

Argentine Ant

Linepithema humile

A critical threat to Norfolk Island's biodiversity, agriculture and economy (Updated October 2023)

Habitat

Argentine Ant nests can be found in a range of environments. They can establish nests in cracks in concrete or fence posts; behind retaining walls; and underneath boards, timber and building waste.

In more natural areas they tend to nest shallowly in leaf litter, under bark, in rotting timber on the ground or high up in the trees.

Argentine Ants don't typically excavate deeper nests in the ground but they will take over other ant nests or utilise already abandoned ant nests.

The best way to find Argentine Ants is by firmly tapping these hiding places with a stick. The disturbance makes them rise to the surface to defend their nest.

Description

Argentine Ants are 2-3mm long and a uniform honey brown colour. The behaviour of Argentine Ants is their most distinguishing characteristic: swarming up to the surface once disturbed and forming strong foraging trails, often found running along fence lines, to food sources.



Photo: www.alexanderwild.com



Argentine Ant with pupae (1.5mm long).

Photo: Ben Thomas

Impact: Biodiversity

Argentine ants are very aggressive towards other ant species and will often displace native ants by dominating food sources.

This can have a major follow-on effect in the ecosystem as native ants play a critical role in the dispersal of seeds and pollination of plants.



Argentine Ants attacking a native harvester ant.

Photo: www.alexanderwild.com

Argentine Ant (*Linepithema humile*)

Because of their aggressive nature, Argentine Ants will displace nesting birds and eat defenceless chicks. This is a threat to all of Norfolk Island's birdlife, not just rare and endemic birds such as the Green Parrot, but also more common species. Nesting White Terns have become rare in areas where Argentine ants have been established for many years.



White Terns are easily displaced by foraging Argentine Ants. Photo: Parks Australia archive

Impact: Horticulture

Argentine Ants will eat virtually anything, including nestlings and animal carcasses. But they have a preference for sugary substances such as nectar and honeydew, a substance produced by insects like aphids. Argentine Ants will 'farm' aphids by protecting them from natural predators and helping them spread. Proliferation of aphids in orchards and vegetable gardens adversely affects plant health and lowers crop yields.



Argentine Ants tending scale insects. Photo: www.alexanderwild.com



Argentine Ants can also keep natural pollinators away from flowering plants. Here they are on a pumpkin flower. Photo: Ben Thomas

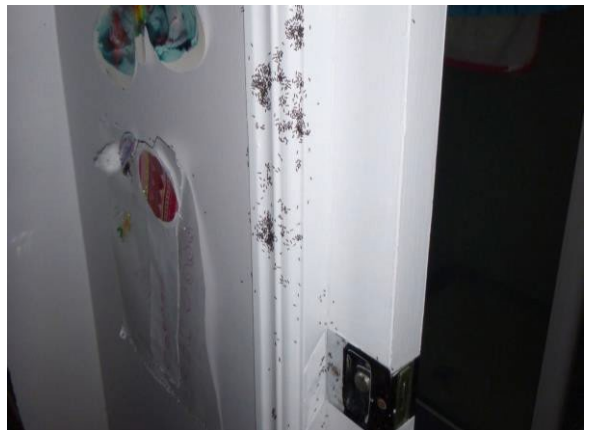
Impact: Economic

In domestic situations, Argentine Ants can become a significant household pest, infiltrating homes in large numbers in search of food. Some residents on Norfolk Island have even had ants swarming through beds and bathrooms.



Argentine Ant field crew spreading sugar bait. Photo: Tara Patel

The same may happen in tourist accommodations, leading to bad visitor experiences. This combined with the impacts to our biodiversity and horticulture all have the potential to negatively impact on the Island's economy.



Argentine Ants invading a home. Photo: www.antweb.org

Identification tip

Argentine Ants are very similar in size to the common 'black house ant', however there are a few telltale signs to differentiate between the two species:

- Argentine Ants are more of a brown colour, house ants are jet black.
- When crushed, Argentine Ants have very little odour, whereas black ants are very pungent.
- When forming trails, black ants will 'greet' each ant along the way (touch faces). Argentine Ants will often walk straight past each other.

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Norfolk Island Argentine Ant Eradication Program (AAEP)

The population of Argentine Ants on Norfolk Island has been greatly affected over the past five years - but much work still remains.

The strategy of the eradication program is to eliminate the smaller infestations first, working our way up to the largest and most complex infestations.

Distribution

Since their initial discovery on Norfolk Island in 2005, Argentine Ants have established in 21 separate and distinct 'Zones'.

- **Zone 1;** - Anson Bay Rd area, from Puppy's Point to Headstone Reserve, stretching as far back as Silky Oak Stables
- **Zone 2;** - 100 Acres Reserve (eradication confirmed)
- **Zone 3;** - New Farm Rd (western end);
- **Zone 4;** - Waste Management Centre and private lands to Douglas Drive;
- **Zone 5;** -lower end of Mt Pitt Rd, Whispering Pines Accommodation and across the valley to Mission Rd
- **Zone 6;** - Hospital grounds (eradication confirmed)
- **Zone 7;** - Collins Head Rd (southern end);
- **Zone 8;** - Ball Bay Reserve (eradication confirmed)
- **Zone 9;** - Two Chimneys Rd and Hibiscus Drive areas
- **Zone 10;** - RSL Club, Christian Fletcher and behind, South Pacific, The Village, Pitcairn Settlement
- **Zone 11;** upper Prince Phillip Drive and lower Red road areas
- **Zone 12;** Rocky Point area (Bumboras to Crystal Pool)
- **Zone 13;** Lower Red Road
- **Zone 14;** Eldoo, Aloha, NIBS
- **Zone 15;** valley east of Grassy Rd, behind JW Church and Daydreamer apartments
- **Zone 16;** New Farm Rd
- **Zone 17;** Bullocks Hut Rd, Anson Bay Lodge
- **Zone 18;** Burnt Pine Boutique Apartments
- **Zone 19;** Allendale Rd
- **Zone 20;** Ferny Lane Rd
- **Zone 21;** Youngs Rd

A map of Norfolk Island showing all present infestations is at the bottom of this document.

History

Prior to 2015, baiting operations focused on zones 2, 3, 6, 7, 8 and 10 with eradication achieved in 2, 6 and 8. In 2015 CSIRO joined the program and has continued to work on the smaller, more achievable zones before targeting the larger ones. Below is a table outlining the status of all ant zones as of October 2023.

Zone	Status
2,6 & 8	Confirmed eradication
13 & 15	Awaiting final confirmation of eradication
All other zones	Receiving spot treatments as the last persisting colonies are found
3 & 9 cliff areas & 12	Receiving treatment (2023/24)
1 & part of 4	Yet to be treated

Baiting methods

Fipronil is the primary insecticide used in the program. It's highly effective and can be delivered using multiple methods of application. The chemical itself can and is used throughout the world for insect control of other species, however practices are in place to ensure that within our program, the impact on non-target species is minimal.

The different methods of application are:

Hydrogels

Hydrogels ('jelly crystals' or 'water crystals'), are gel balls that have soaked up a water, sugar and fipronil solution. These gels are broadcast aerially by a drone (pictured below). The ants are attracted to the sweetness, and when they feed on the gel, subsequently feed on Fipronil as well and share it with the colony. This method is used over large areas of difficult terrain eg: scrubby bush or steep slopes.



Yamaha Drone dropping Hydrogel bait. Photo: Tara Patel

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Dry sugar

Food-grade white sugar is mixed with small amount of liquid fipronil, creating a 'poisoned sugar' bait. This is then broadcast either by hand or motorised blower. This method is used in smaller, easy access areas and for follow-up spot treatments.

Termidor

Fipronil is the active ingredient in the product 'Termidor'. Termidor is commonly used for termite control and is equally effective on Argentine Ants. Termidor is mixed with water and used for treatment of goods that are to be moved. Eg, rock, machinery, plants etc. It's often applied using a knapsack sprayer.

Monitoring Methods

Areas that have been baited, either by hydrogel or sugar, are then closely monitored in the following months. Ant activity does not resume immediately so monitoring allows us to gain a better understanding of when their activity and foraging starts again and when is the best time to implement another round of baiting. Monitoring is done using 'lures', visually and with the Argentine Ant Detector Dog, Bella.

What you can do to help

The cooperation and support from landowners and the community has been fantastic and continues to be crucial if the program is to be successful.

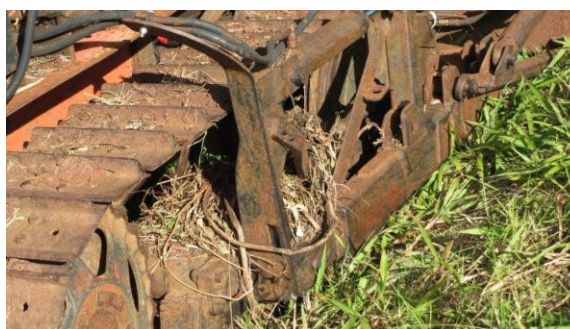
We must all remain vigilant and continue to be mindful of how easily Argentine ants can be transported around the Island.

Each member of the community must be very careful not to transport Argentine ants from one area to another. If you live or work within an infested area **please do not move** potential carriers of ants from an infested area. Examples include:

- Pot plants
- Garden waste
- Firewood
- Building waste
- Earthmovers
- Chippers
- Slashers

- Soil
- Cow manure, mulch & compost
- Weaving material
- Cuttings
- Fruit & vegetables

Thoroughly check all these items **before** they leave an infested area.



Argentine ants can nest in debris caught up in plant and machinery. Photo: Ben Thomas

Be sure to also check:

- Backpacks
- Food containers
- Vehicles

before moving them. Ants will often infest school bags and lunchboxes if left with food in them.

Resist the temptation to immediately spray or kill Argentine ants. It is likely that you will only kill the ants you can see and the remaining colony and its queen will survive and move to another location, making them harder to find and eradicate in the future.

If you are unsure of what you have found, please call 23353 and an inspection and treatment of infested items can be arranged. Treatment can be done quickly and at no cost to the individual. If indeed they are Argentine Ants, they can be dealt with quickly to avoid further spread.

Community reporting is of utmost importance.

Who to contact:

Customer Care: 22244 or local freecall 0100
Argentine Ants Depot: 23353
Booda (AAEP team coordinator): 52193
Tara Patel (Team Leader Biodiversity): 51097

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Extent and location of known Argentine ant infestations on Norfolk Island as of August 2023. Red zones are those that remain untreated, orange areas are currently undergoing treatments, and green zones are those where treatments have been undertaken and monitoring continues.

