PLANTS AND ENVIRONMENT

NATIONAL INVASIVE ANT SURVEILLANCE PROGRAMME ANNUAL REPORT 2012–2013

The National Invasive Ant Surveillance programme (NIAS) detects newly established exotic ant species in New Zealand and provides information on range extensions of species already known to be established. Ants are widely dispersed through human activity and commonly intercepted in air and sea cargo including fresh produce, timber, empty sea containers and personal baggage. They are major urban pests, invading homes, shops, cafes, etc., where food is readily available. They also threaten natural biodiversity by displacing native invertebrates and impact on horticulture by encouraging pests. Invasive species such as the Singapore ant (*Monomorium destructor*) are known to gnaw holes in fabric and rubber goods, remove rubber insulation from electric and phone lines, and damage polyethylene cable. Cars parked overnight in infested areas can fail to start the next day after the ants have shorted ignition systems (Global Invasive Species database, http://www.issg.org/database/species/ecology.asp?si=960&fr=1&sts=sss&lang=EN).

High-risk sites for ant entry are determined by pathway and site risk analyses undertaken annually. They include seaports, airports, devanning sites, sea container storage sites and other Transitional Facilities that receive international freight. Sites are then scheduled to be surveyed from mid-summer to early autumn each year.

The identified risk sites are surveyed by ground teams co-ordinated by AsureQuality Ltd. Small plastic pottles, alternately baited with carbohydrate (sugar solution) or protein (peanut butter, oil and sausage meat) are placed in 10 x 10 m grids, with some 43 000 pottles being laid at risk sites throughout New Zealand. Additional pottles are used to collect live ants where these have previously been found by visual inspection. Pottles are left out at each site for a maximum of about two hours under favourable conditions, to maximise the number of foraging ants collected. while also minimising the risk of the bait drying out and becoming less attractive. GPS locations and associated data collected during the survey are recorded on hand-held data loggers. Pottles are sent to the Flybusters Antiants Consulting Ltd diagnostic laboratory for initial identification. Samples are tracked electronically through a bar-coding system from the field right through to identification in the laboratory. Suspect exotic ant specimens are sent to the MPI's Investigation and Diagnostic Centre for validation of the identification. Once an exotic ant find has been confirmed in this way, a response is initiated to track down and eradicate nests near the location of the original find.

RESULTS

In 2012–2013 there was a slight increase in detections of exotic ants, from 18 to 20. The number of interceptions varies from year to year owing to changes in trade and climatic factors that influence arrival and survival of hitch-hiking ants. From these detections, 15 separate incursions were found. On five occasions the same exotic ant nest was detected through ants found in more than one pottle, suggesting that trapping is very effective at finding new nests. Six exotic species were recorded: *Camponotus* sp. (carpenter ant), *Paratrechina longicornis* (crazy ant), *Solenopsis geminata* (tropical fire ant), *Monomorium* sp., *M. destructor* (Singapore ant) and the less commonly intercepted *M. indicum* (**Table 1**).

TABLE 1: DETECTIONS OF EXOTIC ANT SPECIES, 2013

SPECIES	LOCATION	NO OF DETECTIONS	NO OF NESTS FOUND
Camponotus sp.	Ports of Auckland	17 Jan	Nil
Paratrechina longicornis	Ports of Auckland	18 Jan	3
Monomorium destructor	Port of Napier	20 Jan	1
Solenopsis geminata	Port of Napier	22 Jan	1
Paratrechina longicornis	Port of Tauranga	25 Jan	Nil
Monomorium sp.	Port of Tauranga	30 Jan	1
Paratrechina longicornis	UCL Napier	2 Feb	1
Paratrechina longicornis	Port of New Plymouth	9 Feb	1
Solenopsis geminata	CRS Tauranga (now NZL Tauranga)	11 Feb	1
Paratrechina longicornis	CRS Tauranga (now NZL Tauranga)	12 Feb	1
Monomorium sp.	Port of Lyttleton	14 Feb	1
Monomorium sp.	Lyttleton Port Company City Depot	14 Feb	Nil
Monomorium indicum	Lyttleton Port Company City Depot	15 Feb	1
Paratrechina longicornis	Ports of Auckland	18 Feb	1
Paratrechina longicornis	Ports of Auckland	19 Feb	Nil

Figure 1: Extent of a typical baiting grid for ant surveillance at Port of Napier. Yellow circles indicate locations with protein-baited pottles and blue indicate carbohydrate-baited pottles. Coloured squares indicate the location of pottles with exotic ants. Risk area is defined as any area with any imported risk item close to favoured ant habitat. There is a 150 m buffer zone (blue) around each identified risk site where surveillance is carried out.

All incursions were destroyed and follow-up surveillance was conducted to make sure that eradication was successful.

The most significant find this season was the discovery of tropical fire ants at the NZL container park, Tauranga, on 11 February. This find was a significant-sized nest that generated a large-scale incursion response and delimiting survey of the area out to 500 metres from the initial detection. The delimiting survey found no further sign of *S. geminata*. A further survey of the area will be undertaken in November 2013 to confirm the absence of *S. geminata*. The container park will also be surveyed again during the NIAS program in 2014.

There was also a discovery of *S. geminata* at the Port of Napier on 22 January (**Figure 1**). While this find was only a small nest, a delimiting survey of the port area out to 200 metres from the find location was undertaken. The delimiting survey found no further sign of *S. geminata*.

The Napier port will also be re-surveyed during the 2014 NIAS season.

Lora Peacock
Senior Adviser
Surveillance and Incursion Investigation (Plants and Environment)
Ministry for Primary Industries
lora.peacock@mpi.govt.nz

Lester Mattson
Auditor
AsureQuality Limited
Lester.Mattson@asurequality.com

Paul Craddock
Operations Manager
FlybustersAntiants Consulting Ltd
paul@flybusters.co.nz

Peter Stratford
Surveillance Manager, Biosecurity
AsureQuality Limited
Peter.stratford@asurequality.com