

EEOB 2210 LOCAL FLORA CLINTONVILLE RAVINES BOTANICAL SURVEY

Effective stewardship of natural areas depends upon an accurate accounting of the biotic resources, particularly the vegetation, present on a site. The development of a site-specific plant species list, along with a written description of the plant communities that are there (including relevant information about the human and natural ecology of the plants) is often desired by natural resource agencies, landowners, and environmental organizations. This substantial (100 point) assignment is to perform and document a botanical survey like the ones performed by professional field botanists engaged in environmental assessment.

Because they are close to the OSU campus and of great ecological importance and human interest due to their roles as urban islands of biodiversity, we are focusing on the plants of several named ravines through which flow tributary streams to the Olentangy and Scioto Rivers. We'll also study tracts immediately adjacent to those rivers.

Task: Visit the ravine or riverside property at least three times at 1-2 week intervals during September and record separately the trees (10 or more species), shrubs and lianas (i.e., woody vines; 5 or more species), and various herbaceous plants (vines, forbs, graminoids, pteridophytes, and bryophytes; 25 or more species) that are identifiable on each trip (for a grand total of 40 or more species).

Collecting Plants: Ideally, when one does a botanical survey, it includes the collection and preservation of a "voucher" specimen of each species, to be stored in an herbarium, that constitutes an independently verifiable confirmation of the presence of the plant at that location. For various reasons involving time, cost, educational goals, conservation, and behavioral norms in urban natural areas, we're not going to perform extensive collecting or prepare herbarium specimens as part of this project. Most of the plants will be identifiable on site using the textbooks for the course (Newcomb's Wildflowers, and Peterson's Field Guide to Trees and Shrubs) as well as the various fern and moss manuals in the lab (not to mention Gleason and Cronquist). "Gleason and Cronquist." (I told you not to mention Gleason and Cronquist!)

However, for the purposes of identification of plants in difficult groups such as graminoids, some wildflowers, and bryophytes (or, for that matter, anything you don't have the means to ID using the books you have with you), if and only if it can be done in a 100% non-harmful way, you should consider doing some very minor, non-destructive "snip" (not uprooting) collecting of a small portion of such plants only as needed to adequately identify them. Place the little stem portion or an individual leaf and/or flower in a plastic bag (for vascular plants) or a paper sack (bryophytes) and look at them in the lab right away. Your TA will be happy to assist you in the identification of challenging specimens.

Documentation I: the technical report.

A full and complete botanical survey includes the following:

1. Precise location information, including area, geographic coordinates, aerial photographic and USGS topo or Google map figures.
2. Description of the environment in terms of land use, extent of development, disturbance.

3. A narrative, i.e., written as paragraphs, not a list (that comes later) description of the various plant communities and zones within them. Examples of the plant communities might be roadside, wooded area, streambank. Examples of the zones might be ground cover, shrub layer, canopy.
4. Species list. This must be sorted (i.e., in order) first by MAJOR PLANT GROUP (bryophytes, pteridophytes, gymnosperms, flowering plants; then ALPHABETICALLY BY FAMILY, and finally; ALPHABETICALLY BY SPECIES. Species must include both scientific name (including author) and common name. Also mention the plant's growth form, whether it is native or introduced, and, if native, its "coefficient of conservatism" from the 2004 OEPA Floristic Quality Assessment Inventory. Finally, indicate the plant's status in terms of commonness, and habitat.

REQUIRED FOR A COMPLETE REPORT

LOCATION INFO AND ENVIRONMENTAL DESCRIPTION IN HUMAN TERMS

PLANT COMMUNITIES DESCRIBED IN NARRATIVE FORM

REQUIRED # OF SPECIES WITHIN EACH CATEGORY

SPECIES LIST WITH CORRECT AND COMPLETE TAXONOMIC DETAILS

SPECIES LIST WITH GROWTH FORM

SPECIES LIST WITH LOCAL STATUS

SPECIES LIST WITH COC (Coefficients of Conservatism from Ohio EPA document)

ILLUSTRATIONS OF 10 PLANTS

ECOLOGICAL NOTES

REFERENCES AND GOOD GENERAL WRITING QUALITY (GRAMMAR AND SPELLING)

EXAMPLE OF SPECIES ENTRY

Magnoliophyta (angiosperms)

Aristolochiaceae (the birthwort family)

***Asarum canadense* L. wild ginger. Native ground-cover vine. CC=6. In scattered but dense patches in shady areas. Wild ginger smells similar to the spice ginger, but is unrelated and is not recommended for consumption. Its solitary, foul-smelling reddish-brown flowers are located at ground level and are probably pollinated by flies. Like many forest herbs, the seeds have oil and sugar-containing eliasomes attached, and are dispersed by ants.**

5. Illustrations: Include at least the following: 10 photos, inserted into the text where appropriate: 2 (or more) wide views of the site; 8 (or more) close-ups of representative plants.
6. References: Cite the identification manuals and various books and web sources used for the ecological notes. Use any standard style of citation you prefer; just be consistent.

Documentation II: The Blog.

We've set up "self hosted" WordPress web pages on the ohioplants.org web site, one per student, that will be used to create informative "blogs" about your field experiences performing this botanical survey. Using your own camera, or one borrowed from OSU, photograph the general environment and the interesting plants in it and, once per week, blog about your experiences doing the survey. Each "posting" must include additional natural history information about several plants, in accordance with the detailed instructions that will have been posted separately on our Carmen site and the course companion website.

Site Selection and Assignments

These are all great places to botanize. If however you have another favorite place, consider doing that different site. Describe it to your TA and we'll most likely approve it. For the recommended sites below, since there are 14 of them, each site will, in most instances, be assigned to only 1 student. However, collaboration (2 students per site) is possible and you are not expected to work together (although pairs of students may self-select to do so), and your reports/blogs must be wholly separate and independent.

The Study Sites, listed in order south to north within each category

I. Olentangy River, main corridor

Olentangy Bike Trail (near Neil Ave. Apartments)

Olentangy River Wetland Research Park

Whetstone Park (Columbus)

Delawanda Park (Sharon Township)

Tucker Dr. Park (Worthington)

II. Olentangy River Tributary Ravines (Clintonville Ravines)

Glen Echo Park (near Hudson Street)

Whetstone Park (Clintonville)

Adena Brook/Overbrook Ravine (Clintonville)

Park Boulevard Park (Worthington)

III. Scioto River, main corridor

Indian Village Camp (Dublin, w. side of River, Fissinger Rd.)

Emily Traphagen Park (Delaware Preservation Parks, Powell, Ohio)

O'Shaughnessy Reservoir Park

IV. Scioto River Tributary Ravines.

Hayden Falls (Griggs Park; Hayden Run Rd., Dublin)

Indian Run (Dublin)

V. Other Sites (named)

Site selection will occur during Week 2 at which time detailed location maps will be available. DUE DATES: An OPTIONAL DRAFT REPORT is due Tuesday October 2. The FINAL REPORT is due Tuesday October 9 (date of the final exam).

...There's a Google Map of the sites. We'll post the link.

