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A Handy Field Herbarium for Identification of Plant Species

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Abstract. A procedure is described for preparation of plant specimens for field use with transparent, self-adhering material.

Lack of experience by the observer and incompleteness of keys for vegetative characteristics often make identification of plant species in the field a difficult task. Some of this difficulty could be avoided if well-protected reference specimens for field use were available which consisted of characteristic parts of a plant through its entire life cycle. Standard herbarium specimens are not adequate. We are describing our experiences with procedures which have resulted in convenient-sized specimens, protected from handling damage, moisture and pests, which can be used in the field.

Early attempts by the senior author, utilizing various transparent paints and sprays, were unsuccessful in producing an acceptable protective covering for specimens. Other attempts, using transparent covering materials taped at the edges of the specimen sheet, resulted in useful displays, but with handling, specimens fragmented beneath the cover. A method described by Neal (1) utilizes transparent self-adhering material to cover the specimen. Our experience has shown this to be completely acceptable with slight modifications.

Materials which are used in this construction include the plant material itself, pressed and dried; herbarium mounting sheets; transparent contact paper; 5½ by 8½ loose-leaf binders, and glue. The basic procedure follows:

1. Cut standard herbarium sheets (11½ by 16½ inches) into 4 parts, each 5¾ by 8¼ inches, and contact paper into pieces 6 by 8½ inches.
2. Arrange characteristic plant parts on the herbarium sheet and attach with a small amount of glue.
3. Remove the backing from the gummed surface of the contact paper and gently place the contact paper over the specimen. Smooth out air spaces by pressing down from the center of the specimen outwards. Once placed into position it is difficult to remove or shift the contact paper without damaging the specimen.
4. Add labels by covering with a small piece of contact paper, or if narrow enough, with transparent mending tape. The label

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can include additional descriptive information relating to height, branching pattern, color, etc.

5. Repeat the process on the back side with another specimen; trim off the overlapping edges of contact paper, and punch holes for the loose-leaf binder.

With such a procedure there are obviously many refinements that can be developed to satisfy individual needs. One should prepare specimens as flat as possible to make a neat and water-proof mount. Specimens must be free of soil particles. If not, the particles gradually accumulate on the sticky inner surface of the material covering the specimen. The main purpose of gluing down the parts before covering them is to prevent disarrangement by the electrostatic charge which accumulates on the contact paper and dry plant parts. For this reason it is also desirable to avoid mounting specimens when atmospheric or other conditions favor accumulation of static electricity. Plant material can be added to a specimen sheet by covering with another piece of contact paper somewhat larger than the piece of material being added. By arranging specimen sheets by habitat or geographical area in a vinyl loose-leaf binder, one has a handy field reference of rugged quality.

There are many self-laminating plastic materials which are suitable for this purpose. Contact paper can be obtained in department, hardware or discount stores in rolls 18 inches wide at prices from 40-49 cents per yard. "Kwic Kover" has been the least expensive brand that we have used. For one page, consisting of front and back specimen, the cost in materials is approximately 9 cents.

We have used these field herbariums for over two years as an aid in identification of plants in vegetative conditions, specifically for identification of seedling stages of prairie species, in teaching field identification in plant ecology classes, and in displays. We propose that this technique is an ideal way of handling field identification problems for persons whose primary goal is something other than identification *per se*. It is a waterproof, damage proof reference which can be assembled as needed for a study area. It is not intended to replace the standard voucher specimen in the herbarium case, only to complement it as a field reference.

Literature Cited

Neal, Donald L. 1963. A pocket herbarium for range men. *Journal of Management* 16:145-146.