



Big Headed Ant Distribution Mapping

Objective: To organise and implement a field survey for Big Headed Ants in the school yard and at home, and organise the information into a data base which can be viewed as a Geographical Information System or map.

Classroom Activities

1. Class Discussion and Journal (if stand-alone exercise)

Distribute the *Big Headed Ant Project Information Sheet* for students to read and paste into their journals. Ask the class to discuss any information they already have about the ants (maybe through the media?), including any known places they are in. Introduce the CSIRO BHAnt Distribution Mapping project and get the class to brainstorm why it is important to know where the ants are, and what other aspects of their distribution might be useful to know about (e.g. what kind of habitat are they found in, what are they doing, what human activities seem to attract them?). What skills will students need to collect this information? How can we identify Big Headed Ants (under the microscope, in the field?). Get students to record their ideas in their Journals and keep a class record of questions raised.

2. Introducing the data sheet

Distribute the *Big Headed Ant Distribution Mapping Data Sheet* (Home and School versions) and ask students to read and paste into their journals.

Teachers of older students may wish to extend this exercise with a discussion of what other information it

might be useful to collect in the survey (there is room for at least three additional variables). For example, the presence of Big Headed Ants may be related to the number of pot plants or plant material brought into the property, or to garden water use (for ideas on how to measure this refer to *the Water Education Topic Booklet*).

Using the *Big Headed Ant Checklist Poster/Handouts* and the *Ants of Alice Springs Poster/Handouts*, get the students to discuss how Big Headed Ants can be identified around town.

3. School yard Survey

Distribute **a map of the school** among students and identify different potential 'habitats' within the school grounds (e.g. paved areas, irrigated gardens, native gardens, bare soil, grassy areas etc.).

Older students could be assigned to survey a particular habitat/site. Younger students could simultaneously search an area in a group. A scribe should be selected to record the information at each site on the *Big Headed Ant Distribution Mapping School Data Sheet*. Provide each group of students with a **labelled specimen tube, pencil and magnifying glass/hand lens**.

Ask students to work through the data sheet and return with any samples for closer examination under a **micro-**



Contact CSIRO
Phone: 08 8950 7100
Email: karen.eva-stirk@csiro.au
Web: www.csiro.cazr.au

Contact TSN
Phone: 08 8952 1541
or 0417 887 226
Email: tsntt@ozemail.com.au



Alice Springs Big Headed Ant Mapping Project

Upper Primary & High School

Classroom Resources 3



scope.

4. Class Data Map

Back in the classroom, ask students to collate the information from their data sheets onto **an enlarged school map**, using **coloured sticky dots** to indicate different ant species including the Big Headed Ant.

Discuss where different species were found, look for patterns in their distribution and ask students to suggest which habitat variables might be important for different species (e.g. shady areas, open areas, leaf litter, soil moisture, presence/absence of other ant or organisms). Consider this especially for the Big Headed Ant if you have enough data.

Ask students to transfer the information onto their own school maps and write about their conclusions in their Project Journals.

5. Project: Home Survey

The home project is for each student to carry out a similar survey independently at home, using the *Big Headed Ant Distribution Mapping Home Data Sheet*. Teachers with older students may wish to get their classes to collectively decide on three extra variables to measure, based on the results of the school yard survey (there is room on the survey sheet for this).

It is suggested that students survey their houses and yards at least three times over a week, taking about half an hour to look each time. Ask students to vary the time of day and weather (should it be cloudy or raining!) for their backyard surveys. The information can be all recorded on the one data sheet. Each student should have *one specimen tube* in which to collect any ants

that they would like to bring back to the classroom for checking by the teacher or class ant 'expert'. Big Headed Ants especially should be sampled for final collection by CSIRO. Please make sure samples are clearly marked with location and date sampled. Keen students may also wish to sample local public spaces and fill out a separate data sheet for these.

6. Alice Springs Distribution Map

In the classroom, students can enter the data from their home survey into *the Excel spreadsheet* that has been set up for this project. The spreadsheet contains all the information relating to the Alice Springs cadastre (kindly provided by the NT Department of infrastructure, Planning and Environment) which includes all the parcels of land in Alice Springs. Students will be able to look up their own street and number and enter the information from their data sheets. (For technical support on this see the accompanying *Technical Information on the Alice Springs Big Headed Ant GIS and database*). Once all students have entered their data, the results can be displayed in map form in ArcExplorer 4.0.1 (*freeware software and technical information supplied*).

