A guide to the methods of

IDENTIFYING PLANTS

Identifying Plants

HOW CAN I IDENTIFY THE PLANTS IN MY GARDEN?

Detailed botanical surveys can be carried out by ecological consultants, but are generally expensive - so why not learn to identify plants yourself? All you need is some spare time, motivation, a magnifying glass and a few key reference books. After all, some of the best botanists in Australia are self-taught!

You may benefit in many ways from learning this new skill. For instance:

- ☑ It will help you to identify what plants occur on your property and select suitable species for revegetation;
- ☑ You will be able to distinguish the difference between indigenous and introduced species; and
- ☑ You may gain endless enjoyment from identifying plants in your local bushland reserves.

SO HOW DO I LEARN PLANT I.D.?

There are a number of ways that you can teach yourself to identify plants. Having the right reference books are essential. The following texts are highly recommended as a starting point:

1. Australian Plant s Society Maroondah Inc. (2001) *Flora of Melbourne: A Guide to the Indigenous Plants of the Greater Melbourne Area.* Third Edition. Hyland House Publishing, Victoria.

2. Costermans L (1996) *Native Trees and Shrubs of South-eastern Australia: Covering Areas of New South Wales, Victoria and South Australia*. Third Edition. Lansdowne Publishing Pty Ltd, New South Wales.

3. Muyt A (2001) *Bush Invaders of South-east Australia: A Guide to the Identification and Control of Environmental Weeds Found in South-eastern Australia*. RG and FJ Richardson, Victoria.

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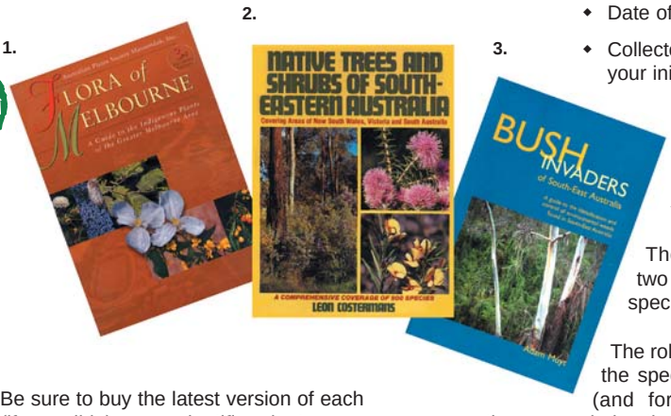


Be sure to buy the latest version of each (if possible), as scientific plant names are sometimes changed based on the findings of new research. The texts quoted above are the most recent editions at the point of publishing this brochure. While these are not always available in mainstream bookstores, many organisations sell them, including the Australian Plant Society Inc., Field Naturalists Club of Victoria, Royal Botanic Gardens Bookshop (Melbourne) and the publishers themselves.

If and when you feel confident enough to try more technical plant identification, the key references in Victoria are the four volume set of *Flora of Victoria* - Inkata Press, Melbourne. At this point you would seriously consider purchasing a dissecting microscope, so as to identify the microscopic plant parts that are referred to in the comprehensive identification keys.

Once you have the reference books, you may like to use one or more of the following plant familiarisation techniques:

A. Create a herbarium (pressed plant collection)

Creating a collection of pressed plants that you can refer to is one of the most effective ways of becoming acquainted with them. This is best done using the Cameron Method (2004).

A standard plant press is easily made using the following materials:

- A pair of wooden lattices 30 cm W x 48 cm L (slats should be no greater than about 20 mm wide x 5 mm thick)
- 3 mm thick corrugated cardboard (unwaxed) 30 cm W x 45 cm L
- Old newspapers unwaxed sheets)
- About 2 m of sash cord (5 - 8 mm diameter)

Most of the materials are available at hardware stores, though you may need to purchase the cardboard from a specialist supplier (look under 'paper' or 'cardboard' in the Yellow Pages). Try to buy environmentally friendly cardboard where possible ie. 100% recycled. Alternatively you may choose to obtain used boxes from local retail outlets (particularly supermarkets), using a Stanley knife to obtain suitable sections. The thicker and straighter the cardboard, the more effective drying will be.

Collected specimens should be pressed as soon as possible by placing them inside a single folded sheet of newspaper, carefully arranging the plant to display key features adequately. The newspaper acts as an envelope, helping to avoid loss of plant material. On the blank edges, write as many details about the collection as possible, particularly:

- Date of collection;
- Collector and collection number (assign your own e.g. your initials and a number - IT001, IT002, IT003...);
- Locality (Latitude and Longitude if possible, using a G.P.S.);
- Scientific name if known; and
- Habitat preference e.g. shady creekline.

The specimen should then be placed between two cardboard sheets, ensuring that each individual specimen is separated by at least one cardboard sheet.

The role of the cardboard is to conduct moisture away from the specimen; hence the newspaper does not need to be (and for additional reasons 'should not' be) changed during the drying process.

Once all your plants have been placed in the press, tie it up as tightly as possible with the sash cord. Check its tension regularly, as it will loosen as the plants dry.

Inspect the press daily to begin with, and then every few days until the specimens are dry. Replace damp cardboard sheets with dry sheets as necessary, taking care not to disturb the drying plants. The damp cardboard sheets can be laid out and returned to the press once dry.

Keep the press in a well ventilated, warm atmosphere, avoiding confined spaces such as cupboards and car boots. If using an artificial heat source to assist drying, keep the temperature to medium or low, orientating the press so that the open cardboard corrugations face the air stream. Exposing the press to intense heat will actually cook the plants, rendering them useless.

B. Take photos of the plants

Taking photos of plants is a great way to help you learn what they are. All you need is a camera and reference books. You may like to use your existing non-digital camera, though taking detailed photos of plants has become much simpler with the advent of digital photography. The major benefit is that 'trial and error photography' doesn't cost you in film and processing, and you can see your photos instantly!

High quality digital cameras are pretty cost effective these days. The size of the camera does not matter, just look out for something upwards of about five megapixels, with a macro for close up photography.

The two main rules in plant photography is to:

1. Only photograph plants with fertile material e.g. flowers or fruit; and

2. Get as many identification features in the photo as possible.

Placing a measuring device (e.g. ruler) in the photo next to your plant, or a particular feature of your plant, is also useful for identification purposes.

You may need to collect a sample of the plant with identifying features, to help with later identification (don't forget to press it). Label your photos as soon as possible with the same information mentioned earlier for pressed specimens ('specimen number' is not relevant in this case).

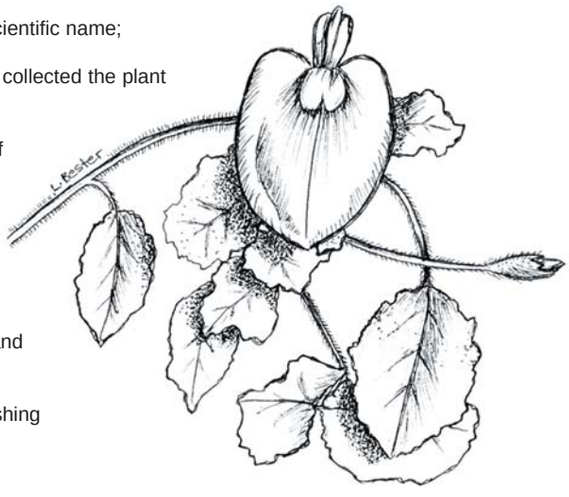
C. Illustrate the plants

For plant identification purposes, you don't need to create a work of art, you merely want a general outline of what the plant looks like and its key features so that you can identify it next time. As in all cases, choose fertile material to illustrate and try to cover all its key identification features e.g. hairs, veins, leaf shape and so on.

Your illustration can be a black and white line drawing, though colour would obviously help in some cases with identification. Alternatively you could include a general description (including colours of the various parts) with your line drawing. It does not matter what medium you choose to use, but finely tipped drawing implements are always better for capturing detail.

Once you have completed your illustration, it should be labeled with your name, and the:

- plant's scientific name;
- date you collected the plant material;
- locality of the plant;
- type of habitat in which the plant occurs; and
- key distinguishing features e.g. size.

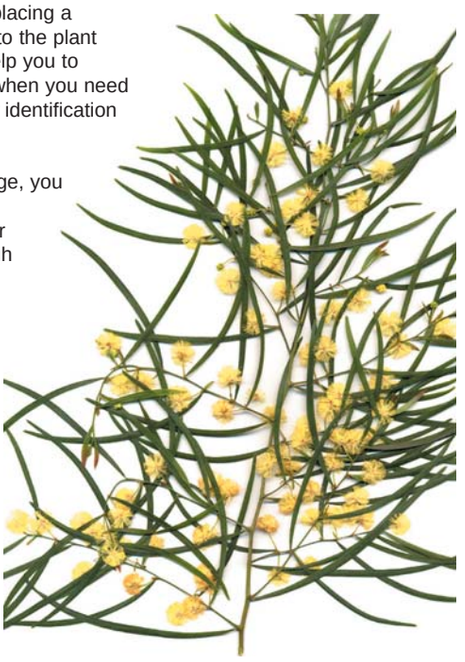


D. Scan the plant parts

A very easy way to create a virtual herbarium involves merely scanning your plants with a flatbed scanner, and renaming the picture file after the species name.

Flatbed scanners are pretty affordable and usually give a rather clear representation of key plant features such as colours, shapes, veins, etc.

As with taking photos, placing a measuring device next to the plant when scanning it will help you to determine dimensions when you need to use the specimen for identification purposes.



When importing an image, you need to ensure that the resolution/DPI (Dots Per Inch) will be high enough so that it is not blurry (pixellated) when you zoom up on it.

It often helps to have a good photo-enhancement program installed on your computer to sharpen, or otherwise edit the scanned picture. Usually the main things you need to know are how to change the resolution, image size and brightness/ contrast.

E. Collect Seed and Propagate the plants

Collecting and propagating seed/cuttings is a common way in which people become familiar with the plants of their local area. Many do this through their local indigenous (as opposed to 'native') plant nursery, who have:

- the relevant permits required for the collection of seed and/or cuttings; and
- the equipment needed to grow the plant material e.g. sprinkler system, heatbed, plant tubes and so on.

Indigenous plant nurseries always welcome the assistance, and usually offer a number of free plants to volunteers for their home gardens.

Growing plants from seed and/or cuttings gives you a much more complex knowledge of each plants life cycle and the associated morphological (physical) changes.

***<u>IMPORTANT</u>:**

Seek advice from the Department of Sustainability & Environment (DSE) regarding the various situations in which you may require a permit for the collection and propagation of indigenous plant material.
In certain places, a permit is required for taking photos.

Disclaimer: This document is intended only as a guide. It is the responsibility of readers to meet all necessary legal requirements and to ensure that safety precautions are considered first and foremost.

References

Cameron D (2004) *The Cameron Method: Plant Specimen Pressing and Drying Technique*. David Cameron, Victoria.

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V I C T O R I A

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