

Exercise 13

Aim: Preparation of herbarium sheets of flowering plants.

Principle: Taxonomists preserve plant specimen in dry state by mounting it on a thick sheet of paper 42×29 cm size. Such a mounted sheet is called **herbarium sheet**. The place (Laboratory/Institute) where herbarium sheets are systematically stored is called **herbarium**. The primary function of a herbarium is to facilitate identification of plants and also aid in taxonomic research.

Requirement: A sharp knife, blotting sheets or old newspapers, 2% formalin solution, tray, forceps, thick white card sheets cut to 42×29 cm size, gloves, field press, rope, gum/quick fix/needle and thread.

Procedure

- Collect twigs of a few wild plants (herbs, shrubs or trees) 20-25cm long with leaves and flowers. Record in a field diary its name, date and place of collection.
- Dip the specimens for 2-3 minutes in 2% formalin solution taken in a tray (wear gloves). Rinse the plant gently to remove excess formalin and blot to remove the formalin traces.
- Keep the plant twig between folds of another blotting paper/newspaper.
- Spread the plant on the sheet in a manner that at least ventral surfaces of 1-2 leaves are facing upwards and no overlapping of foliage or flowers occur. Likewise spread the attached flower(s) in a manner that all the floral parts of at least one flower are widely spread. If the plant is too long, fold it at one or two places so as to accommodate it on a single sheet.
- Repeat the process for the other plants you have collected. Keep the specimens in separate sheets.
- Place the sheets with plant specimens in a field press and secure it tightly with a rope. If a field press is not available, place the sheets under a heavy weight or box.
- Next day carefully transfer the plants to dry blotting sheets/old newspapers and tie them up in the field press.
- Repeat this process of transferring the specimens to fresh sheets for a few days till specimens are dry.

Exercise 13

- Mount the dried plant specimen on a herbarium sheet with gum or stitch it to the sheet at a few places with a needle and white sewing thread.
- Fill in the herbarium label with the details of the plant specimen and mount it on the right hand side bottom corner as shown in figure.



Prepare the following data of the plants you have collected:

Name of plant	Common name	Family	Time and place	Economic uses	Any threats

Note: There are many international, national, regional and local herbaria. The Royal Botanic Gardens, Kew, London, is one of the most prestigious international herbarium, where several thousand of herbarium sheets are preserved. In our country, the Botanical Survey of India (BSI) has regional herbaria located at Coimbatore, Pune, Dehradun, Kolkata and Lucknow. Many universities and colleges have small herbaria. It is worthwhile to visit a herbarium with your teacher.