



SUWARROW

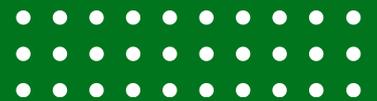
ANT

SURVEILLANCE

REPORT 2025



Prepared By:
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BACKGROUND & PURPOSE

This report summarizes ant surveillance activities conducted on Suvarrow Island by Karen (Kas) Silk and Tracy Terei from the National Environment Service, with species diagnostics completed by Biosecurity staff, Heiarii Syme and Sarah Napa. This surveillance initiative aims to detect new invasive ant species and document existing species to support national biosecurity monitoring.

Sampling focused primarily on Anchorage Island due to the potential biosecurity risks from vessel arrivals and periods without ranger presence. Additional sampling was conducted across the atolls to establish baseline distribution data of ant species. All collected specimens were submitted for species identification to support ongoing invasive-species monitoring.

SUMMARY OF SAMPLING EFFORT

- **Total samples:** 29
- **Sampling period:** 3 October - 14 November 2025
- **Sampling sites:** 12 motu in total (Anchorage + 11 additional motu)
- **Baits used:** Protein - peanut butter, Carbohydrate - jam (one sample used honey)
- **Preservation:** 96% ethanol in 5 ml vials
- **Initial containers:** 50ml ant surveillance pottles
- **Personnel:** Kas Silk with assistance from Tracy Terei (Samples 15-16)

Annex 1: Table of primary record linking physical samples to locations and observations.

Number	Date:	ID/Code:	ID (Species) CONFIRMED	Bait	Comments
1	3/10/2025	P/ SUW-T'U	<i>Monomorium floricola</i>	Peanut Butter	
2	3/10/2025	C /SUW-T'U	<i>Tapinoma melanocephalum</i>	Honey	
3	7/10/2025	P /SUW-EI	<i>Nylanderia bourbonica</i>	Peanut Butter	
4	7/10/2025	C/SUW-EI	<i>Nylanderia bourbonica</i>	Jam	
5	7/10/2025	P/SUW-OO	<i>Nylanderia bourbonica</i>	Peanut Butter	

Number	Date:	ID/Code:	ID (Species) CONFIRMED	Bait	Comments
6	7/10/2025	C/SUW-00	<i>Tapinoma melanocephalu</i>	Jam	
7	8/10/2025	P/SUW-7I/1	<i>Solenopsis geminata</i>	Peanut Butter	
8	8/10/2025	SUW-7I/1	NO ANTS	Manually collected	NO ANTS
9	8/10/2025	SUW-7I/6	<i>Solenopsis geminata</i>	Manually Collected	Decayed Chick
10	8/10/2025	C/SUW-7I/6	NO ANTS	Jam	NO ANTS
11	14/10/2025	P/SUW-GI/2	<i>Solenopsis geminata</i>	Peanut Butter	
12	14/10/2025	C/SUW-GI/2	NO ANTS	Jam	No ANTS
13	14/10/2025	P/SUW-GI/1	<i>Nylanderia bourbonica</i>	Peanut Butter	
14	14/10/2025	C/SUW-GI/1	<i>Nylanderia bourbonica</i>	Jam	
15	15/10/2025	SUW-WI	<i>Nylanderia bourbonica</i>	Manually Collected	With Tracy
16	15/10/2025	SUW-WI	<i>Nylanderia bourbonica</i>	Manually Collected	With Tracy
17	15/10/2025	SUW-BW	<i>Solenopsis geminata</i>	Manually Collected	From Zodiac
18	15/10/2025	C/SUW-BW	<i>Nylanderia bourbonica</i>	Manually Collected	From Zodiac
19	22/10/2025	P/SUW-OT	<i>Solenopsis geminata</i>	Peanut Butter	
20	22/10/2025	C/SUW-OT	NO ANTS	Jam	NO ANTS
21	9/11/2025	P/SUW-AI	<i>Solenopsis geminata</i>	Peanut Butter	Near Jetty
22	9/11/2025	C/SUW-AI	<i>Solenopsis geminata</i> <i>Nylanderia bourbonica</i>	Jam	Near Jetty
23	6/11/2025	P/SUW-KN	<i>Nylanderia bourbonica</i>	Peanut Butter	

Number	Date:	ID/Code:	ID (Species) CONFIRMED	Bait	Comments
24	6/11/2025	C/SUW-KN	<i>Tapinoma melanocephalum</i>	Jam	
25	9/11/2025	SUW-AI	<i>Nylanderia bourbonica</i>	Manually Collected	Near Jetty
26	14/11/2025	P/SUW-AI T	<i>Leptogenys falcigera</i>	Peanut Butter	By Tamanu tree
27	14/11/2025	C/SUW-AI T	<i>Nylanderia bourbonica</i>	Jam	By Tamanu tree
28	14/11/2025	P/SUW-AI H	<i>Solenopsis geminata</i>	Peanut Butter	By hedge
29	14/11/2025	C/SUW-AI H	<i>Solenopsis geminata</i>	Jam	By hedge

A total of 29 samples were collected during the sampling period from October 3 to November 14, 2025, across 12 motu, including Anchorage and 11 additional sites. The baits utilized for the sampling comprised peanut butter as a protein source and jam for carbohydrates, with one sample incorporating honey. The samples were preserved in 5 ml vials containing 96% ethanol, initially stored in 50 ml ant surveillance pottles. The sampling effort was primarily conducted by Kas Silk, with assistance from Tracy Terei for samples 15 and 16.

Ant abundance differed across the various sites, with counts ranging from none to over 50 individuals per sample. Some samples included multiple ant species, and all ants collected within each pottle were aggregated to ensure that no detections were overlooked. A comprehensive reference spreadsheet listing all 29 samples is available as a separate attachment, along with associated photographs that have been exported and are accessible on a shared drive.

Collection & Handling Method

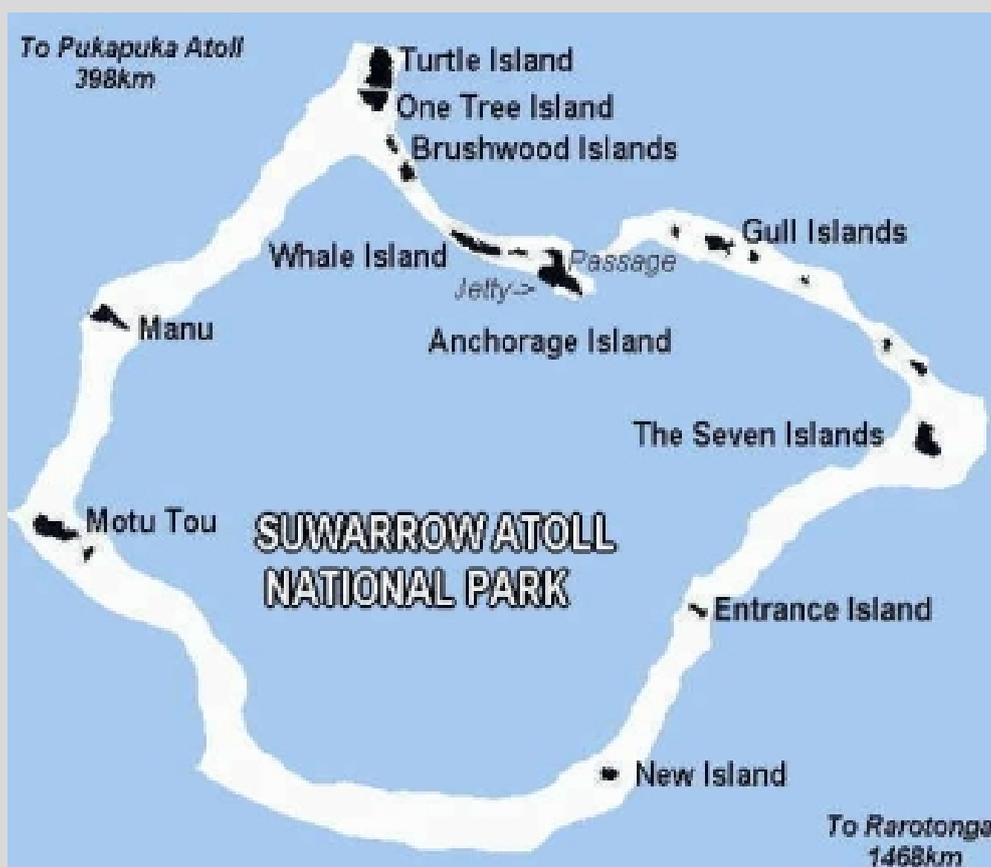
Protein and carbohydrate baits were placed together at each site to capture a range of ant foraging behaviours. Ants were collected in containers, preserved in ethanol, and clearly labelled with details recorded for traceability. Separate paintbrushes were used for each bait type to prevent cross-contamination.

Data Management

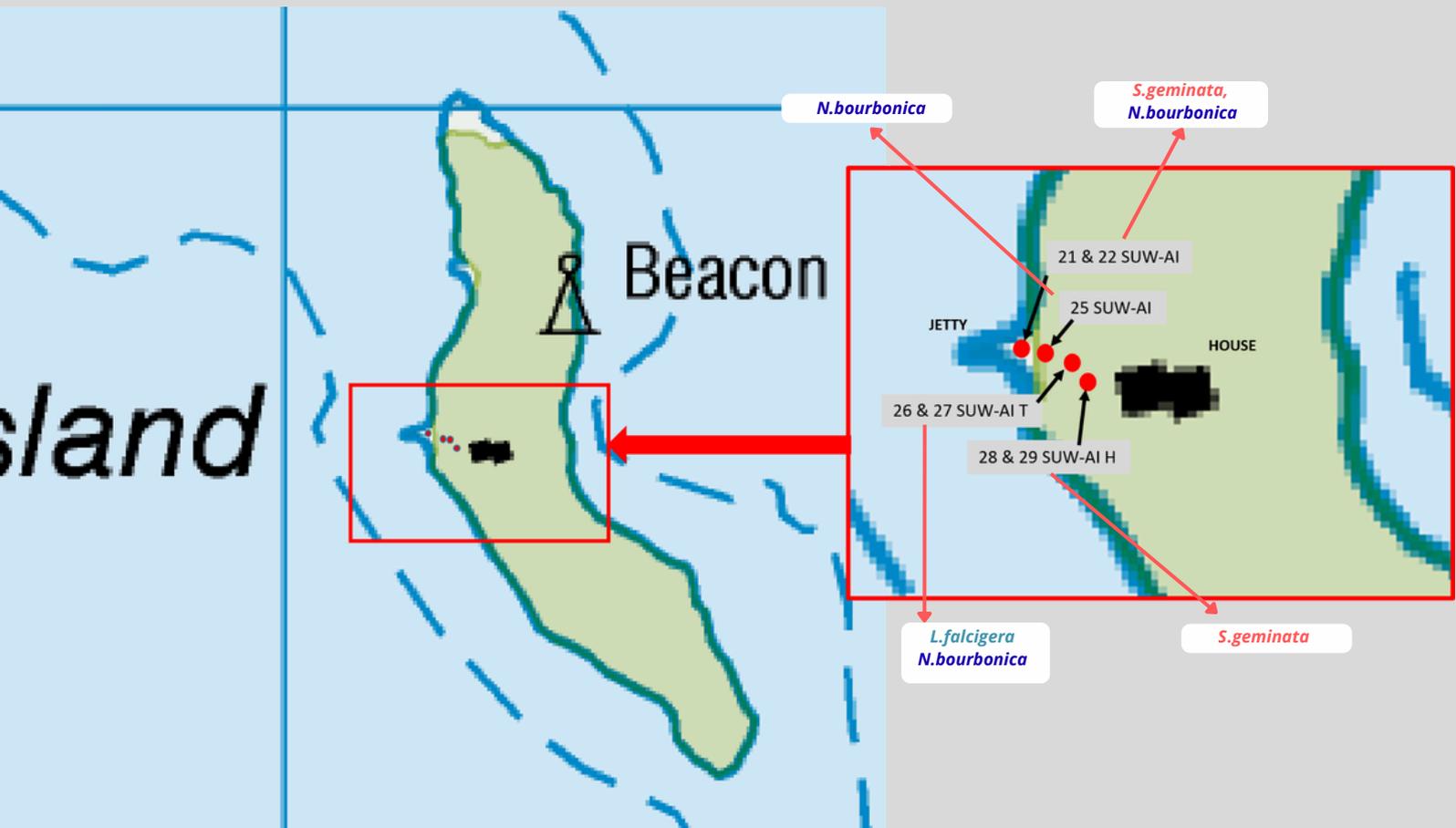
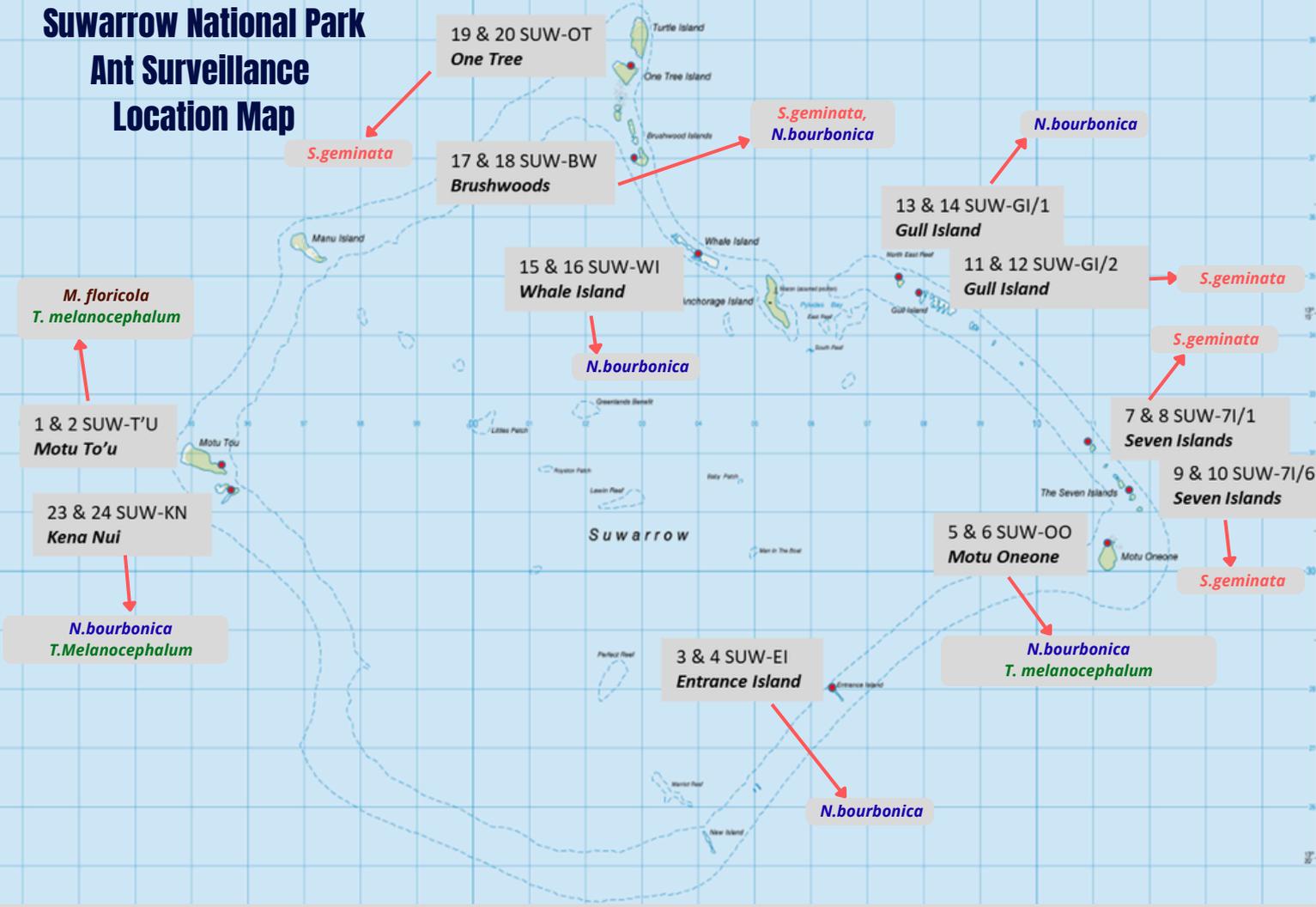
All samples were assigned distinct identifiers and recorded in a reference spreadsheet that includes the date, location (motu), type of bait used, and field notes. This document accompanies the report and serves as the essential record that connects the physical samples with their respective locations and observations.

The analysis of ant specimens has uncovered a notable prevalence of *Nylanderia* from Suvarrow, identified in ten vials across multiple sites, including Entrance Island, Gull Island, Whale Island, Kenai Nui, and Anchorage. The second most frequently encountered species was *Myrmicinae Solenopsis geminata*, which appeared in seven vials collected from 1/7 Island, 6/7 Islands, Gull Islands, One Tree Island, and Anchorage. Additionally, *Tapinoma melanocephalum* was found in four vials across Motu To'u, One Tree Islands, 6/7 Islands, and Kenai Nui. Furthermore, *Myrmicinae Pheidole* (Major Workers) was present in three vials, alongside three other species: *Monomorium* from Motu To'u, *Nylanderia bourbonica* from One Tree Island, and *Nylanderia bourbonica* from Anchorage.

Annex 2: The locations of the surveillance sites were provided by Karen Silk, NES. Three maps are included to illustrate the locations surveyed. The species identified at each site have been labelled in red on the maps. Please refer to the table in Annex 1 to confirm the corresponding ant ID numbers indicated on the maps.



Suvarrow National Park Ant Surveillance Location Map



CONCLUSION:

This surveillance provides baseline information of ant species across Suvarrow National Park, focusing on high-risk areas such as Anchorage Island. It also supports ongoing biosecurity monitoring and future surveillance planning efforts. Specimen diagnostics by biosecurity staff confirmed the identified species, with no new ant species detected.

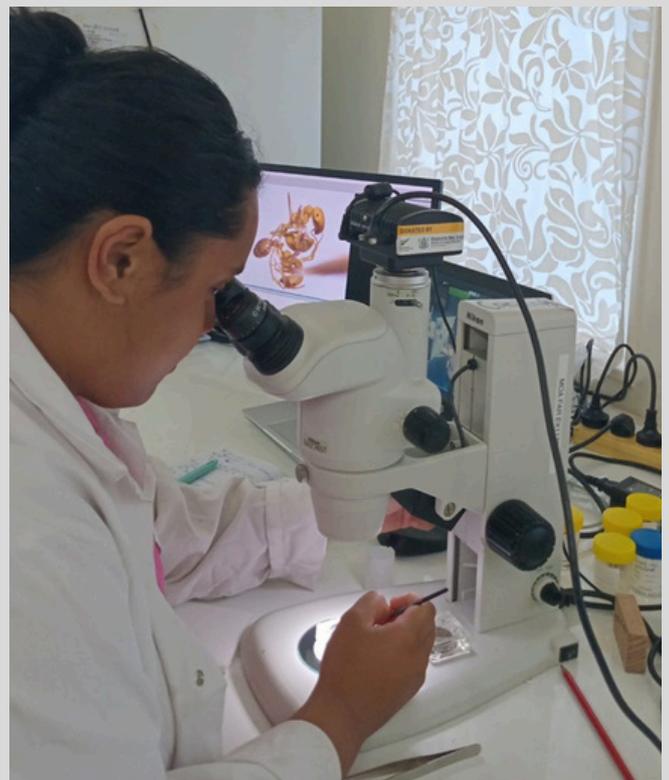
Verification was done in collaboration with NZ MPI, PHEL Pacific Scientist (Entomology) Dr. Joanna Mackisack, using the Remote Microscopic Diagnostics (RMD) camera. In total, five ant species were identified. Although none of these species rank among the top five invasive ant species in the Pacific, they are still considered invasive, highlighting the importance of comparing these findings with Suvarrow ant data from the past decade. Based on these findings, the Ministry of Agriculture and National Environment Service will discuss the next steps moving forward.

ANT SPECIES (CONFIRMED):

1. *Solenopsis geminata*
2. *Nylanderia bourbonica*
3. *Monomorium floricola*
4. *Tapinoma melanocephalum*
5. *Leptogenys falcigera*



Lab Technician Sarah Napa collaborating with Dr. Joanna Mackisack via Zoom to identify ant specimens.



Lab Technician Sarah Napa examining ant specimens using the Remote Microscopic Diagnostic Camera.

Solenopsis geminata



Nylanderia bourbonica



Monomorium floricola



Tapinoma melanocephalum



Leptogenys falcigera



ACKNOWLEDGEMENT

The Ministry of Agriculture acknowledges the National Environment Service, Karen Silk and Tracy Terei, for leading the field data collection and surveillance work on Suwarrow.

We also acknowledge the Biosecurity Laboratory staff, Heiarii Syme and Sarah Napa and the New Zealand Ministry for Primary Industries (MPI), including PHEL Pacific Scientist (Entomology) Doctor Joanna Mackisack, for their support with diagnostics and species verification.

We look forward to continued collaboration in areas of mutual interest as we head into the future.

