

Lab Appendix

Responsible plant collecting

If you only see one or two members of a particular plant species, **do not** collect a specimen! There is a small chance that the plant could be rare or endangered in Maine. You may want to check out the **Maine Natural Areas Rare Plants List** (https://www.maine.gov/dacf/mnap/features/rare_plants/plantlist.htm) to see which species in your clade are rare, threatened or endangered. If you suspect the plant is rare, take only photos and leave the specimen behind.

Field kit supplies

- Hand lens (magnifier)
- Wildflower identification guide
- Field journal for documenting specimens you collect and for taking notes on the lab's core content
- Mechanical pencils (will write in the rain)
- Plant press, with frame, straps, cardboard and blotting paper layers
- Newspapers for enclosing and labeling specimens in the press

What else to bring and wear

- Large plastic bag with wet paper towel as a collection vessel
- Ziploc plastic bags of various sizes, to accommodate fragile specimens
- Sharpie or other felt pen with waterproof ink for labeling specimens
- Phone for taking pictures of plants in the field and for gathering GPS data
- Water and snack
- Hat, sunscreen, bug spray
- Appropriate sturdy footwear for hiking
- Raingear

Field book entries

For every plant specimen you collect, enter the following information in your field book:

1. Specimen number (sequential, beginning with the first specimen you collect)
2. Collection date
3. Location of the plant
 - a. Town and State
 - b. Specific locale within the town (e.g., street address, name of natural area)
 - c. GPS coordinates of exact location (latitude and longitude, from your smartphone is fine)
4. Habitat description (e.g., forest, wetland, open meadow, sand dune, disturbed waste area, etc.)
5. Identifying information, such as common name, descriptive name, or even a field sketch.
6. Note any characteristics that could be lost in pressing, such as:
 - flower color
 - growth form if specimen was clipped from a larger plant (shrub, tree, vine)
 - distinctive fragrance

Pressing plant specimens

Preserving plant specimens is easy! You just press them flat in a **plant press** and let them dry for a week or two. For best results, press plant specimens shortly after you collect them. If you can't press them right away, place them in a closed plastic storage bag and put in the refrigerator. To keep them fresh, add a damp paper towel to the storage bag. **Never wait more than two days to press** your plants, or they will and result in ugly herbarium specimens.

1. You need these materials to press your plants:

- plant press, with (a) sheets of corrugated cardboard for aeration, (b) blotting paper for cushion and moisture control, (c) two wooden frames, and (d) straps.
- old newspapers for enclosing and labeling your specimens
- sharpie, pencil or other implement for labeling newspaper enclosed specimens
- scissors for trimming specimens

2. Start with one sheet of cardboard and place on top of one wooden frame. Top it off with one sheet of blotting paper.

3. Open one sheet of newspaper and place it on top of the blotting paper. Place the specimen into the open newspaper and artfully arrange it, envisioning the beautiful dried and mounted specimen it will become. Try to display important identifying characteristics, such as:

- leaf shape,
- front of one leaf and back of another
- inflorescence type,
- number of petals, sepals, stamens, etc.

(If your specimen is larger than the 12x18 inch plant press, you can fold the stem in a zig-zag fashion to fit. You can also trim any overhanging parts with scissors.)

4. Close the newspaper on the specimen and **label** the newspaper with the specimen's **collection number** and **collection date**. Write this information directly on the newspaper sheet that covers the specimen. You will later cross-reference this information with your field entry from that date.

5. Add one sheet of blotting paper and then top off with a sheet of cardboard. You are now ready to move on to your next specimen. Add a sheet of blotting paper to get started.

6. Continue to add new specimens (surrounded by labeled newspaper) to the press in a layered fashion. After pressing your last specimen, cover it with a sheet of blotting paper and top it off with your last sheet of cardboard.

7. Carefully place the other wooden frame on the top of the press. Pull straps as tight as you can to squeeze all specimens flat.

Drying and storing plant specimens

1. Place the press in a warm, dry location (a hot car is perfect!). Specimens will take 1-2 weeks to completely dry.
2. *Carefully* remove the fragile dried specimens, keeping them enclosed within their labeled newspaper covers.
3. You can store them in their newspaper covers by carefully stacking them in a safe, dry place.

Mounting dried plant specimens

1. Before you start, be sure you have a large enough workspace (table, lab bench) and the following materials:
 - herbarium mounting paper
 - plant mounting glue or acid-free mounting tape
 - blank herbarium labels
 - pen with water resistant black ink (e.g., thin sharpie)
 - your field notes
 - field guides, websites to solidify identification
2. Dried plant specimens are extremely fragile! *Very carefully* remove the specimen from the newspaper and place on a sheet of mounting paper.
3. Arrange the specimen on the mounting paper, leaving space in the bottom right corner for the label. Use small dabs of glue in several places to hold the specimen securely in place. Alternatively, you can use mounting tape to attach the specimen to the mounting paper.
4. Neatly fill out the herbarium label with as much information as you have. Be sure to use waterproof ink (extra fine point sharpie works great). Attach the label to the mounting paper in the lower right-hand corner of the mounted specimen.

