

Forestry 21

Plant Collection

You will make a plant collection consisting of pressed specimens from **50** species of trees or shrubs. This will encourage you to become familiar with the characteristics that are important for proper tree and shrub identification.

You will hand in **5** specimens per week over a period of **10** weeks. Place them in a box in a to-be-specified location. The first 5 specimens will be due when announced. Thereafter, **5** specimens must be submitted each week (until a total of 50).

Among the 50 specimens the following criteria must be met:

- 1) all species must be in the Dendrology Handbook *OR* covered in lab;**
- 2) at least 10 shrub species must be included;**
- 3) at least 20 of the specimens must include flowers, fruit or cones.**

Collection, Preparation & Pressing of Specimens

The Plant Press. Plant specimens must be dried in a plant press which encourages them to dry without significantly altering their appearance. Homemade presses can be efficient and inexpensive. The efficiency of the press is determined largely by its ability to hold the material under a constant and firm pressure. Typically, most presses consist of a pair of wood (plywood works well) or metal frames, blotters (use newspaper sheets), pressing paper (again, newspaper) and straps or strong cords. The specimen to be pressed is arranged within a folded sheet of pressing paper (a folded newspaper sheet) that has been placed on a blotter (newspaper sheet) with another blotter placed over it. The press frames are placed on the top and bottom of the press, and are then "locked up" by means of straps or a strong cord. The straps should be drawn as tightly as possible in order to flatten all parts and to bring as much of each specimen as possible in contact with the moisture-removing blotter. **You can put quite a few specimens in a single press if separated by enough newspaper!**

Collection. Pressing plant materials requires careful attention to detail. It is necessary to select plant material carefully, and in this regard, the following points should be observed:

- 1) select typical specimens; avoid depauperate and atypical material;**
- 2) select specimens that are relatively free from evidence of insect feeding or obvious pathological symptoms;**
- 3) insure that the specimen contains typical leaves (if present), buds and twigs and, whenever possible, is either in a flowering or fruiting condition;**
- 4) select fresh specimens.**

Preparation. Arrangement of the plant material within the pressing paper is an important step. When the specimen is fresh, its parts are usually pliable and can be arranged easily. The following items should be considered when making an herbarium specimen:

- 1) a specimen should be contained in a single sheet of pressing paper;**
- 2) specimens longer than 16" may be accommodated completely on one sheet by folding them in a V or N shape;**
- 3) if necessary, prune specimens carefully to prevent overlapping of parts, but always leave a basal portion (such as a petiole segment) to indicate location of a pruned part;**
- 4) always arrange one or more leaves and leaflets with the lower side uppermost;**
- 5) always cut the end of the twig diagonally to expose the pith;**
- 6) when leaves are pinnately compound, it may be necessary to remove all except**

- one leaf; if the remaining leaf is too large for the sheet, it may be split lengthwise but the terminal leaflet must remain attached;
- 7) if the fruit is large (such as a walnut), it need not be pressed, but can be dried intact and attached to the pressing paper after the specimen is dry;
 - 8) when pressing herbs or seedlings, all roots or other underground parts should be washed free of soil and pressed with the top portion of the plant.

Pressing. The procedures for pressing plants are as follows:

- 1) plants are placed in pressing papers between blotters;
- 2) the press is locked up for 24-36 hours;
- 3) the press is opened, wet blotters are removed, the pressing sheet is turned back, the specimen is examined and plant parts are rearranged as the situation demands;
- 4) after rearranging, the pressing sheet is again placed between dry blotters;
- 5) the specimens are locked up in the press and allowed to stand for another 36-48 hours;
- 6) the process of replacing wet blotters with dry ones is repeated;
- 7) a third change of blotters may be necessary;
- 8) most specimens are completely dry using this technique in 7 to 10 days.

Mounting Specimens. Specimens are mounted on sheets of standard size herbarium paper (11 1/2 x 16 1/2 inches) using glue ("Elmer's", mixed 1:1 with water). Accompanying each specimen (also glued to the sheet), one must include a label containing pertinent information on identity of the plant, collector's name and a brief description of the site from which the specimen was collected. Sample labels will be supplied. The specimen must be arranged so as to be viewed with the long axis of the herbarium sheet vertical and with the label mounted in the lower right hand corner.

Grading of Specimens. Each specimen is worth 2 points adding to a total of 100 points for all specimens. One point will be based on correct identification, and the other will be based on neatness and quality of specimen and neatness and completeness of label.

Herbarium specimens will be graded on a weekly basis. **Failure to hand in 5 specimens per week will be accompanied by a loss of 2 points for each missing specimen.**

This project may sound like a monumental task, but once you get started I think you'll find that it will progress relatively smoothly.

NOTE: THERE WILL BE ABSOLUTELY NO COLLECTING DURING CLASS TIME, AND NO COLLECTION FROM PLANTS ON CAMPUS!