Collecting for the CONN herbarium

A step-by-step guide to collecting and preparing scientific plant specimens

Introduction

- Properly prepared, herbarium specimens can last for hundreds of years.
- The oldest specimens at CONN were collected in 1820
- Careful specimen preparation ensures that the plants we find today will be useful to scientists many years in the future –who will probably use techniques we haven't even imagined yet!

Before you begin

- Collect your supplies:
  - Notebook and pencil to record field data
  - Small trowel to dig out plants by the roots
  - Hand pruners to collect woody branches
  - Masking tape and permanent marker for labeling specimens
  - Large plastic bag(s) for carrying specimens
  - If available: handheld GPS or GPS app on a smartphone
  - Plant press with straps or two sheets of plywood cut to 11 inches x 16 inches and rope or paracord
  - Pens/pencils/permanent markers
  - A pile of old newspapers
  - Several sheets of cotton blotters, 11 x 16 inches
  - Several corrugated cardboard “ventilators”, 11 x 16 inches
- Obtain permission to collect plants
  - In Connecticut, you need a permit from DEEP to collect on any state land (state parks, state forests, etc.)
  - If you plan to collect on private property (including Land Trusts), get permission from the landowner/manager.
- Bring a buddy, or tell a friend where you are going and what time you will be back. Safety first!

Data to record

- Date of collection
- Collection number (begin at 1 and give each specimen its own number)
- Locality as specifically as possible
  - Ex: Connecticut, Tolland County, Storrs, University of Connecticut campus. Southeast side of Horsebarn Hill Road, about 400 feet NE of intersection with Old Farm Lane.
- Latitude and Longitude (can get these later from Google Maps)
- Details of the plant that won't persist once dried: flower color, sap color, scent, fruit color, plant height, stickiness, bark color/texture, etc.
- Habitat type: meadow, forest, roadside, beach, etc.

Collecting the plant

- When collecting herbaceous plants (wildflowers, grasses, ferns) use your trowel to carefully dig up the roots – you may need to know if the plant has a taproot or fibrous roots, a caudex or rhizomes, to identify it correctly. Remove as much soil as you can before placing the plant in your plastic bag.
  - If you see fewer than 15 individuals of the same species, don't collect it. The population may be too small.
- When collecting a branch from a woody plant, make sure the portion you select is representative of the whole plant. Include any flowers or fruits, thorns, leaves, buds, etc.
- To keep the plant in its best condition while you are collecting in the field, you should place a piece of masking tape around the stem with the collection number that corresponds to the data you've recorded in your field notebook and enclose the plant in a large plastic bag.

Pressing your plants

- Put the bottom of the press (or one piece of plywood) on a flat surface.
- Add one sheet of corrugated cardboard, then one sheet of blotter paper.
- Take a piece of folded newsprint and write your initials, collection date, and specimen number (from your masking tape) on the newsprint using a permanent marker.
- Open the newsprint “folder” so the right side is on top of the blotter paper, and arrange your plant on top. All the plant parts should be visible – flowers, fruits, leaves.
- Make sure that at least one leaf is turned so that the underside is showing, because the top and bottom surfaces of leaves are often different.
- This is your opportunity to arrange your plant so that it is optimally useful as a scientific specimen, and that you find aesthetically appealing.

Pressing your plants

- If your plant doesn't fit within 11 x 16 inches, you can fold it or trim it so that it fits, but don't remove essential parts.
- Fold your newsprint closed over your plant, then add one blotter sheet and one corrugated cardboard.
- You are now ready to add the next blotter paper and continue your layers with the rest of your collected plants.
- When you've pressed the last of your plants in newsprint, add one more blotter paper, a final cardboard sheet, and then the top frame of the plant press.
- Use the straps or rope to cinch the press as tightly as possible.
- The plants should be dried as thoroughly as possible to avoid molding and will dry more quickly if the press can be stored in a hot attic or a car trunk.

Making your labels

- Labels are usually ~3 inches tall and ~4 inches wide to have plenty of space for data while also not taking up too much real estate on the herbarium sheet.
- Include all of the information that you collected

Sending us your collections

- Once your plants are dry, dismantle the press, putting all of the plants in their newsprints in a pile.
- You can save and re-use your cardboard and blotter layers
- Match your labels to their specimens, placing the label inside the newsprint with the pressed plant.
- Place one cardboard in the bottom of your shipping box*, then your stack of specimens in their newsprints, then another cardboard on top. Fill any remaining gap with crinkled up paper and seal the box.
- *typical shipping boxes are 18x12x4 inches but you can use whatever size will accommodate your specimens.

Sending us your collections

- Send your box (by USPS, FedEx, USPS, etc.) to:

  - Sarah Taylor
  - G.S. Torrey Herbarium
  - Department of Ecology and Evolutionary Biology
  - University of Connecticut
  - 75 N Eagleville Rd Unit 3043
  - Storrs, CT 06269

- Or, drop off your specimens in person and visit us on campus!