

## 11.7 PROTOCOL FOR MACROPHYTE TAXONOMY

### Overview

Collect the whole plant. Some species groups cannot be identified without mature fruits or flowers. Press large plants and mount on a 30 cm by 40 cm white card that is dimensionally stable when wetted. Use small screw cap vials (good collecting and preservation containers) for small plants like the duckweeds as they do not make suitable pressed and dried specimens.

### Sources

British Columbia MWLAP (2003)

### At a glance

#### Small floating species collection

- 1 Scoop a few individual plants into a pre-labeled vial.
- 2 Preserve the specimens in a solution of 70% ethanol, 25% water and 5% formalin.
- 3 Submit these specimens to a herbarium where they will be identified to species and stored for future reference.

#### Large emergent or rigid plants for taxonomic purposes

*proper  
storing*

- 1 Before placing the plants onto the card (cannot write on the card once wet), record field notes directly onto the card stock. Write the notes in pencil in the lower right hand corner of the card where it can later be covered by the permanent label.
- 2 Collect an entire specimen and store it until conditions are appropriate to mount. **Do not leave plants out in the sun even briefly as they will wither very quickly and become useless as specimens. Do not submerge emergent plants, but keep them in a bag with a little water in the bottom to maintain high humidity. Keep each species in its own bag. Samples from one site should be organized by bagging the individual bags from one site together in one large (garbage) bag.**
- 3 To mount each specimen, lay the plant on the card stock with the roots in the bottom left corner (fold over the top if it is too tall to fit).
- 4 Spread out leaves and flowers, turn some over so the bottoms can be seen, and try to make a neat and tidy specimen that covers the whole sheet. **For small plants, fill the sheet with more specimens from the same clump or clone to show as much variability as possible.**
- 5 Collect the seeds into small paper or cellophane pouches and attach these pouches to the finished herbarium sheet (for fruiting plants where the seeds may be shed on drying).
- 6 Place a piece of heavy blotting paper on top of the specimen to help dry the plant quickly after mounting the aquatic plant on the card stock.
- 7 Wrap the card stock, plant, and blotter in a newsprint folder. The newsprint should be 30 cm by 90 cm in size and folded in

half to form a folder in which the mounted plant is placed.

**8** Once several of these wrapped packages (each containing one card stock/specimen) have been accumulated, place them into a plant press with a piece of corrugated cardboard separating each package. The corrugations should run in the same direction so that air flow through the press is facilitated.

*dry within  
several days*

**9** Dry within several days to prevent fungal growth and minimize rotting of specimen. This will also preserve colours and shapes as much as possible. If in a laboratory or herbarium the same day, the plant presses may be dried in a proper plant drier or a forced draft oven at 40°C. In the field, use motel hot air registers, baseboard heaters, or hair dryers to move warm air through the corrugated cardboard. If the weather is dry, secure the plant press on the roof of the truck and allow air to blow through the corrugated cardboard as you drive from site to site. As the plants in the presses dry, it will be necessary to re-tighten the presses at least daily, to maintain the pressure and hold the plants flat.

**10** These specimens must be submitted to a herbarium where they will be identified to species and stored for future reference.