Identifying native plants

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Getting to know our flora

Whether for bush regeneration and revegetation, or simply to become a more responsible gardener, more and more people are keen to recognise their local native flora.

Plant identification helps us to:

- make records for future reference
- communicate with others about species and their management
- make predictions about why, where and how species survive, reproduce, compete, disperse, adapt and grow

Field guides are a useful identification tool for specific locations or plant communities.

Getting started

Like learning any new skill, it helps to become familiar with:

- Language - botanical terms used for describing, naming and grouping plants
- Features - physical characteristics of plants, including leaves, flowers and fruits
- Tools - resources and methods available

Although a range of identification tools is available, their usefulness varies depending on their relevance to the local habitat as well as the skill level of the user. To start with, use a combination of different methods and resources, such as:

- Field guides
- Botanical keys
- Herbarium specimens
- Photographs
- Web sites and CD Roms
- Expert assistance
- A botanical dictionary
- Recognition & familiarity

How plants are named

In 1753, the Swedish naturalist, Linneaus, developed an international system for naming plants known as binomial nomenclature. 'Binomial' simply means 'two names'. The first name refers to a plant's genus, the second its species.

- **Families** contain a number of similar genera and often end in –aceae, eg. Myrtaceae
- **Genera** (plural of genus) consist of a number of similar or closely related species, eg. *Eucalyptus*
- **Species** are groups of similar individuals that are able to breed amongst themselves to produce fertile offspring. Genus and species names are used together, eg. *Eucalyptus racemosa or* Eucalyptus racemosa
- **Common names** are non-scientific names given to species (eg. scribbly gum). Species often have more than one common name, which can be confusing

Plant names aim to reflect genetic relatedness (eg. members of the same genus are closely related). As our understanding of relationships continues to improve, current groupings and names (based on physical, not necessarily genetic, similarities) are bound to change.

Plant features

Plants that are related tend to have features and strategies in common. Below are some common features used to distinguish different plants.

Flowers show little variation within a species, making them one of the most reliable features for identification.

- Obvious characteristics such as **petal number** can be used. Less obvious characteristics such as the number of male and female parts may require closer analysis using a microscope or hand lens. A hand lens can reveal whether the ovary (the part containing developing seeds) is **superior** (located above the other floral parts) or **inferior** (located below) or somewhere in between, such as in the case of flowering gums.
- Viewed from above, a flower is either **regular** (eg. a hibiscus) or **irregular** (eg. an orchid) in shape.
- In general, flower size and colour are less reliable than the number of individual flower parts and their arrangement, as they can vary with growing conditions.
- Bear in mind that male and female parts are not always located in the same place. Dioecious species such as *Casuarina* have separate "male" and "female" plants.

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Leaves are an important feature used in identification.

Leaves are a more readily available plant feature for identification. Differences in leaf colour, shape, size and texture can help to distinguish species.

- Often it is important to know whether leaves are '**simple**' or '**compound**', but the two are often confused. A simple leaf is a single leaf (eg. gum leaf). A compound leaf is divided into a system of leaflets (eg. fern leaves). Compound leaves lack buds in the axils (point of attachment) of their leaflets.
- The leaves and stems can also have small **glands**; their type (eg. oil, salt or nectar) and location can be useful identifying features.

Like flowers, **fruits and seeds** show little variation within a species, making them a reliable feature for identification. Fruits come in different shapes, sizes, colours and textures but are often only available at certain times of the year.

- Being able to recognise the **plant form** is useful (ie. whether the plant is a tree, shrub, herb, grass or vine).
- **Life history** accounts for the timing and frequency of reproduction (eg. annual, biennial, or perennial).
- **Bark type** (eg. furrowed, fluted, smooth, peeling etc), **sap** features (eg. milky latex, red, clear etc) and the presence of distinctive odours may be important identifying features in forests, particularly when leaves and flowers are hard to reach.

How to use a key

A botanical key is a tool used to figure out what species or group a plant belongs to. It is usually based on a system of two-way decisions. Keys may be descriptive (word-based) or picture-based.

The steps to follow when using a key are simple.

1. Start at the top and select one of the first two options. This will refer you to your next options.
2. Continue to choose the appropriate descriptions until you arrive at a name.
3. Check that this is correct by looking at the descriptions and / or pictures provided.

As you work through a key, it helps to record your steps in case you need to backtrack. Like field guides, keys are limited to species of a particular area, genus, or group (eg. weeds, local grasses), so check that you are using a key likely to contain the plant in the first place!

Enjoying native plants

Identifying native plants is a skill that takes time, patience and an interest in native vegetation. Natural curiosity and motivation to improve your skills is a great place to start. Whatever your experience, don't be afraid to have a go. By getting to know native plants, you can help others appreciate our native vegetation and gain plenty of enjoyment in the process.

What you can do

- Become a Greening Australia (GA) member or get involved in our volunteer activities
- Learn about native plants by participating in local vegetation projects through GA and your local Bushcare groups.
- Come along to GA community workshops on plant identification.

References

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Greening Australia Queensland (Inc.)
Ph: 07) 3902 4444
Email: general@qld.greeningaustralia.org.au
www.qld.greeningaustralia.org.au/GA/QLD