FACT SHEET: TROPICAL FIRE ANTS

UPDATED: APRIL 2018

The tropical fire ant is one of at least seven highly invasive ant species that have arrived in Australia and threaten the country's environment, economy and way of life.

Species

Tropical fire ant / Solenopsis geminata.

Origin

South America.

Background

The first European settlers arrived in Darwin in the 19th century and probably brought tropical fire ants with them by accident. The ant has since been detected at other sites across Australia and is now established at Ashmore Reef, on Christmas Island, part of the Top End and recently reached Western Australia.

Despite being tiny (workers measure between 1 and 5 mm), tropical fire ants are highly aggressive and attack any intruder who disturbs their nest. They defend their territory by swarming, clutching their victim with their jaws before stinging and injecting an alkaloid venom called solenopsin. Each fire ant may administer several painful stings.

ABOUT TROPICAL FIRE ANTS

The tropical fire ant (or ginger ant) was restricted to South America until Spanish galleons brought it as a stowaway to the Philippines in the 16th century, and from there to the rest of the world. It is now established in virtually all tropical regions of the world and continues to be spread accidentally.

It is more widely distributed than its close cousin, the red imported fire ant (*Solenopsis invicta*), a highly aggressive ant currently the focus of a massive eradication effort in Australia.

Orange-red in colour, two types of workers co-exist within the colonies: minor and major workers. Major workers are larger than minor workers and have



Tropical fire ant workers measure between 1 and 5mm and attack any intruder that disturbs their nest. Photo: April Nobile, from www.AntWeb.org



Allergic reaction to tropical fire ant stings. Photo: Pauline Lenancker

a disproportionally large head. A single nest can contain thousands of workers.

Environment

The tropical fire ant is a dominant species, pushing out native ants once it becomes established. It is omnivorous, eating anything from seeds to small mammals and birds. Workers indirectly damage crops by tending pest insects such as aphids for honeydew. On Ashmore Reef, the tropical fire ant swarms sea bird and turtle nests, stinging turtle hatchlings relentlessly, sometimes before they even manage to break free from their shell. Ashmore Reef is an important breeding site for seabirds and turtles but this nature reserve is threatened by the presence of tropical fire ants.

Health and lifestyle

When a tropical fire ant mound is disturbed ants will attack their intruder, inflicting stings that induce an immediate pain that feels like a slight burn. A pustule may appear later, along with a swollen, painful and itchy patch that can remain inflamed for a few days, especially if the area was stung several times.

People allergic to wasps, ants or bees could suffer anaphylactic shock.





A red-tailed tropicbird chick with damaged webbing on its foot probably resulting from attacks by tropical fire ants on Ashmore Reef. Photo: Jarrod Hodgson

ERADICATION

Managing the threat posed by the tropical fire ant to Ashmore Reef and the rest of Australia's wildlife is crucial. It has already been eradicated from several areas including Brisbane, Perth and Kakadu National Park. Eradication is underway on Melville Island.

Unfortunately, the tropical fire ant is still being dispersed accidentally and extending its range within Australia. Remote places are most at risk of invasion because monitoring is rare and management is costly. New outbreaks should be managed promptly to avoid escalating management costs.

Currently, the tropical fire ant is spreading into the Kimberley and other remote areas without any management plans to tackle the invasion. Potential spread of the stinging ant to Queensland and the rest of Western Australia and the Northern Territory would threaten invaluable ecosystems as well as our health and lifestyles.

SOURCES & INFORMATION

Hoffmann, B. D., Luque, G. M., Bellard, C., Holmes, N. D. & Donlan, C. J. Improving invasive ant eradication as a conservation tool: A review. Biological Conservation 198, 37–49 (2016).

Gotzek, D., Axen, H. J., Suarez, A. V., Helms Cahan, S. & Shoemaker, D. D. Global invasion history of the tropical fire ant: a stowaway on the first global trade routes. Mol. Ecol. 24, 374–388 (2015).

Hodgson, J. C. & Clarke, R. H. A review of the Tropical Fire Ant *Solenopsis geminata* pilot control program at Ashmore Reef Commonwealth Marine Reserve A report prepared for the Director of National Parks. 1–48 (2014).

Wetterer, J. K. Worldwide spread of the tropical fire ant, *Solenopsis geminata* (Hymenoptera: Formicidae). Myrmecological News 14, 21–35 (2011).

This fact sheet was written by Pauline Lenancker, College of Science and Engineering, James Cook University, Cairns & CSIRO, Tropical Ecosystems Research Centre, Darwin.

OUR MISSION

To protect the environment from harmful new invasive species through prevention and early action.



Lord Howe Island. Photo: Robert Whyte





A green sea turtle hatchling is not even out of its nest and is already being attacked by tropical fire ants at Ashmore Reef. Photo: Rohan Clarke





A tropical fire ant nest on Melville Island and right, eradication treatment for tropical fire ants being injected directly into a nest. Photos: Ben Hoffmann

Table 1 Tropical fire ant eradication programs in Australia			
Location	Year	Extent	Current status
Kimberley, WA	/	In remote places, current extent is unknown	Untreated
Ashmore Reef, NT	/	55 ha	Planning underway
Christmas Island, NT	/	Current extent is unknown but probably covers all open areas	Untreated
Top End, NT	/	Disjunct populations in Darwin, Katherine and halfway in between, current extent is unknown	Untreated
Deagon, QLD	2002	<1 ha successfully treated, current presence unknown	Unknown
Logan, QLD	2002	<1 ha successfully treated, current presence unknown	Unknown
Perth, WA	2007	<1 ha	Eradicated
Kakadu National Park, NT	2003	3 ha	Eradicated
Jabiru, NT	2003	<1 ha	Eradicated
Port Hedland, WA	2007	<1 ha	Eradicated
Brisbane, QLD	2007	<1 ha	Eradicated
Melville Island, NT	2011-2012	311 ha from 3 locations successfully treated, 2 populations on 30 ha remain to be treated	Ongoing

The information in this table was updated in May, 2018.

