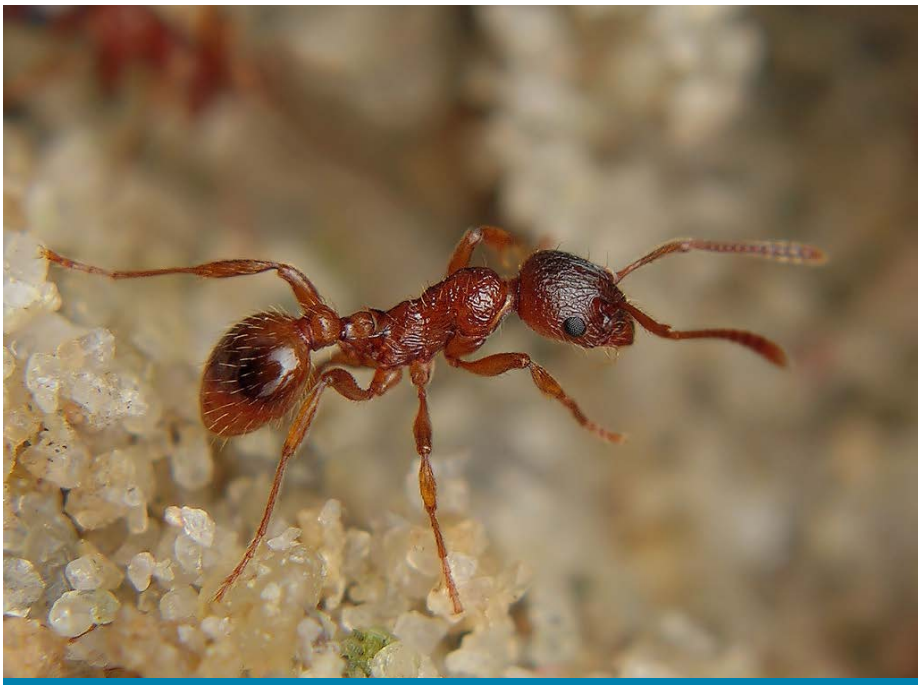
Central and northern Europe, Ireland, Poland, United Kingdom, Russian Federation, Ukraine.[1]

Invasive range

United States, Canada, Japan, Belgium, Czech Republic, Denmark, France, Germany, Sweden.[1]

Main pathways of global spread

Transportation of habitat material (for example via the movement of potted plants, mulch and fill).[2]



WHAT TO LOOK OUT FOR

The European fire ant workers are reddish-brown, covered in fine hairs, and are 4–5 mm long. Their waist has two segments and their abdomen is shiny.

Photo: Ryszard | Flickr | CC BY-NC 2

ENVIRONMENTAL IMPACTS OVERSEAS

The European fire ant is invading North American forests, forming supercolonies that displace other ants. In conservation reserves in British Columbia where these ants are present, 'other ant species are almost completely absent'[3]. Nests can be spaced less than a metre apart, with the ants achieving densities 10 to 1300 times those of all ants in unaffected areas. Invaded areas in three reserves had fewer carab and staphylinid beetles, centipedes, spiders and harvestmen[3]. In Acadia National Park, Maine, invaded sites have fewer arboreal insects[4], and in Tifft Nature Preserve in New York State, earthworms, centipedes and millipedes are scarcer under logs inhabited by fire ants[5].

The fire ants readily sting small mammals or birds that move through their territories[6]. On Appledore Island, Maine, where herring gulls nest in high densities, fire ants kill some chicks and slow the growth rates of others[7]. Parent birds preen frequently in the presence of ants, shake their wings and bills, and often leave and resettle on the nest. Scientists fear that the breeding success of Leach's storm-petrels will suffer if the ants spread to other nesting islands[7].

In a forest in southern Ontario, European fire ants were found to be benefiting a weed, greater celandine (*Chelidonium majus*). By dispersing its seeds more effectively than native ants they increased its recruitment more than eight-fold[8]. The invasive harlequin ladybird (*Harmonia axyridis*) may also benefit from fire ants attacking its competitors; in Maine the ants were more aggressive towards native ladybirds than to the harlequin[9].

HUMAN AND ECONOMIC IMPACTS OVERSEAS

European fire ants attack aggressively when disturbed, each ant delivering multiple stings that initially burn and then itch for several days[10]. Multiple ants may sting at once, producing such serious swelling that medical care is required[11].

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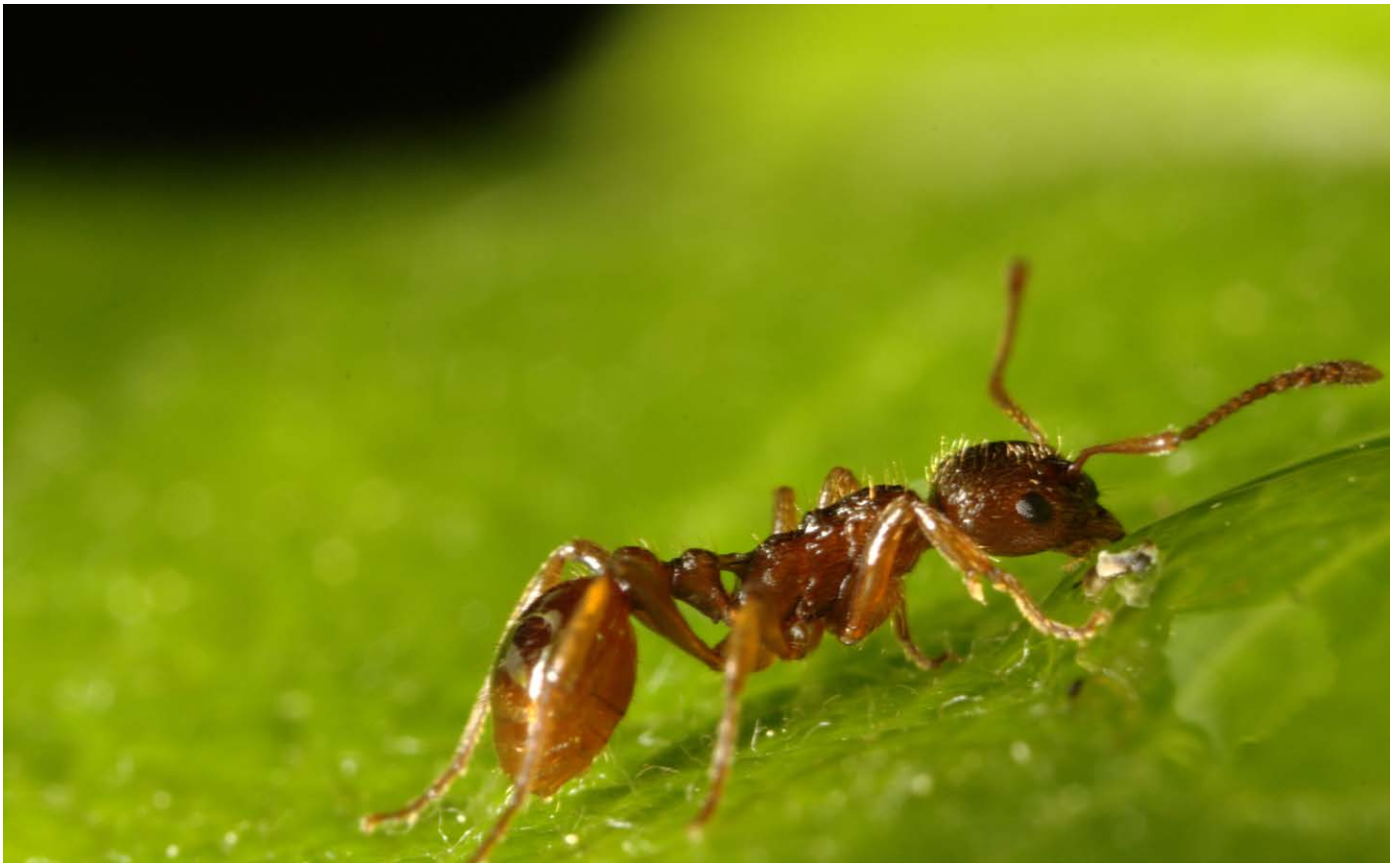

European fire ant. Photo: Kjetil Fjellheim | Flickr | CC BY-NC 2

Nests can be as dense as four per square metre of city back yard, making it impossible to stand on grass[11]. Yard and garden work is made difficult, and pets are distressed[3]. Parks and campgrounds can be rendered unusable[11]. By one estimate, the ants will cost British Colombia $100 million a year if they achieve their potential distribution[3].

AUSTRALIAN CONCERNS

Australia has major control programs for four invasive ant species, and the risk of other ants arriving is a serious concern. The European fire ant would threaten natural areas in the cooler parts of Australia, where it could be expected to displace other ants, reduce native insect numbers, and sting mammals, birds and people. It could become a major pest of yards and parks.

SOURCES

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ABOUT THIS PROJECT

The Invasive Insects: Risks and Pathways Project is a partnership between Monash University and the Invasive Species Council. To find out more visit invasives.org.au/risks-and-pathways.