



# **Collect, prepare and preserve plant specimens**

AHCPM202A

By the end of this topic, you should be able to:

- Collect specimens
- Press plants
- Record data

- In your role as a horticulturalist, you may be required to preserve plant specimens in a herbarium, such as:
  - Native or exotic plants
  - Flowers or fruit
  - Whole or part plants
- Preserving plants provides important records of what plants grew in a particular region over time, and it helps prevent premature extinction.

# Herbarium specimens

- There are four main aspects to making good herbarium specimens:
  - Collecting
  - Pressing and preserving
  - Mounting
  - Labelling

*Plants preserved on a herbarium sheet*



## Collecting specimens

- To collect plant samples you will need a variety of equipment, such as:



Secateurs



Trowel



Plastic bag



Gloves



Hard hat



Envelopes



Tags



Notebook



Magnifying glass



Pencil/pen



GPS



Camera

## Collecting specimens

- Collected specimens should be as complete as possible, including some or all of the following (to aid with identifying the sample):
  - Branch or portion of stem (including leaves and roots)
  - Flowers/buds and fruit
  - Different parts of the same plant to illustrate variation
  - Seeds

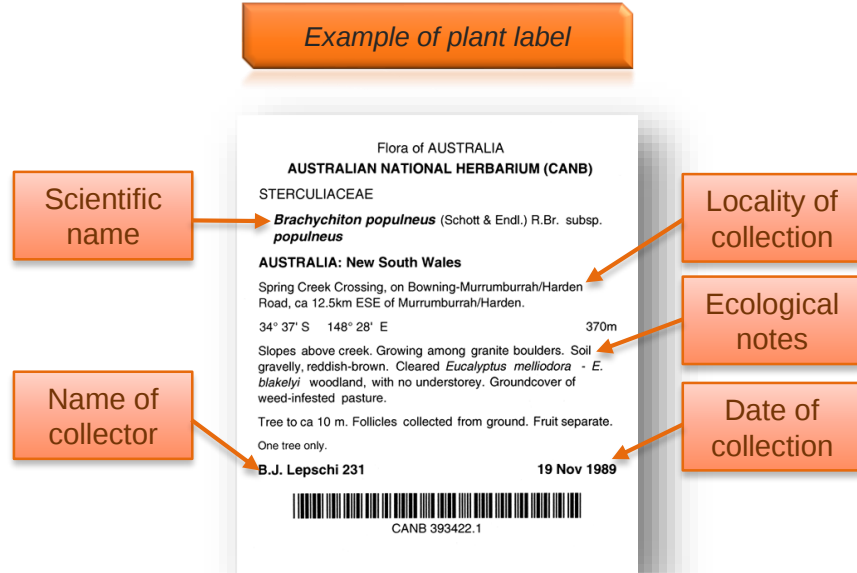
## Collecting specimens

- The sample collected should be the largest size practical to fit on the herbarium sheet.
  - Smaller sample sizes are often inadequate as they can lack full details of the whole plant.
- If the plant size is small, it is a good idea to collect multiple plants on the one sheet, provided they all come from the one population.

- Some important tips to remember when collecting specimens:
  - Seek permission from the owner if you are entering private land
  - Only collect what is necessary, particularly when collecting a rare species
    - Be mindful of any legislative limitations on the collection of flora
  - Leave the location relatively untouched
  - Modify the collection method according to the type of plant
  - Collect typical specimens that show variation in leaves, a variety of different sizes/ages, and fertile plant material where possible
  - Follow your organisation's procedures and guidelines, seeking assistance from your supervisor as required

# Collecting specimens

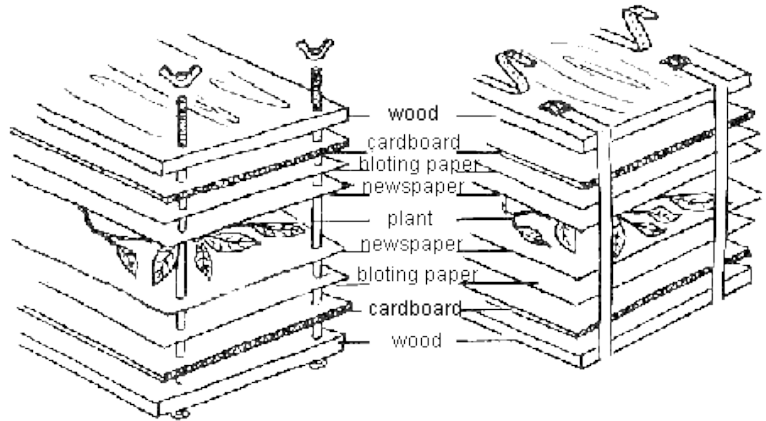
- After collecting your plant specimens, you will need to correctly and clearly label them.
- You should also record observations of the locality and habit of plants (e.g. branching, height, width, details of bark).
  - This data is just as important as the specimen itself.



## Pressing plants

- For best results, specimens should be pressed within a few minutes of being removed from the plant.
- However, if this is not possible, you should label the specimen with tags and store them in a plastic bag out of the sun.
- Avoid humidity, as the specimen may wilt.

*Typical plant press structure*



- How to use a plant press:
  - Wash or brush soil off specimen
  - Open a sheet of paper and place the plant on one side, folding the top over the specimen
  - On top and below this plant/paper sandwich, place a material that will allow the air to circulate within the press
  - Repeat and stack plant/paper/separator sandwiches together
  - Place wooden boards or lattices on the top and bottom of the stack
  - Wrap rope, leather belts or nylon straps and tie/fasten the press together and apply pressure.

- Some important tips to remember when pressing plants:
  - Choose white or neutral paper that contains no toxic chemicals.
  - Use absorbent paper to avoid mould. Avoid glossy paper.
  - Place either newspaper, wooden board (e.g. plywood) or smooth-sided centre corrugated cardboard between drying folders to assist air circulation through the press.
  - Ideally, you should avoid adjusting the specimen.
    - However, you may have no option to adjust a specimen (e.g. if an insect or fungal attack occurs).
  - Follow your organisation's guidelines for arranging specimens on sheets and pressing specimens.

## Recording data

- You may be required to submit specimens for identification by another party (e.g. herbarium or botanical garden).
- Specimens to be submitted for identification should be packed following established procedures and include all data from the collection observations.
  - This may include photographs of the plant growing in its habitat.

Supplying inadequate information or poorly preserved/presented specimens may lead to a plant not being identified properly.

| Recording data |  |
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- Follow your organisation's guidelines for mounting specimens.
- Ensure to arrange the specimen in a pleasing manner, showing any visible identifying characteristics.
- Attach the specimen to the sheet, using glue sparingly.
- Enclose any seeds in an envelope and attach this to the sheet.

Carefully arranged plant specimen

Carefully placed

Kept within  
sheet  
boundaries

Minimal overlapping

Underneath  
label on  
bottom right  
corner of  
mounting  
card



- To create a reference collection, dried and pressed plant specimens need to be stored in alphabetical order in protective plastic jackets.
- To make sure your specimens are stored correctly, you should:
  - Place each specimen sheet in a plastic sleeve or sheet protector
  - Place the sheets in lever arch files in alphabetical order
  - Keep the files dry, insect-free on shelves or in a cupboard
  - Check your specimens every few months for insect damage

You should speak to the herbarium curator to establish their requirements for specimens and notes.