

The checklist of the flora of Lake George environs, McHenry County, North Dakota

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Abstract

North Dakota is greatly under-researched for the plant diversity. This situation may be improved with a thorough research of “biodiversity hotspots” like Lake George savanna region (McHenry county). During the 2013 summer, I collected there plant species, determined them and now present the checklist.

McHenry county one of the least researched counties of North Dakota despite of the high number of rare species found there (e.g., bog willow *Salix pedicellaris* from Karlsruhe environs). Within a county, Lake George environs (<http://maps.google.com/maps?q=48.114366,-100.374749>) constitute the “biodiversity hotspot” which was almost not researched botanically.

This summer, we made three plant collection trips to the Lake George region, and collected more than hundred specimens of vascular plants. All specimens were photographed, geo-referenced, pressed, dried, determined and labeled to become a part of Minot State University herbarium collection (MISU) and Flora of North Dakota on-line database (<http://ashipunov.info/shipunov/fnddb/>). In addition, all photographs were put on-line (this is an example: http://msubiology.info/shipunov/ph/20130820_george_lake_109/). One of the most striking findings is a natural stand of Ponderosa pine (*Pinus ponderosa*). This is probably the easternmost natural location of this species in United States. Of course, this population needs the detailed investigation but from the presence of younger and older trees with fertile cones and absence of any traces of planting, we may imply that this particular population is natural.

Vascular plants

I. Amaranthaceae

- 1(1). *Chenopodium album* L.
Sandy soils
- 2(2). *Chenopodium berlandieri* Moq.
Open spaces

II. Amaryllidaceae

- 1(3). *Allium stellatum* Fraser ex Ker Gawl.
Wetlands

III. Apocynaceae

- 1(4). *Asclepias viridiflora* Raf.
Sandy soils

IV. Boraginaceae

- 1(5). *Lithospermum incisum* Lehm.
Sandy soils

V. Cactaceae

- 1(6). *Escobaria vivipara* (Nutt.) Buxbaum
Sandy soils

VI. Campanulaceae

- 1(7). *Campanula rotundifolia* L.
Wetlands
- 2(8). *Lobelia spicata* Lam.
Open spaces

VII. Caprifoliaceae

- 1(9). *Symphoricarpos occidentalis* Hook.
Dispersed

VIII. Caryophyllaceae

- 1(10). *Cerastium arvense* L.
Sandy soils
- 2(11). *Moechringia lateriflora* (L.) Fenzl
Open spaces

- 3(12). *Silene noctiflora* L.
Roadsides

IX. Commelinaceae

- 1(13). *Tradescantia occidentalis* (Britton) Smyth
Sandy soils

X. Compositae

- 1(14). *Achillea millefolium* L.
Sandy soils
- 2(15). *Agoseris glauca* (Pursh) Raf.
Open spaces
- 3(16). *Ambrosia artemisiifolia* L.
Wetlands
- 4(17). *Antennaria howellii* Greene
Sandy soils
- 5(18). *Artemisia campestris* L.
Sandy soils
- 6(19). *Artemisia frigida* Willd.
Wetlands
- 7(20). *Artemisia ludoviciana* Nutt.
Sandy soils
- 8(21). *Cirsium flodmanii* (Rydb.) Arthur
Wetlands
- 9(22). *Conyza canadensis* (L.) Cronquist
Open spaces
- 10(23). *Erigeron glabellus* Nutt.
Open spaces
- 11(24). *Helianthus pauciflorus* Nutt.
Sandy soils
- 12(25). *Helianthus petiolaris* Nutt.
Roadsides
- 13(26). *Heterotheca villosa* (Pursh) Shinnery
Roadsides
- 14(27). *Liatris punctata* Hook.
Open spaces
- 15(28). *Lygodesmia juncea* (Pursh) D. Don ex Hook.
Sandy soils
- 16(29). *Oligoneuron rigidum* (L.) Small
Wetlands
- 17(30). *Packera cana* (Hook.) W.A. Weber & Á. Löve
Open spaces
- 18(31). *Packera tridenticulata* (Rydb.) W.A. Weber & Á. Löve
Sandy soils
- 19(32). *Rudbeckia hirta* L.
Wetlands
- 20(33). *Senecio integerrimus* Nutt.
Wetlands
- 21(34). *Solidago canadensis* L.
Wetlands
- 22(35). *Solidago missouriensis* Nutt.
Open spaces

- 23(36). *Symphyotrichum ericoides* (L.) G.L.
Nesom
Wetlands

- 24(37). *Symphyotrichum laeve* (L.) Á. Löve & D. Löve
Wetlands

- 25(38). *Symphyotrichum lanceolatum* (Willd.) G.L.
Nesom
Wetlands

- 26(39). *Tragopogon dubius* Scop.
Open spaces

XI. Cruciferae

- 1(40). *Erysimum asperum* (Nutt.) DC.
Open spaces

- 2(41). *Lepidium densiflorum* Schrad.
Sandy soils

XII. Cyperaceae

- 1(42). *Carex bebbii* Olney ex Fernald
Open spaces

- 2(43). *Carex duriuscula* C.A. Mey.
Sandy soils

- 3(44). *Carex hookeriana* Dewey
Sandy soils

- 4(45). *Carex parryana* Dewey
Open spaces

- 5(46). *Carex praegracilis* W. Boott
Sandy soils

- 6(47). *Cyperus squarrosus* L.
Sandy soils

- 7(48). *Eleocharis compressa* Sull.
Open spaces

- 8(49). *Schoenoplectus americanus* (Pers.) Volkart
ex Schinz & R. Keller

- 9(50). *Schoenoplectus pungens* (Vahl) Palla
Open spaces

XIII. Elaeagnaceae

- 1(51). *Elaeagnus commutata* Bernh. ex Rydb.
Wetlands

XIV. Equisetaceae

- 1(52). *Equisetum hyemale* L.
Sandy soils

XV. Euphorbiaceae

- 1(53). *Chamaesyce geyeri* (Engelm. & A. Gray)
Small
Sandy soils

XVI. Fagaceae

- 1(54). *Quercus macrocarpa* Michx.
Dispersed

XVII. Gentianaceae

- 1(55). *Gentiana affinis* Griseb.
Open spaces

XVIII. Gramineae

- 1(56). *Agrostis scabra* Willd.
Sandy soils
- 2(57). *Andropogon gerardii* Vitman
- 3(58). *Bouteloua gracilis* (Willd. ex Kunth) Lag.
ex Griffiths
Open spaces
- 4(59). *Calamagrostis canadensis* (Michx.) P.
Beauv.
Wetlands
- 5(60). *Calamagrostis stricta* (Timm) Koeler
Sandy soils
- 6(61). *Elymus repens* (L.) Gould
Sandy soils
- 7(62). *Koeleria macrantha* (Ledeb.) Schult.
Sandy soils
- 8(63). *Muhlenbergia frondosa* (Poir.) Fernald
Sandy soils
- 9(64). *Muhlenbergia mexicana* (L.) Trin.
Roadsides
- 10(65). *Nassella viridula* (Trin.) Barkworth
Sandy soils
- 11(66). *Panicum capillare* L.
Open spaces
- 12(67). *Panicum virgatum* L.
Wetlands
- 13(68). *Pascopyrum smithii* (Rydb.) Á. Löve
Roadsides
- 14(69). *Poa palustris* L.
Sandy soils
- 15(70). *Poa pratensis* L.
Sandy soils
- 16(71). *Setaria pumila* (Poir.) Roem. & Schult.
Open spaces
- 17(72). *Sorghastrum nutans* (L.) Nash
Wetlands
- 18(73). *Spartina pectinata* Bosc ex Link
Wetlands

XIX. Hypoxidaceae

- 1(74). *Hypoxis hirsuta* (L.) Coville
Open spaces

XX. Iridaceae

- 1(75). *Sisyrinchium montanum* Greene
Open spaces

XXI. Juncaceae

- 1(76). *Juncus arcticus* Willd.
Open spaces

- 2(77). *Juncus dudleyi* Wiegand
Open spaces
- 3(78). *Juncus interior* Wiegand
Wetlands
- 4(79). *Juncus longistylis* Torr.
Open spaces
- 5(80). *Juncus nodosus* L.
Wetlands

XXII. Juncaginaceae

- 1(81). *Triglochin maritima* L.
Wetlands

XXIII. Labiatae

- 1(82). *Hedeoma hispida* Pursh
Open spaces
- 2(83). *Lycopus asper* Greene
Wetlands
- 3(84). *Mentha arvensis* L.
Open spaces
- 4(85). *Stachys palustris* L.
Wetlands

XXIV. Leguminosae

- 1(86). *Amorpha canescens* Pursh
Sandy soils
- 2(87). *Astragalus laxmannii* Jacq.
Open spaces
- 3(88). *Dalea purpurea* Vent.
Sandy soils
- 4(89). *Glycyrrhiza lepidota* Pursh
Open spaces
- 5(90). *Medicago lupulina* L.
Sandy soils
- 6(91). *Oxytropis lambertii* Pursh
Open spaces
- 7(92). *Vicia americana* Muhl. ex Willd.
Open spaces

XXV. Linaceae

- 1(93). *Linum sulcatum* Riddell
Sandy soils

XXVI. Nyctaginaceae

- 1(94). *Mirabilis hirsuta* (Pursh) MacMill.
Sandy soils

XXVII. Oleaceae

- 1(95). *Fraxinus pennsylvanica* Marsh.
Sandy soils

XXVIII. Onagraceae

- 1(96). *Epilobium ciliatum* Raf.
Open spaces
- 2(97). *Oenothera nuttallii* Sweet
Under trees
- 3(98). *Oenothera villosa* Thunb.
Wetlands

XXIX. Orchidaceae

- 1(99). *Platanthera aquilonis* Sheviak
Wetlands
2(100). *Spiranthes romanzoffiana* Cham.

XXX. Orobanchaceae

- 1(101). *Agalinis tenuifolia* (Vahl) Raf.
Wetlands
2(102). *Orthocarpus luteus* Nutt.
Wetlands

XXXI. Oxalidaceae

- 1(103). *Oxalis stricta* L.
Open spaces

XXXII. Pinaceae

- 1(104). *Pinus ponderosa* Lawson & C. Lawson
Scattered among hills

XXXIII. Plantaginaceae

- 1(105). *Plantago major* L.
Open spaces
2(106). *Plantago patagonica* Jacq.
Open spaces

XXXIV. Polygonaceae

- 1(107). *Eriogonum pauciflorum* Pursh
Sandy soils
2(108). *Polygonum aviculare* L.
Open spaces
3(109). *Polygonum convolvulus* L.
Sandy soils

XXXV. Primulaceae

- 1(110). *Androsace septentrionalis* L.
Sandy soils

XXXVI. Ranunculaceae

- 1(111). *Anemone canadensis* L.
Open spaces
2(112). *Ranunculus abortivus* L.
Wetlands

XXXVII. Rosaceae

- 1(113). *Amelanchier alnifolia* (Nutt.) Nutt. ex M.
Roem.
Sandy soils

- 2(114). *Argentina anserina* (L.) Rydb.
Wetlands
3(115). *Fragaria virginiana* Duchesne
Open spaces
4(116). *Geum triflorum* Pursh
Open spaces
5(117). *Potentilla diversifolia* Lehm.
Open spaces
6(118). *Prunus virginiana* L.
Dispersed
7(119). *Rosa arkansana* Porter
Open spaces
8(120). *Spiraea alba* Du Roi
Open spaces

XXXVIII. Salicaceae

- 1(121). *Populus tremuloides* Michx.
Dispersed
2(122). *Salix bebbiana* Sarg.
Wetlands
3(123). *Salix candida* Flueggé ex Willd.
Sandy soils
4(124). *Salix exigua* Nutt.
Sandy soils
5(125). *Salix interior* Rowlee
Sandy soils
6(126). *Salix petiolaris* Sm.
Wetlands

XXXIX. Saxifragaceae

- 1(127). *Heuchera richardsonii* R. Br.
Wetlands

XL. Selaginellaceae

- 1(128). *Selaginella densa* Rydb.
Sandy soils

XLI. Typhaceae

- 1(129). *Typha angustifolia* L.
Wetlands

XLII. Umbelliferae

- 1(130). *Zizia aptera* (A. Gray) Fernald
Open spaces

XLIII. Verbenaceae

- 1(131). *Verbena hastata* L.
Wetlands