

Invasive ants for teachers

Participant Workbook



Produced by Allan Burne, Meghan Cooling and Monica Gruber of Pacific Biosecurity, Victoria University of Wellington

Reviewed by Souad Boudjelas of Pacific Invasives Initiative, University of Auckland

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Target audience

This workshop is designed primarily for **teachers** so that they can use the resources in the PIAT to provide a learning experience for their students.

Objectives

By the end of this workshop participants should:

Exercise 1: Why are invasive ants a problem?

- Have an understanding that not all ants cause problems and that only some ants need to be controlled or eradicated

Exercise 2: What makes these ants so successful?

- Be able to use the PIAT to find out why some species of ants are more successful as invaders than others

Exercise 3: The life cycle of the ant

- Be able to use the PIAT to understand how the biology of ants affects their management
- Be able to use the resources in the PIAT to understand the how ant biology and interactions with other species can affect their ability to become a significant pest

Exercise 4: Invasive ants for teachers

- Be able to prepare a lesson plan to teach school children in the age group 7-11 about invasive ants, their impacts and how children can contribute to reducing invasive ant threats

Duration

1 day

Materials Required

- white board
- A3 sheets for collaboration
- whiteboard marker
- permanent marker or sharpie
- laptops for participants
- laptop with AV
- workbooks printed in colour
- pencils / pens
- USB, CD or online access to the PIAT
- labels for participant / facilitator names
- printed sheets with ant icons
- printed posters
- print outs of life stages
- colouring pencils / pens
- printed wordsearch with solutions
- printed crosswords with solutions
- black and white biosecurity poster
- peanut butter
- lollipop or other small sticks
- rulers
- ants & ladders printed / laminated
- ziplock bags
- optionally:
 - preserved life-stage specimens
 - dissection kit (minimally forceps)
 - extra ethanol / propylene glycol

Exercise 1: Why are invasive ants a problem?

Duration: 1 hour

Watch the videos about little fire ants and yellow crazy ants in the Pacific. Read the **Problem ants** main page of the PIAT to find the three main ways invasive ants cause harm (these are sometimes called impacts). Based on what you have read and the videos, discuss the following questions.

Q1. What three main types of problems (harm or impacts) do invasive ants cause?

Look at the **Problem ants → What are the problems invasive ants cause?** page. Scroll down to read about some of the impacts. Read through the impacts for some of the 5 worst ants in the **Problem ants → 5 worst threat ants to the Pacific** section (little fire ants for example).

Q2. What are some specific examples of severe impacts?

Exercise 3: The life cycle of the ant

Duration: 2 hours

Look on the PIAT page on the life cycle of ants **Problem ants** → **Lifecycle of ants**. Have a look at the specimens of different life stages in ethanol.

Q1. Can you tell the different life stages apart easily?

Let's go outside and try to find and open an ant nest and look for brood (pupae and larvae). Also, look around for mealy bugs, scale insects or aphids on any fruit trees or other plants around. Ask the facilitator if you don't know what these look like.

Q2. Was it easy to find an ant nest?

Q3. When you opened the nest, what did you find most of – queens, workers or brood?

Q4. Based on what you have learned in the workshop so far, why do you think there were more of one life stage (adult workers for example) than another (queens or males for example)?

Q5. Did you find lots of queens? How might that affect the invasiveness of the ants?

Q6. Did you find ants farming sap sucking bugs? Are there scale insects around? What effect might these have on the ants?

Q7. Did the different life stages of the ants you found outside look very different from the ones in ethanol?

Exercise 4: Invasive ants for teachers

Duration: 2 hours

Find the PIAT lesson plan, PowerPoint and activities in the **Learning and teaching → Invasive ants for teachers and young people**.

Work through the lesson plan as a group, and talk about each of the PowerPoint Slides.

Read through the Connected article and lesson plan.

Q1. Are there any points that are not clear in the slides?

Q2. How could the PowerPoint be improved for your students?

Q3. What other resources do you need to help deliver this training to students?

Complete the wordsearch activity.

Q4. Are there terms that are difficult to understand / translate / communicate to students?

Complete the crossword activity.

Q5. Are there concepts that are difficult to understand / translate / communicate to students?

Q5. Is the material in the lesson plan appropriate for 7-11 year olds in your community?

Version control

author	description	date
Monica Gruber	Version v1 – based on mini <i>Problem ants</i> and <i>Learning and Teaching</i> workshop and incorporating feedback from Kiritimati training	16 Jan 2017