



# Recognise plants

AHPCPM201A

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

- Prepare for plant recognition
- Recognise specified plants
- Update the reference collection

## Identify range of plants requiring recognition

- Through your horticultural practice, you will be required to work with a range of plants, from native plants to large non-native trees.
- Plants play a vital role in the environment. They:
  - Provide food and other natural products
  - Provide shelter for animals and birds
  - Protect soil from erosion and salinity problems, replacing nutrients
  - Improve air quality

The most important groups of plants that you will need to recognise are those relevant to your own workplace or industry.

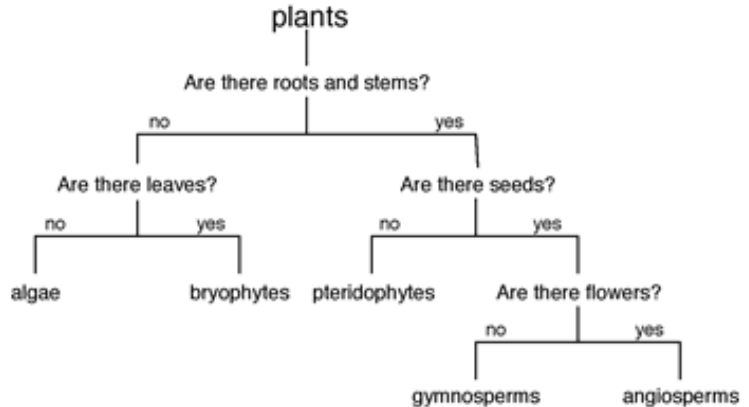
## Resources and equipment for plant recognition

- When preparing for plant recognition, you should collate, prepare, and use a range of resources and equipment, such as:

| Resources                                                                                                                                                               | Equipment                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Guides</li><li>• Internet</li><li>• Picture books</li><li>• Plant key</li><li>• Supervisors</li><li>• Work colleagues</li></ul> | <ul style="list-style-type: none"><li>• Secateurs</li><li>• Plastic bags</li><li>• Envelopes</li><li>• Tags</li><li>• Notebook</li><li>• Magnifying glass</li><li>• Pencil/pen</li><li>• GPS</li><li>• Plant press</li></ul> |

## Example plant key

- A plant key consists of a series of statements of the plants involved.
  - The statements are grouped and require a choice to be made.
  - This leads to another set of statements where another choice is made.
  - You proceed from one choice to another until you arrive at the answer.



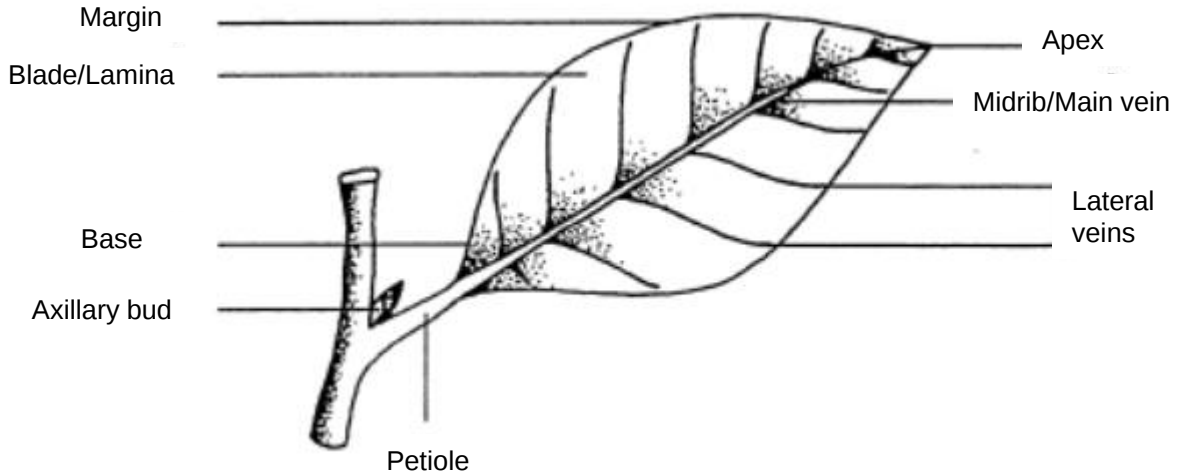
## Plant organs and functions

- Plants have a number of organs. You should be aware of their functions, as they will aid with plant recognition:

| Organ   | Description                                                                                             |
|---------|---------------------------------------------------------------------------------------------------------|
| Flowers | Provide aesthetic value and produce seed as a result of pollination.                                    |
| Fruit   | Provides protection to seeds and also assists in the seed dispersion.                                   |
| Leaves  | Manufacture food for the plant through photosynthesis. They may be either simple or compound in nature. |
| Roots   | Anchor plants and absorb water and nutrients from the soil.                                             |
| Stems   | Support flowers, fruits and leaves.                                                                     |

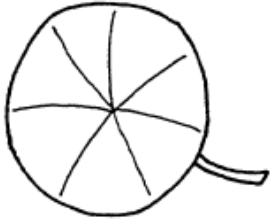
## Plant organs: Simple leaf

- The parts of a simple leaf are shown below:

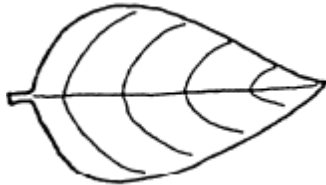


## Plant organs: Simple leaf shapes

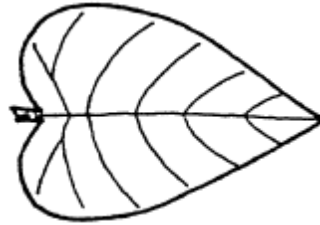
- There are a range of simple leaf shapes, including:



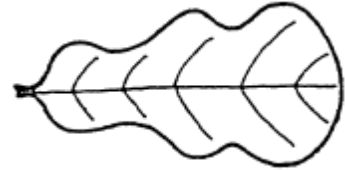
Orbicular



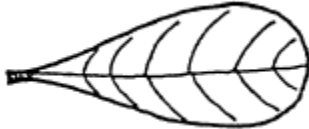
Ovate



Cordate



Lyrate



Spatulate



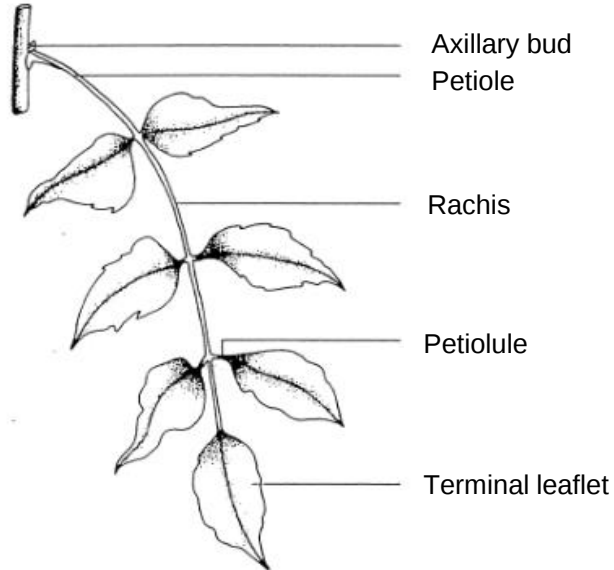
Falcate



Acicular

## Plant organs: Compound leaf

- The parts of a compound leaf are shown below:



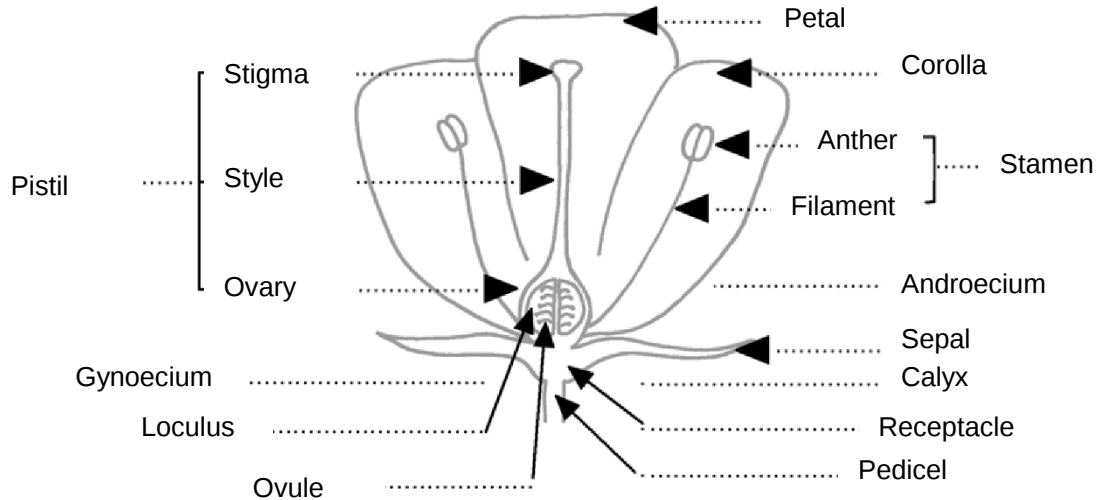
## Plant organs: Compound leaf types

- There are a range of compound leaf types, including:

| Type         | Description                                                            |
|--------------|------------------------------------------------------------------------|
| Palmate      | Leaves with several leaflets emanating from one point                  |
| Pinnate      | A compound leaf which has a row of leaflets on each side of the rachis |
| Trifoliolate | Leaves with three leaflets                                             |

## Plant organs: Flowers

- The parts of a flower are shown below:



- There are a number of available processes for plant recognition. For example:
  - Classifications (e.g. according to their life span)
  - Environments (e.g. habitat)
  - Habit and form types
  - Flowering plants groupings

These processes are outlined in further detail on the following slides

- There are a range of plant classifications:

| Classification        | Description                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------|
| Annual                | Plants which grow, flower, seed and die in one year or part of a year.                                  |
| Biennial              | Plants which require 2 years to grow, flower, seed and die.                                             |
| Climber               | Plants with stems too weak to support them in an erect position.                                        |
| Deciduous             | Trees and shrubs which are leafless during a portion of the year.                                       |
| Evergreen             | Plants that have leaves all year round.                                                                 |
| Groundcover           | Plants other than grasses that are used to satisfactorily cover the ground.                             |
| Perennial             | Plants which live more than 2 years.                                                                    |
| Shrub                 | Wood plants that remain low and produce shoots from the base. Does not have a single or distinct trunk. |
| Soft-wooded perennial | Plants which have persistent tops and roots. Tops do not become woody.                                  |
| Trees                 | Woody plant that has a single main trunk with a distinct and elevated head.                             |

- Plants can be recognised by their environments:

| Environment    | Description                                                                |
|----------------|----------------------------------------------------------------------------|
| Alpine         | Mountain areas covered with snow. Plants are usually low growing.          |
| Mallee         | Areas of small multi-stemmed eucalypts.                                    |
| Mulga          | Low rainfall with hot summers.                                             |
| Rocky outcrops | Areas of rock where plant roots have to search for moisture in the cracks. |
| Tropical       | High rainfall and heavy vegetation.                                        |
| Wetlands       | Permanently or periodically under water.                                   |

## Habit and form types

- There are a range of tree/shrub habit and form types, including:

**Columnar**



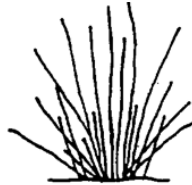
**Fastigate**



**Narrow dome**



**Upright, cane-like**



**Vase**



**Weeping or pendulous**



## Flowering plants

- Flowering plants are separated into two groups:

|                        | Monocot                                                                  | Dicot                                                             |
|------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------|
| Seed                   | Have only one seed leaf inside the seed coat                             | Have two seed leaves inside the seed coat                         |
| Germination and leaves | Produces a single leaf, which looks long and narrow, like the adult leaf | Produces two seed leaves which come in different shapes and sizes |
| Root pattern           | Fibrous roots                                                            | Tap-root system                                                   |
| Flower                 | The parts are in threes                                                  | The parts are usually in fours or fives                           |

## Collecting plant information

- You should collect the following information about a plant to be able to identify/name it:

| Site description                                                                                                    | Plant description                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Location</li><li>• Soil type</li><li>• Drainage</li><li>• Climate</li></ul> | <ul style="list-style-type: none"><li>• Height</li><li>• Colours</li><li>• Textures</li><li>• Stem type</li><li>• Seed type</li><li>• Fruit</li><li>• Growth form</li></ul> |

## Naming plants

- The rules or system of naming plants is known as nomenclature.
  - A number of plants may have the same common name, however each plant has a unique scientific name
- The scientific name of a plant consists of the following parts:

### FAMILY NAME

Family name is written in capital letters.

The modern FAMILY NAME always ends in ACEAE

### *Genus name*

Genus: A group of related plants.

Latin word written in italics, starts with capital letter.

### *species name*

Species: One kind of plant within the genus

Latin word written in lower case and italics.

- Your ability to recognise plants will improve as you gain more experience.
  - However, there will be many occasions when you need to seek advice from your supervisor.
- You should seek help from your supervisor when:
  - You do not recognise the plant at all
  - You do not have information to help you recognise the plant
  - You are unable to find all the information you need
  - You want to clarify something about the plant

- The aim of collecting plant information is to store it in a plant reference collection.
- You should follow the sequenced steps below when creating a plant collection:
  1. Get approval
  2. Select equipment
  3. Collect specimen
  4. Press specimen
  5. Mount specimen
  6. Store specimen

When collecting plant samples, make sure you include leaves, flowers and fruits/seeds.

Try to get as much information about a plant as you can without harming it.

- After identifying a plant, you would record relevant information in the plant reference collection.
- Information to be recorded may include:
  - Family
  - Genus
  - Species
  - Common name
  - Growth habits and requirements
  - Dimensions
  - Foliage
  - Flower
  - Fruit
  - Handling requirements
  - Natural distribution
  - Soils
  - Natural vegetation
  - Landcare use
  - Propagation
  - Pests and diseases