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## A Comparison of the Floras of Southwestern Wisconsin and Northeastern Iowa

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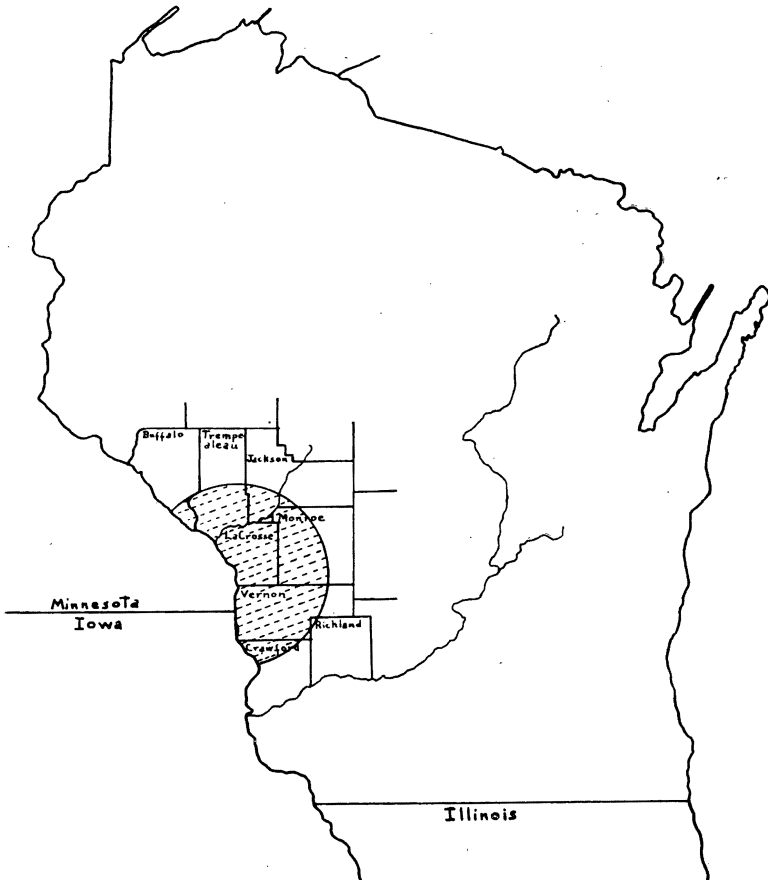
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# A Comparison of the Floras of Southwestern Wisconsin and Northeastern Iowa

By THOMAS G. HARTLEY

Botanically and geologically, one of the most interesting areas in the Upper Middle West is the "Driftless Area." Covering 15,000 square miles of southwestern Wisconsin and adjacent Illinois, Iowa and Minnesota, this area is about twice the size of the state of New



Jersey. With the exception of certain marginal areas such as northeastern Iowa, the "Driftless Area" was apparently not covered by a continental glacier during the periodic glaciation of the Pleistocene epoch. These marginal areas are believed to have been glaciated

during the earliest of these periods, the Nebraskan, and most of that resulting drift has been lost through weathering and erosion.

Lack of Pleistocene glaciation has given much of the "Driftless Area" a uniform nature expressed by a deep mantle of residual soil, maturely-dissected topography, and other features characteristic of long-term weathering and erosion such as crags, pinnacles and natural bridges. Also, the absence of features of erosion and deposition brought about by continental glaciation is in itself quite striking in this otherwise glaciated part of North America.

Because of its natural boundaries and possible phytogeographic significance, this area provides an excellent opportunity for floristic work. Although a number of botanists have collected and studied the plants of this area, nothing has been done in the way of a systematic survey of its entire flora.

With plans for more extensive investigation in the future, this writer spent most of the growing season of 1956 collecting in this area. This collecting was done in the part of Wisconsin shown by the shaded portion of Plate 1. Over 3,300 collections, representing 1,071 species of vascular plants, were made in the course of this study. The first set of these vouchers will be deposited in the herbarium of the State University of Iowa and the second set in the herbarium of the University of Wisconsin.

As one might expect, many of these plants are not known to occur in Iowa. Others are quite rare. Similar geological history and the close proximity of the two areas, however, suggest that many of these species may be expected and should be looked for in northeastern Iowa.

The following list of plants was compiled by Dr. Robert F. Thorne and the author. It is based entirely upon the collections made during 1956. In addition to those species that are rare or unknown for Iowa, species not known to occur in Illinois are included to indicate range more clearly. To make this list more useful the various species are listed by the habitats which they occupy. The presence or absence of these species in Iowa and Illinois is indicated in the following way:

Species not known from Iowa. . . . . **Bold face type.**

Species not known from Illinois. . . . . Marked with an asterisk.

Species not marked are those that are known to occur in Iowa, but are rather rare in northeastern Iowa.

The nomenclature used is largely that of *Gray's Manual of Botany, 8th Ed.*, and the *New Britton and Brown Illustrated Flora*.

## HABITAT LISTS OF VASCULAR PLANTS

1. *Dry, upland woods . . . extremely sandy to somewhat loamy.*

- \**Lycopodium clavatum* L. Running Club-moss.
- \**Lycopodium obscurum* L. Ground-pine.
- Botrychium multifidum* (Gmel.) Rupr. Leather Grape Fern.
- Pinus banksiana* Lamb. Jack-pine.
- \**Pinus resinosa* Ait. Red or Norway Pine.
- \**Carex backii* Boott
- Panicum meridionale* Ashe
- Luzula campestris* (L.) DC.
- Lonicera xylosteum* L. Fly-honeysuckle. (Introduced)
- Aster macrophyllus* L.
- Arctostaphylos uva-ursi* (L.) Spreng. Bearberry.
- Epigaea repens* L. Trailing Arbutus.
- Gaultheria procumbens* L. Aromatic Wintergreen.
- Vaccinium angustifolium* Ait. Low Sweet Blueberry.
- Vaccinium myrtilloides* Michx. Velvet-leaf-Blueberry.
- Geranium bicknellii* Britt.
- Hypericum gentianoides* (L.) BSP. Pineweed.
- Lupinus perennis* L. Wild Lupine.
- Comptonia peregrina* (L.) Coult. Sweet-fern.
- Conopholis americana* (L.) Wallr. Squawroot. Parasitic on roots of *Quercus alba*.
- \**Agrimonia striata* Michx. Also found in sandy, open places.
- \**Amelanchier alnifolia* Nutt.
- \**Amelanchier sanguinea* (Pursh) DC.
- Houstonia longifolia* Gaertn.
- Mitchella repens* L. Partridge-berry.
- Gerardia pedicularia* L.

2. *Wooded slopes and ravines . . . sandy to somewhat loamy.*

- \**Equisetum pratense* Ehrh. Meadow-horsetail.
- Equisetum scirpoides* Michx. Dwarf Scouring-rush. Found on a rather moist bank above a spring in a wooded ravine.
- \**Tsuga canadensis* (L.) Carr. Hemlock.
- Carex plantaginea* Lam. Recently collected in Jackson County, Iowa, by T. S. Cooperrider.
- \**Carex scabrata* Schwein. Found on moist soil near a spring in a wooded ravine.
- Milium effusum* L. Millet-grass. Found on moist soil near a spring in a wooded ravine.
- Oryzopsis pungens* (Torr.) Hitchc. Recently collected in Clayton County, Iowa, by R. F. Thorne.
- Polygonatum pubescens* (Willd.) Pursh. Also in tamarack bogs. Recently collected in Allamakee County, Iowa, by R. F. Thorne.
- \**Streptopus roseus* Michx. Twisted-stalk.
- Cypripedium acaule* Ait. Stemless Lady's-slipper.
- \**Acer spicatum* Lam. Mountain-maple.
- \**Corylus cornuta* Marsh. (*C. rostrata* Ait.) Beaked Hazel.
- Viburnum acerifolium* L. Maple-leaved Viburnum.
- \**Hieracium floribundum* Wimm. & Grab. King Devil. (Introduced)
- Chimaphila umbellata* (L.) Bart. Pipsissewa.
- Pyrola rotundifolia* L. Wild Lily-of-the-Valley.
- Vicia caroliniana* Walt. Wood-vetch.
- Corydalis sempervirens* (L.) Pers. Pale Corydalis.
- Lysimachia quadrifolia* L. Whorled Loosestrife.
- \**Clematis verticillaris* DC.
- Hepatica americana* (DC.) Ker.

3. *Alluvial woods.*

- Carex intumescens* Rudge.
- Carex tuckermanni* Boott.
- Callitriche deflexa* A. Br.
- \**Crataegus pedicellata* Sarg. Hawthorn.

4. *Moist, acid depressions in sandy woods.*

- \**Carex canescens* L.
- \**Scirpus expansus* Fern.
- \**Cinna latifolia* (Trev.) Griseb.
- Habenaria psycodes* (L.) Spreng. Small Purple Fringed Orchis.
- Acer rubrum* L. Red Maple or Swamp-maple. Also in tamarack bogs and upland woods.
- Ilex verticillata* (L.) Gray Winterberry. Also in tamarack bogs and on wooded slopes.
- \**Polygonum cilinode* Michx. Climbing Buckwheat.
- \**Amelanchier huronensis* Wieg.
- Rubus hispidus* L. Dewberry. Also in acid meadows.
- \**Hydrocotyle americana* L. Water-pennywort.

5. *Seepage hogs at the bases of sandy, wooded slopes.*

- Carex bromoides* Schkuhr. Also in alluvial woods.
- \**Poa alsodes* Gray.
- Floerkea proserpinacoides* Willd. False Mermaid.
- Chrysosplenium americanum* Schwein. Water-mat.
- Viola cucullata* Ait.

6. *Tamarack bogs.*

- Equisetum palustre* L. Marsh-horsetail.
- Osmunda cinnamomea* L. Cinnamon-fern.
- Osmunda regalis* L. Royal Fern. Also in acid meadows and alluvial woods.
- Larix laricina* (DuRoi) K. Koch Tamarack.
- Calla palustris* L. Wild Calla.
- Carex disperma* Dewey.
- Carex leptalea* Wahl.
- \**Clintonia borealis* (Ait.) Raf. Corn-lily. Also on north-facing, sandy, wooded slopes.
- Cypripedium reginae* Walt. Showy Lady's-slipper.
- Rhus vernix* L. Poison Sumac.
- \**Nemopanthus mucronata* (L.) Trel. Mountain-holly.
- Betula pumila* L. Low or Swamp-Birch.
- Linnaea borealis* L. var. *americana* (Forbes) Rehd. Twinflower.
- \**Helianthus giganteus* L.
- Solidago uliginosa* Nutt.
- Cornus canadensis* L. Bunchberry. Also on sandy, wooded slopes.
- \**Pyrola asarifolia* Michx. Pink Pyrola.
- Ribes hirtellum* Michx.
- Epilobium strictum* Muhl.
- Trientalis borealis* Raf. Star-flower. Also on rather moist slopes in sandy, upland woods.
- \**Ocletis groenlandica* (Oeder) Fern. Goldthread.
- Geum rivale* L. Purple Avens.
- \**Pyrus decora* (Sarg.) Hyland Mountain-ash.
- Pyrus melanocarpa* (Michx.) Willd. Black Chokeberry.
- Rubus pubescens* Raf.
- \**Galium labradoricum* (Wieg.) Wieg. Also in open marshes.
- Viola conspersa* Reichenb. Also in acid meadows and moist ravines in sandy, upland woods.
- \**Viola incognita* Brainerd.
- \**Viola nephrophylla* Greene.

7. *Moist, open, acid meadows.*

- \**Equisetum sylvaticum* L. Wood-horsetail. Also in tamarack bogs.
- \**Carex debilis* Michx.
- Eriophorum virginicum* L. Tawny Cotton-grass.
- Rhynchospora capitellata* (Michx.) Vahl.
- \**Iris versicolor* L. Blue Flag.
- Juncus greenii* Oakes & Tuckerm.
- Aletris jarinosa* L. Colicroot.
- \**Spiranthes romanzoffiana* Cham.
- Hieracium pratense* Tausch King Devil. Sandy, moist edge of a meadow.  
(Introduced)
- Chamaedaphne calyculata* (L.) Moench. Leather-leaf.
- Bartonia virginica* (L.) BSP.
- Hypericum canadense* L. Also on moist, shaded sandstone ledges.
- Oenothera perennis* L.
- Polygala cruciata* L. Cross-leaf Milkwort.
- Rubus setosus* Bigel.
- Spiraea tomentosa* L. Hardhack, Steeple-bush.
- Angelica atropurpurea* L. Alexanders.

8. *Lakes, rivers, streams, sloughs, shores and marshes.*

- \**Carex cephalantha* (Bailey) Bickn.
- Carex lurida* Wahlenb. Also in acid meadows and alluvial woods.
- Eleocharis ovala* (Roth) R. & S.
- \**Scirpus pedicellatus* Fern.
- Glyceria canadensis* (Michx.) Trin. Rattlesnake-grass. Also in acid meadows and moist thickets.
- \**Glyceria pallida* (Torr.) Trin.
- \**Juncus brevicaudatus* (Engelm) Fern.
- Juncus effusus* L. Soft Rush.
- Lemma perpusilla* Torr.
- Myosotis scorpioides* L. True Forget-me-not. (Introduced)
- \**Callitriche stagnalis* Scop. (Introduced)
- Bidens discoidea* (T. & G.) Britt.
- \**Barbarea orthoceras* Ledeb.
- \**Hypericum boreale* (Britt.) Bickn.
- Utricularia intermedia* Hayne.
- \**Epilobium palustre* L.
- Polygonum arifolium* L. Halberd-leaved Tearthumb.
- Rosa palustris* Marsh.
- Veronica scutellata* L. Marsh-speedwell.

9. *Sandy plains, prairies and blowouts.*

- Carex abdita* Bickn. Open, sandy plain bordering a river. Recently collected in Allamakee County, Iowa, by R. F. Thorne.
- \**Carex tonsa* (Fern.) Bickn.
- \**Panicum columbianum* Scribn. Dry to moist sand.
- Hudsonia tomentosa* Nutt. Poverty-grass. Recently collected in Jackson County, Iowa, by T. S. Cooperrider.
- \**Draba nemorosa* L.
- \**Petalostemon villosus* Nutt. Silky Prairie-clover.
- Callirhoe triangulate* (Leavenw.) Gray.
- Polygala polygama* Walt.
- Talinum rugospermum* Holsinzer. Fameflower.
- \**Penstemon gracilis* Nutt.

10. *Rocky "goat prairies" and ridges on river bluffs.*

- \**Woodsia oregana* D. C. Eat. Oregon Woodsia. Also on moist sandstone in wooded ravines.
- \**Zigadenus elegans* Pursh. White Camass.

- \**Symphoricarpos albus* (L.) Blake. Snowberry.
- Artemisia dracunculus* L.
- Potentilla fruticosa* L. Shrubby Cinquefoil.
- \**Rosa fendleri* Crep. (*R. woodsii* Lindl. of Wisconsin authors.)

11. *Sandstone ledges.*

- Lycopodium selago* L. var. *patens* (Beauv.) Desv. Shaded sandstone in woods.
- Thelypteris phegopteris* (L.) Slosson. Northern Beech-fern. Moist, shaded sandstone.
- Woodsia ilvensis* (L.) R. Br. Rusty Woodsia. Dry ledges in upland woods.
- Gnaphalium uliginosum* L. Low Catfoot. Shaded sandstone ledge bordering a river.

12. *Weedy places . . . roadsides, railroads, waste areas, etc.*

- Carex spicata* Huds. (Introduced)
- Agropyron desertorum* (Fisch. Schult. (Introduced)
- \**Buchloe dactyloides* (Nutt.) Engelm. (Adventive)
- Distichlis stricta* (Torr.) Rydb. (Adventive)
- Juncus bufonius* L.
- Myosoton aquaticum* (L.) Moench. Giant Chickweed. Also in moist places. (Introduced)
- Silene armeria* L. None-so-pretty. (Apparently an escape)
- \**Artemisia frigida* Willd. Prairie-sagewort.
- \**Cirsium flodmani* (Rydb.) Arthur.
- \**Descurainia richardsonii* (Sweet) O. E. Schulz.
- Plantago media* L. Hoary Plantain. (Introduced)
- \**Polygonum proliferum* (Small) Robins.

STATISTICAL SUMMARY

Total number of species listed . . . . .	163
Total number of species not known to occur in Iowa . . . . .	81
Total number of species not known to occur in Illinois . . . . .	57

A total of 53 of the species listed are known to occur in both Illinois and Iowa, but are rather rare in northeastern Iowa. Of the 57 species listed as not occurring in Illinois, 28 are known from Iowa, but are also rare in the northeastern part of the state.

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