HERBARIUM

HERBARIUM : The collection or depository of dried plant specimens in known as Herbarium.

- The collection of specimens requires regular field visits. We have to get information about the place, habitats season and the time of collection.

ESSENTIAL EQUIPMENTS :

1. **Digger (Trowel or Pick) :** In the field, one requires digger for digging roots.

2. **Secateur:** Secateur is required for cutting twigs of trees and shrubs for herbarium specimens.

3. **Vasculum :**
   - The vasculum is a container made up of tin or aluminum sheet. It is some what oval on the end and usually 45 to 60 cm long.
   - The collected specimens are carried in a boc called vasculum to avoid loss of moisture and distortions by drying and shriveling up.

4. **Polythesne bags :** Polythene bags are also used for carrying the specimens.

5. **Field note book :** Taxonomy students carry a field not book for recording every detail rather than depending upon the memory.

   - As far a possible, the following information should be collected and noted down in the field diary.

   (a) Name of locality and exact place of collection
   (b) Local name of plant, if any.
   (c) Approximate size.
   (d) Flowering and/or fruiting.
   (e) Date of collection
   (f) Soil characteristics
   (g) Economic uses, if any
   (h) Botanical name [if known]
   (i) Field number of specimen.

6. **Portable plant press :**
   - This is an equipment by means of which fresh specimens are pressed flat, without folds and become quickly dried.
   - The standard size of plant press is 12 × 18 inches. A good portable presses consist of two metallic frames holding thick mesh of galvanized iron and arrangement to tie the two Frames in adjustable belts.
   - Between the metallic frames are kept drying sheets of blotting paper (size 12 × 18 inches) and between the blotters are keeps folded newsprint sheets (wrappers), in each of which the collector places one kind of plant.
   - After keeping the specimens in the newspaper folders, the two frames are securely fastened by straps.

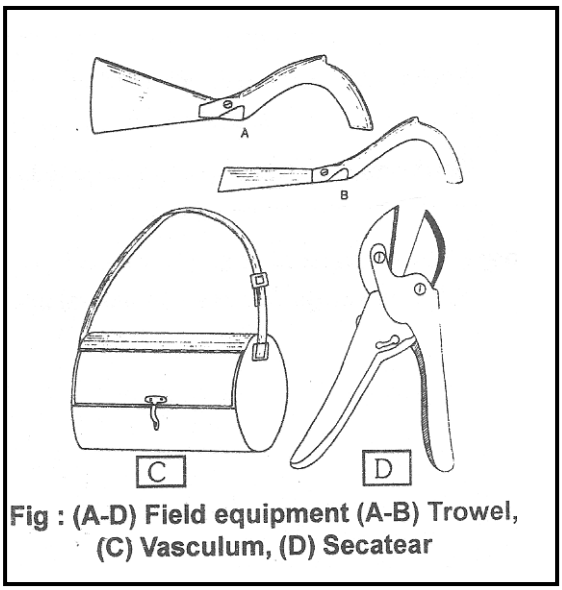


Fig : (A-D) Field equipment (A-B) Trowel, (C) Vasculum, (D) Secatear

COLLECTION OF PLANT SPECIMENS :

The following things should be kept in mind while collecting plant specimens for making herbarium.

(1) The plant specimen should be either in the flowering or the fruiting condition, preferably both.
(2) Herbaceous plants should be collected with underground parts as far as possible.
(3) In case of **woody plants** a twig of about 25 cm **will form** a good specimen. In help in comprehension of phyllotaxy and inflorescence of plant.
(4) It is always good to collect atleast four specimens of each plant.

PREPARATION OF HERBARIUM

(A) Pressing of Specimens :

- The specimen should be carefully displayed on the pressing sheet (blotters or News print sheet)
- The larger specimens which can not fit easily on the sheet should be bent into a V, N or W shape.
- Since it is difficult to arrange the aquatic plants on the sheet when they are removed form water, they should be taken on unprinted news sheet floated on the water and such sheet with specimen should be placed in the pressing sheet.

(B) Drying of Specimens :

For drying, the press containing specimens is placed in the sun. The press if opened after 24 hr., the specimens are rearranged, placed between the fresh blotters and then again tightly bound in the press. The wet blotters removed should be dried usually by placing them in the sun.

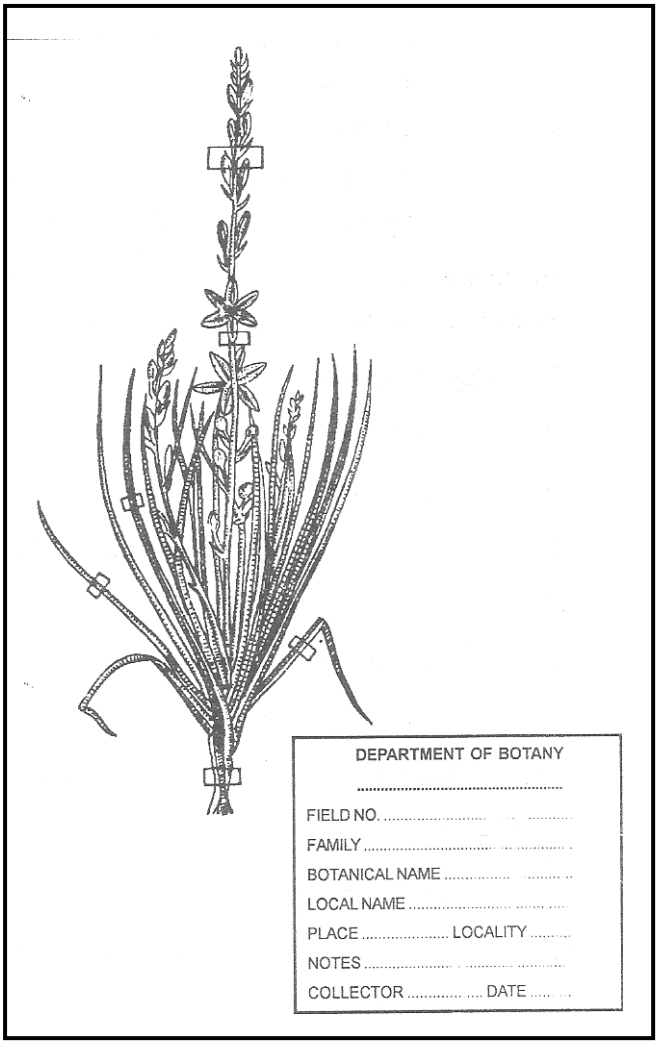
(C) Mounting of Specimens :

1. After drying, the specimens are ready for mounting. They are mounted on herbarium sheets of standard size 11.5 inches × 16.5 inches. Herbarium sheets are usually made up of heavy hand-made card sheets which are very durable.

2. Several adhesives generally sares, are used for attaching specimens to the sheet. Collephote tapes are not recommended for this purpose as they are not permanent and come cut easily after some time.

3. Usually one specimen should be mounted on each herbarium sheet. Dissected parts and loose parts such as fruits and seeds are placed in paper packets pasted to the mounting sheet.

4. For the preservation of herbarium sheet for a long period after the mounting of plant; it is treated with $CuSO_4$ or mercuric chloride.



HERBARIUM LABELS :

After mounting the specimen, a level is glued on the lower right hand corner of the sheet. The label provides information taken from the field note-book. The label should include atleast the following data:

(1) A label heading indicating the name of institution with which specimen originated and the region of the collection
(2) The name of family
(3) The botanical name of the plant with authomy
(4)The locality of collection
(5) The date of collection.
(6) The habitat.
(7) The field notes.
(8) The name of the collector.
(9) The collector's field number.
(10) The vernacular name and local uses if any.

FILLING OF HERBARIUM SHEETS :

- The mounted and properly identified specimens are stored systematically in special wooden or steel cabinets.
- All the pasted speciments are sprayed with fungicide like 0.1% solution of mercuric solution. DDT,

Nepthalene and carbon di-suphie to chek the growth of fungus.