

How to Make a Herbarium Specimen

Consideration must be given to the conservation of plants, the prevention of wilting and deterioration by careful storage before pressing, the method of pressing and drying as rapidly as possible, as well as the method of labelling, mounting and storage.

Conservation Considerations

Before collecting, the conservation of the species must be considered.

- Is the plant rare?
- Is it protected by law from picking?
- Do you need a permit to enter the area and collect?

It is necessary to know the appropriate laws of the country concerned and those of exporting and importing.

We have a set of Conservation Guidelines for collectors which you can download from our website (www.reading.ac.uk/herbarium).

Note that many species are protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The CITES website (www.cites.org) provides a full list of plants and animals whose transport across international borders is prohibited.

Specimen Selection

Choose good specimens which present as many features of the plant as possible (stems, leaves, flowers, fruits, seeds) - sterile material is rarely useful. The idea is create a good specimen which conveys as much information about the plant as possible; quality is always more important than quantity.

The aim is to get a good coverage of the subject without overcrowding the finished herbarium sheet. It is seldom possible to mount a whole plant on the sheet unless it is folded, or sampled.

If details of plant height are carefully recorded on the label, you may well not need the whole stem to be present. Care should be taken not to just collect the upper part without reference to basal (radical) leaves, as well as lower and middle (cauline) leaves. If necessary, multiple sheets should be used and labelled accordingly (Sheet 1 of 2; sheet 2 of 2, etc.)

Loose parts such as flowers or fruit can be placed in separate folded pockets and attached later to the sheet. Where possible, the underground parts of the plant should also be collected (though remember in Great Britain, it is unlawful to uproot plants without the permission of the owner of the land).

Traditionally, plants were collected and placed in a vasculum in the field to keep them from wilting until being placed in a press (The vasculum was lined with wet paper). The plastic bag has universally replaced the vasculum, but care needs to be taken to protect from the sun.

If a press (or a cardboard folder tied with string - called a carpeta by Spaniards) can be taken into the field, then the final results are much better and subjects like poppies even retain their petals. Species of poppies (Papaveraceae), sun and rock roses (Cistaceae) are especially difficult, losing their petals very easily.

Figure 1: A vasculum with wet newspaper (below), and a press (right).



Specimen Notes

The downfall of many herbarium specimens is the lack of even the simplest details, such as location, habitat and date. Without label data, the specimen is just a piece of hay; the label data is often of more importance scientifically than

the actual specimen. The most important part of collecting is to make notes all the time, otherwise important details are lost.

Each gathering is best numbered as it is collected, starting with number 1. Only one series of numbers should be used throughout a collector's career; the sequence being maintained wherever and whenever a collection is made. As specimens are best cited by their collector and their number together with the acronym of the herbarium where they are deposited, the number should be unique to the collector.

It is important to record a number of factors that will not be obvious from the herbarium sheet. These include:

- habitat type (e.g. limestone grassland)
- associated plants (e.g. with *Corylus avellana* and *Danthonia decumbens*)
- any features of the plant that will not be obvious on the sheet (e.g. height, colour, scent)

There are several ways of recording field data. A collecting book is best, using one page for each specimen and a pencil or waterproof pen. When one or many details are the same for consecutive collections ditto marks (") may be used as seen in the examples (Figure 2). A suitable template is available for download on the Herbarium (RNG) website (www.reading.ac.uk/herbarium).

Other methods include using a notebook to record details of location and habitat with a list of species collected. A third method is by ruling columns across an A4-size exercise book.

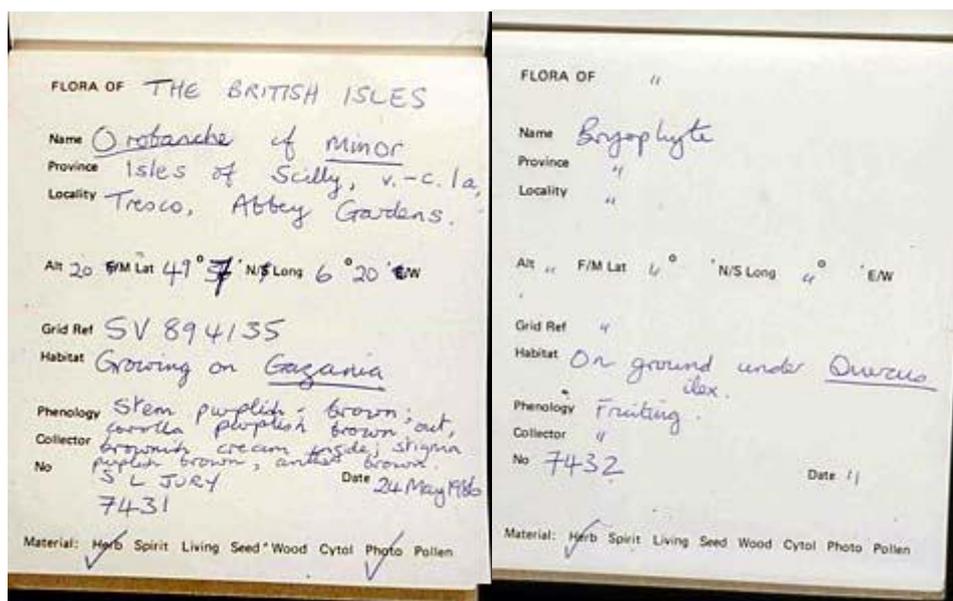


Figure 2: Examples of collecting book entries.