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Survey of Herbaceous Flora of Horner Park, Lebanon, IL (St. Clair Co.)

Scott T. Meissner, PhD
833 N. Aurora Street
Ithaca, N.Y. 14850

ABSTRACT

A partial survey of the herbaceous wild flowers in Horner Park (Lebanon, IL.) revealed the presence of 74 species in 66 genera found in 32 families. Several individuals of *Allium canadense* L. were found to have irregular flowers. These unusual individuals displayed the presence of an extra tepal and of stamen of uneven length. The woods of Horner Park may serve as a useful refugium for wild flowers.

INTRODUCTION

Horner Park is a town park of Lebanon, IL (St. Clair County) located at the north end of the town. It includes roughly ten hectares of forest remnants which were found to have several species of flowering herbaceous plants. The forest is a mix of oak-hickory-maple similar to those described by King (1984), with ravines of under twenty meters in depth formed by streams. This park is north of Silver Lake, a local wetlands conservation area, and a stream from the park flows into the lake. Since St. Clair County has been losing forest area for the last twenty years (Iverson, 1994), and the wooded areas of Horner Park has been set aside from development, it was thought to be worthwhile to begin to document the species of herbaceous plants present in these woods at this time.

Horner Park has woods along its eastern boundary which continue to wrap about the south end of the park and continue on to the southwest side of the park. The western side of the park is open to agricultural fields. The center of the park has a system of ponds bordered by picnic and athletic areas. The following is a brief description of the subsections of the wooded areas in the park.

The north east side of the park has a strip of woods of at least 100 meters width parallel to a stream. The park's sole maintained wooded trail, the Trillium Trail, runs through this area. There is a shallow ravine which runs parallel to the stream. The western side of this strip forms a small hillock which ends towards the south with an area that is seasonally flooded. Due to the presence of the trail, and its proximity to the park entrance, this area is regularly visited by hikers.

The stream continues down to the south east side of the park. This area begins with the flat seasonally flooded area just past the hillock and continues past a ridge to meet a stream that boarders an agricultural field past the south end of the park. This area has

dense understory growth and fewer tall canopy trees. Due to its marshy nature it is less often visited by hikers.

The southern most part of the park has a ridge that separates the park from an agricultural field. Here the woods are approximately 100 meters across and are on a steep slope which goes down to the field. This ridge has a trail along the top of it and continues to the west to the main park maintenance shed.

To the north of the above ridge there are two areas that are surrounded by the park access road. These areas are often subject to controlled burns in the early spring to remove understory growth and create a more open area for use by visitors. Many young saplings have been killed by these fires, but the burns precede significant spring herbaceous growth and so has slightly less impact on this later group. This area is the most disturbed wooded section of the park, but it still retains a closed canopy.

The south west end of the park, past the maintenance shed and south from the baseball field and skeet shooting range, is the least disturbed section of woods in the park. The ridge line continues from the east and slopes down to a seasonally flooded area near to the stream that separates the park from agricultural fields.

MATERIALS AND METHODS

Initial observations and collections were made in 1995 and 1996. In 1997 the park was visited weekly for observation and collection from the spring into August. This work was limited mainly to flowering herbaceous species and a few shrubs, but excluded the grasses, sedges, and woody plants. Specimens were collected and keyed out to species using Gray's Manual of Botany (Fernald, 1950), Gleason and Cronquist (1991), and The Flora of North America (1997). Pressed specimens and related field notes including the location, character of the immediate area, and date of first flowering have been donated to the McKendree College Herbarium [McKendree College, Division of Science and Mathematics, 701 College Road, Lebanon, IL].

RESULTS AND DISCUSSION

Specimens observed

The herbs and shrubs observed are listed in table 1. This includes 74 species in 66 genera of 32 families. Species for which five or fewer individuals were observed in the park included: *Anemonella thalictroides*, *Arisaema triphyllum*, *Camassia scilloides*, *Euonymus atropurpureus*, *Muscari botryoides*, *Polygonatum biflorum*, *Uvularia grandiflora*.

Floral variation observed in individuals of *Allium canadense*

The wild garlic, *Allium canadense*, showed some interesting variation in its flowers that was not mentioned by Gleason and Cronquist (1991). Whether the cause of this variation is environmental or genetic has not been determined. Pending such a study, initial details of this variation are given here.

In several patches of wild garlic slight to extreme zygomorphic flowers were observed. These patches occurred in the region of the park that was surrounded by the access road

and subject to occasional burning. Amongst these individuals the coloration of the tepals was seen to vary from white to pink. The zygomorphic nature of some of these flowers was evident in individuals which had seven tepals, a four-lobed ovary, and which had seven stamen. The lengths of the tepals and of the stamen were also found to vary. The tepals of zygomorphic flowers were found to have two shorter and one longer tepal. Also the stamen of these zygomorphic flowers showed some variation in length, often having four longer and several shorter stamen. Interesting, this variation was found to occur side-by-side with plants that had the normal flower characters for this species. In one instance an individual was observed to have both actinomorphic and zygomorphic flowers.

SUMMARY

The woods associated with Horner Park are bordered by residential developments and agricultural lands. Upon examination it was found to be a habitat for 74 species of herbaceous wildflowers. The presence of individuals of wild garlic (*Allium canadense*) which possessed variable floral traits, including zygomorphism, was noted. These woods may play a role as a local refugium for wild flowers.

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Table 1. Herbaceous wildflowers observed in Horner Park from 1995-1997. Arranged alphabetically by family, genus, and then by species according to Gleason and Cronquist (1991).

Family	Genus and Species
Acanthaceae	*Ruellia strepens*
Apiaceae	*Chaerophyllum procumbens*, *Cryptotaenia canadensis*, *Daucus carota*, *Osmorhiza longistylis*, *Sanicula marilandica*, *Taenidia integerrima*
Araceae	*Arisaema triphyllum*
Asteraceae	*Erigeron annuus*, *Erigeron philadelphicus*, *Eupatorium dubium*, *Eupatorium rugosum*, *Helianthus hirsutus*, *Senecio glabellus*, *Solidago ulmifolia*
Balsaminaceae	*Impatiens capensis*
Berberidaceae	*Podophyllum peltatum*
Brassicaceae	*Arabis laevigata*, *Capsella bursa-pastoris*, *Cardamine concatenata*
Campanulaceae	*Triodanis perfoliata*
Caprifoliaceae	*Lonicera periclymenum*, *Lonicera xylosteum*, *Viburnum nudum*
Caryophyllaceae	*Silene stellata*
Celastraceae	*Euonymus atropurpureus*
Commelinaceae	*Commelina communis*, *Tradescantia virginiana*
Fabaceae	*Desmodium nudiflorum*
Fumariaceae	*Dicentra cucullaria*
Geraniaceae	*Geranium maculatum*
Lamiaceae	*Blephilia hirsuta*, *Lamium maculatum*, *Mentha avensis*, *Scutellaria elliptica*, *Teucrium canadense*
Liliaceae	*Allium canadense*, *Camassia scilloides*, *Erythronium albidum*, *Hemerocallis fulva*, *Muscari botryoides*, *Ornithogalum umbellatum*, *Polygonatum biflorum*, *Smilacina racemosa*, *Trillium recurvatum*, *Uvularia grandiflora*
Onagraceae	*Circaea lutetiana*
Oxalidaceae	*Oxalis stricta*, *Oxalis violacea*
Papaveraceae	*Sanguinaria canadensis*
Phytolaccaceae	*Phytolacca americana*
Polemoniaceae	*Phlox divaricata*, *Polemonium reptans*
Polygonaceae	*Polygonum persicaria*, *Polygonum virginiana*
Portulacaceae	*Claytonia virginica*
Ranunculaceae	*Anemonella thalictroides*, *Delphinium tricorne*, *Ranunculus hispidus*, *Ranunculus micranthus*, *Ranunculus recurvatus*
Rosaceae	*Geum canadense*, *Rosa multiflora*, *Rubus laciniatus*
Rubiaceae	*Galium aparine*, *Galium circaezans*
Scrophulariaceae	*Penstemon pallidus*, *Verbascum thapsus*, *Veronica peregrina*
Solanaceae	*Solanum nigrum*
Verbenaceae	*Phryma leptostachya*
Violaceae	*Viola pubescens*, *Viola soroia*
Vitaceae	*Vitis rupestris*