Wildflowers I have seen
Edgar Dennison

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Missouriensis

JOURNAL OF THE

MISSOURI NATIVE PLANT SOCIETY

INDEX

Missouriensis is the official publication of the Missouri Native Plant Society. Founded in 1979 as a non-profit corporation, the Society is devoted to the conservation and study of the plants growing wild in Missouri, to the education of the public about the significance of the native flora and its habitat, and to the publication of related information.

Minutes from the Winter Board Meeting . . . . . p. 37
by Jean Webdell

Member Highlight: Dr. Leland J. Gier . . . . . p. 42
by James R. Jackson

News & Notes. . . . . p. 44

Missouri's Interesting Flora: Pink Thoroughwort. . . . . p. 45
by Art Christ

Further Notes on Some Missouri Rare and Endangered Plants . . . . . p. 47
by Steve Orzell

Growing Missouri Native Plants, An Introduction . . . . . p. 53
by Paul Nelson

Wildflowers I Have Grown. . . . . p. 54
by Edgar Denison

What's New in Missouri? . . . . . p. 60
edited by Jay Raveill and Sue Taylor

Missouri Botanical County Records . . . . . p. 68
edited by Wallace Weber and Jay Raveill

Minutes of the Board Meeting

MISSOURI NATIVE PLANT SOCIETY
Saturday, January 14, 1984
Dept. of Conservation, Jefferson City, MO

CALL TO ORDER

The meeting was called to order by President Melvin Conrad.

MEMBERS PRESENT: President Melvin Conrad, Vice President Nancy Morin, Treasurer John Karel and Secretary Jean Webdell; Paul Redfearn, Ginny Wallace, Paul Nelson, John Molyneaux, Joanna Turner, John Doggett, Jay Raveill, David Castaner, Monte Holder, Ernestine Wagner, Marshall Wagner, Rick Thom, Edgar Denison, Bill Summers, Mervin Wallace, Randal Clark, Martha Daniels, Sherry Morgan, Mary L. Lehmann, Jean Freiling, John Wylie, Jim H. Wilson, Jim and Alberta Shaw, Kathy Nelson, Richard Guyette, Mary Susan Taylor, and Wally Weber.

MINUTES OF THE FALL BOARD MEETING

The minutes were approved with the correction of Wally Weber's address, which was listed as Southeast Mo. State and should be Southwest Mo. State.

MEMBERSHIP

Jim Henry Wilson and John Karel reported that changes in membership policy were decided on and carried out by themselves and Dept. of Natural Resources Staff member Gerry Harris. They acted as follows:

Membership renewal notices and questionnaires were mailed January 10, 1984, to all members, except those who have paid dues between 7/1/83 and 1/10/84. By doing this mailing on an annual basis, the treasurer's responsibilities will be simplified. A follow-up renewal notice will be mailed in mid- to late February to those who have not paid.

Memberships not renewed by March 31, 1984, will be removed from the active membership file.

The 1984 membership will be for the period of July 1, 1983, to September 30, 1984. Renewal notices for 1985 should be mailed in October or November 1984.

During the week of January 16, the questionnaire will be mailed to members who have already paid their dues.

The question of giving a receipt for membership or a membership card was discussed. As no membership cards are known to be in existence, it was decided that membership cards should be printed on the inside of the MISSOURIENSIS cover and this would serve as a receipt for those who join. Responses by letter or post card were felt to be too expensive, but it was discussed that information and/or membership cards, receipts, or whatever could be mailed to new members.

366 renewal notices (and questionnaires) were mailed to members. After a discussion, it was decided that John Karel will summarize the results and pass on appropriate information to members as well as sending the results to MISSOURIENSIS.

Edgar Denison reports that he knows of members who have not received copies of MISSOURIENSIS. Lost members are instructed to contact John Karel, Dept. of Natural Resources, so that they can be found.

TREASURER'S REPORT

Wallace Weber brought up that the Mo. Native Plant Society had agreed to pay half the expenses of the meeting held in conjunction with the North American Prairie Foundation at Missouri Botanical Garden. While MONPS has not received a bill from the Prairie Foundation, it was suggested that Wally Weber ask for a bill to be presented.

Treasurer John Karel did outline the expenditure of $528.11 already given to the Seventh North American Prairie Conference. The expenses included $274.78 for copies of MISSOURIENSIS, $42.48 for other printing, and $210.85 for postage, totaling $528.11.

The Operating Statement for 1983 showed a deficit. Income from membership totaled $524.50, patches and decals brought in $181.35, for a total of $705.85 income. Expenses included: postage $299.11; telephone $96.51; printing $635.61; supplies $41.03; miscellaneous $40.62 - totaling $1,112.88. Difference of income over expenses was $407.03.

From October 7, 1983, to January 13, 1984, the report of the treasurer is as follows: Cash on hand $2,999.11; income from membership $64.50; for a total income and cash of $3,063.61. Disbursements: Jefferson City Postmaster, postage for renewal notices $73.20, leaving a balance of $2,990.41.

Paul Redfearn made a motion that the Treasurer's report be approved. It was seconded by Wally Weber and the motion approved by the membership.

Members then introduced themselves.

OLD BUSINESS

John Wylie of the Department of Conservation specially recognized Conservation employee Rich Guyette, who has conducted important research on interpretation of tree rings.

No other old business was brought up.

INVENTORY COMMITTEE

Jay Raveill, who has been appointed chairman of the committee, reported that country records are continuing to be compiled so that the information can be placed on county maps and given to members. He noted that the Inventory Committee must decide technical issues such as things to avoid and what must be done to make the inventory consistent.

ENDANGERED SPECIES LEGISLATION - H.B. 1079

John Wylie reported that this legislation is needed to expand existing laws to include plants, the need is particulary important now because of the expanding collection and exporting of commercial ginseng. Under the legislation, native plants will be protected for the first time in Missouri.

Native Plant members were encouraged to send letters of support for the legislation to the Chairman of the House Agri-Business Committee Rep. Robert L. Dunning, Sr. and to Representative LeRoy D. Braungardt, who introduced the legislation. In addition to letters, it was suggested that members of MONPS appear to testify in favor of the bill; however, the date and time of the hearings were not known.

Letters were sent to Representatives Dunning and Braungardt and included the following resolution:

Be it resolved that the Missouri Native Plant Society supports H.B. 1079 which would repeal Section 252.240 relating to endangered species and replace it with a new section including plants and animals.

We recognize this legislation is important for several reasons:

1. For the first time plants will be given legal status.

2. H.B. 1079 is necessary to provide regulations for the sale and export of ginseng. This is necessary in order for the U.S. Fish and Wildlife Service to approve Missouri's program of licensing ginseng dealers and exporters. Regulation will enable monitoring of populations to ensure harvestable nembers in future years.

3. This bill will not prohibit the sale of native plants. Rather it will control trade through regulations authorized by the Conservation Commission.

4. H.B. 1079 does not affect proprietary rights. Growing plants will remain, as always, the property of the landowner. In fact, this bill will serve to strengthen a landowner's ability to protect native plants growing on his or her property.

5. This bill will enable the Department of Conservation to enter into federal cooperative agreements for native plants, which will lead to better surveys, research and management for endangered plant species.

The Missouri Department of Conservation has been involved in endangered species regulation and study of both plants and animals for a number of years, including publishing RARE AND ENDANGERED SPECIES OF MISSOURI. The Missouri Native Plant Society feels that authority for protection of rare and endangered plants needs to be clarified by statute. We strongly urge passage of H.B. 1079 during the 82nd General Assembly.

MISCELLANEOUS

Mary L. Lehmann suggested that the Mo. Native Plant Society encourage the use of native plants by distributing information about where the plants or seeds could be purchased. After much discussion on the merits and legalities of re-introduction of native species into the landscape, it was decided that a committee should gather information to be put into an article. Material included would be propagation of rare and endangered species, how to grow them, and where to obtain them. Committee members are Edgar Denison, Mary Lehmann, and Nancy Morin.

The spring MONPS meeting will be held in conjunction with the Missouri Academy of Science Meeting at Southeast Missouri State University, Cape Girardeau on April 28, 1984.

MISSOURIENSIS

The next issue, which will come out in March, will include information on the results of the questionnaire if available, if not in a later issue.

An index to the first issues is being prepared for publication.

LOCAL CHAPTERS

Sue Taylor announced efforts to start a local chapter of MONPS in the St. Louis area.

ADJOURNMENT

All business completed, the meeting adjourned. A slide show on the Natural Areas Inventory of Southwest Missouri was presented by Gary Reese.

Respectfully submitted,

Jean Webdell

Jean Webdell
Secretary

MEMBER HIGHLIGHT: Dr. Leland J. Gier

In Memorium

1904 - 1983

Dr. James R. Jackson[1]

The Missouri Native Plant Society, higher education, and the fields of botany, biology, and science in general lost a a great friend this past summer. Dr. Leland J. Gier passed away on July 11 after a short illness. His philosophy of botany, science, education, and life itself should be a model for us all.

His love of botany was reflected in his research, which he pursued until the time of his death. This research resulted in fifteen papers relating to the ecology, pathology, and taxonomy of Missouri flora. The bryophytes were his major research subject. In addition to the numerous papers on Missouri bryophytes, his most recent publication was a 56-page work on the Thuidiaceae (Musci) of Latin America published in the JOURNAL OF BRYOLOGY. What is not reflected in his papers is the contagious excitement that he exhibited every time he went into the field or keyed out a plant. This is what made every field trip with him a joyful experience.

Dr. Gier's philosophy of science education artfully bridged the gap between the undergraduate classroom, the professional society, and the scientific meeting. He was a member of The Missouri Native Plant Society, The American Bryological Society, the British Bryological Society, The American Society of Plant Taxonomy, The Torrey Botanical Club, The National Association of Biology Teachers, and the Kansas Academy of Science. He felt not only that his membership in these organizations was crucial, but because of his influence, all of his students recognized them as the vital link in the scientific community. Dr. Gier's relationship with the Missouri Academy of Science is evidence of this influence.

The survival of the Missouri Academy of Science during the 50's and early 60's was due in a large part to the efforts of Dr. Gier and his love for science education. In 1975 he was awarded the only Honorary Life Membership in the Missouri Academy of Science for his work with the Academy, especially with the Collegiate Division, which is devoted to undergraduate research. During this same year, the Leland J. Gier Award for research was created. This award is presented annually to the undergraduate student who presents the most meaningful research in the Biological Section of the Collegiate Division of the Missouri Academy of Science meetings.

[1]Missouri Southern State College, Joplin, Missouri

Dr. Gier received his Ph.D. from Duke University, and he also studied at Kansas State College at Pittsburg, the University of Nebraska at Lincoln, Oregon State College in Corvalis, and Iowa State University.

Dr. Gier committed his life to education and research. He taught for 47 years at the secondary and college levels, including Campbell College (North Carolina), William Jewel College for 27 years, and Missouri Southern State College for the four years preceeding his retirement. Dr. Gier was a dynamic, charming, and inspiring person who, until the very end, was most at home in the field with his students and his plants. We all will miss him very much.

SAINT LOUIS CHAPTER FORMED

Thursday night, February 23 marked the official founding of the St Louis Chapter of the Missouri Native Plant Society. Officers were elected and a letter dispatched requesting recognition from the State Board. Dottie Epstein is the new Chapter President, Sue Taylor is Vice President, Naomi Miller, Secretary, and Karen Haller is Treasurer. Meetings are scheduled for the fourth Thursday of each month. The next program, on March 22, will be given by Dorothy Cole on the Interesting World of Trees, with a discussion on the winter identification of Missouri trees. For information on prospective programs, fieldtrips, and other activities, phone Dottie (991-2625), or Sue (664-1382).

NEWS & NOTES

Help Needed

Leonard Blake and Doris Epstein, researchers at Washington University in archaeobotany and ethnobotany, work with specific species of the precontact native flora thought to have been used and cultivated by the native Americans. Information is requested on *Chenopodium bushianum* Aellen. and *Polygonum erectum* L. Regional information on sightings of these plants and plant and fruit specimens are needed -- enough fruit, if possible 2-6 tablespoons, to allow experimental charring. They can be contacted at Department of Anthropology, Washington University, Lindell and Skinker, St. Louis, MO 63130.

Note from Missouri Dept. of Natural Resources

This past August, The Nature Conservancy purchased a 58-acre parcel of land near Roaring River State Park and this has since been acquired by the Missouri Department of Natural Resources for state park purposes. It represents a key addition to Roaring River State Park and includes an example of the White River glades feature. Almost half of the tract is glade opening surrounded by cedar and oak forest. Several characteristic plants occur here including Trelease's Larkspur, Ashe's Juniper, and Centaury Plant.

- Greg F. Iffrig
Natural Areas Coordinator

Omission

Central Missouri State University's Herbarium was mistakenly left out of the Missouri Herbaria list in *Missouriensis* 5(1). It should be inserted as follows:

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Central Missouri State University (WARM) 16,000
Biology Dept.
Warrensburg, MO 64093

Curator: **Dr. David Castaner;** *Carex* (Cyperaceae).
Assistant: Donna Burchell.

Comments: Emphasis on North American *Carex* (about 6000 specimens); Missouri flora; various local flora vouchers such as Knob Noster State Park, Taberville, and Schell-Osage.

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Note

Contributions on people, upcoming events, etc., of interest to MONPS members are welcomed by the editors.

MISSOURI'S INTERESTING FLORA: Pink Thoroughwort

Art Christ[1]

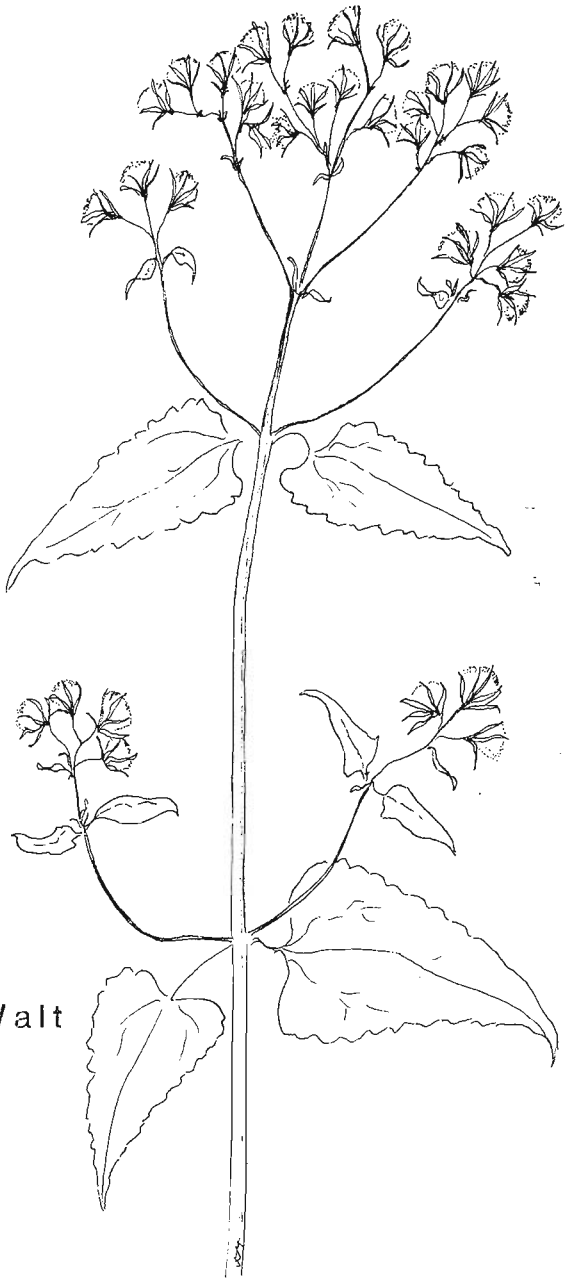
Eupatorium incarnatum Walt. (Pink Thoroughwort) is a rare species of the southeastern Missouri lowlands. We first found ths species near the Holly Ridge Preserve area along the St. Louis-Southwestern railroad tracks on September 25, 1980. It resembles Eupatorium coelestinum L. (Mist-flower or Wild Ageratum), but Eupatorium incarnatum Walt. has pink or lilac flowers instead of blue or lavender flowers. The leaves of Eupatorium incarnatum Walt. are thinner, darker green, and generally more heart-shaped at the base than those of Eupatorium coelestinum L.

Eupatorium incarnatum Walt. has downy, loosely branched, and often reclining or straggling stems that are from two to four feet long. Its opposite leaves are rather triangular in outline, long-pointed at the tips, are three-quarters to two and a quarter inches long, and have slender stalks. The flower clusters are on slender branches that arise from many of the axils of the stems, while the tubular flowers number about twenty in each head.

This species grows in open sandy woods and in swampy places. It flowers between August and October. When the plant dries it has a fragrance resembling vanilla. It is found from Virginia to Ohio, Illinois and Missouri, south to Florida and Arizona.

Eupatorium incarnatum belongs to Compositae or Asteraceae (Composite Family). The generic name "Eupatorium" is dedicated to Mithridates Eupator, 132-63 B.C., who is said to have used a species of the genus in medicine, while the specific name "incarnatum" means flesh-colored.

[1]3458 Watson Road, St. Louis, Missouri 63139



Eupatorium incarnatum Walt

Further Notes on Some Missouri Rare & Endangered Plants

Steve L. Orzell[1]

While conducting natural area inventories from 1980 through 1983, I encountered several previously unreported stations for Missouri taxa listed by the Missouri Department of Conservation (1984). Many of these also represent new county records and a few were previously reported (Orzell & Wallace, 1983a & b). The following is a listing of some additional discoveries. Specific site loctions have been omitted from this paper, but have been forwarded to the Missouri Department of Conservation. Voucher specimens are to be deposited at the Missouri Botanical Garden. Nomenclature follows Steyermark (1963).

Anemone cylindrica A. Gray

Thimbleweed (Ranunculaceae) is reported from loess hill prairies in four northwestern Missouri counties (Steyermark, 1963). A recent natural area inventory of loess hill prairies (Iffrig, 1983) failed to locate any extant populations. A few fruiting plants were located scattered along the ridge crest of a loess hill prairie in Atchison and Holt counties, but no other stations were encountered for this plant, listed as rare (MDC, 1984). 12 September 1983, Orzell & Raveill 1170.

Aralia nudicaulis L.

Wild Sarsaparilla (Araliaceae) is listed as endangered (MDC, 1984). A new station was located in Pike County at the base of a northeast-facing limestone bluff. Plants grew in talus broken loose from the adjoining bluff in bare, partially shaded well-drained soil. Associates included Acer saccharum Marshall, Staphylea trifolia L., Sanguinaria canadensis L., Smilacina racemosa (L.) Desf., Parthenocissus quinquefolia (L.) Planchon, Aquilegia canadensis L., Oxalis stricta L. and Galium sp. No specimen collected, observed on 24 July 1981.

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[1]Arkansas Natural Heritage Commission, Suite 200, The Heritage Center, 225 East Markham Street, Little Rock, Arkansas 72201

Aster puniceus L. var. firmus (Nees) T. & G. forma lucidulus (A. Gray) Fern.

Glossy-leaf Aster (Asteraceae) is on the watch list (MDC, 1984). Since numerous new stations were located, only one noteworthy collection is reported. A pink flowered form was collected from St. Francois County, 26 September 1981, Orzell 477. Here the plants thrive in a calcareous seep fen.

Campanula aparinoides L.

Marsh Bellflower (Campanulaceae) is listed as endangered (MDC, 1984). Two new stations were located in Reynolds County. C. aparinoides is abundant in a calcareous seep fen associated with Carex lurida Wahlenb., Juncus effusus L., Scirpus atrovirens Willd., Solidago patula Muhlenb., Mimulus ringens L., Viola cucullata Aiton, Cirsium muticum Michaux, Aster puniceus L. and Thelypteris palustris Schott. 31 July 1982, Orzell 800. Another new Reynolds County station was from a prairie fen where C. aparinoides was locally abundant with Glyceria striata (Lam.) A. Hitch., Scirpus atrovirens Willd., Thelypteris palustris Schott, and Carex torta Boott. 22 July 1982, Orzell 769. Both collections are of flowering plants.

Carex bromoides Willd.

This sedge (Cyperaceae) was reported by Christ (1980) as a new state record from Bollinger County. Two new stations, both in Wayne County, were recently discovered. At one station this species is very abundant in a deeply shaded forest, forming dense tussocks, associated with Corylus americana Walter, Osmunda regalis L., Athyrium filix-femina (L.) Roth, Carex crinita Lam., Impatiens capensis Meerb., Solidago patula Muhlenb., and the moss Climacium americanum Brid., 18 June 1983, Orzell 1016. Associates at the other Wayne County station include Acer rubrum L., Fraxinus pennsylvanica Marshall, Alnus serrulata (Aiton) Willd., Carex lurida Wahlenb., Solidago patula Muhlenb., Scirpus polyphyllus Vahl, and Juncus effusus L. 18 June 1983, Orzell 1010. Carex bromoides was observed flowering on April 19, 1983. It is listed as status undetermined (MDC, 1984).

Carex stricta Lam. var. strictior (Dewey) Carey

This sedge (Cyperaceae) is listed as rare (MDC, 1984). Six new stations were located (2 in St. Francois County, 2 in Dent County, 2 in Reynolds County), all in Ozark fen communities. 23 May 1982, Orzell 496, 497; 29 May 1982, Orzell 518; 23 May 1983, Orzell 914; 3 June 1983, Orzell 959; 4 June 1983, Orzell 968; 9 June 1983, Orzell 984; and 29 May 1983, Orzell 940. This sedge is probably more frequent than is presently realized and will probably be discovered from additional fen sites.

Carex trichocarpa Schk.

Listed as rare (MDC, 1984), this species (Cyperaceae) was discovered at a new Reynolds County station in a prairie fen. It is locally abundant, associated with Silphium terebinthinaceum Jacq., Pycnanthemum virginianum (L.) Durand & Jackson, Juncus effusus L., Rudbeckia fulgida Aiton, Aster novae-angliae L., Carex suberecta (Olney) Britton, and Carex stricta Lam. var. strictior (Dewey) Carey. Fruiting occurs from late May to mid-June. 5 August 1982, Orzell & Nelson 843; 29 May 1983, Orzell 942; 3 June 1983, Orzell 960.

Cypripedium reginae Walter

A new station was located for the Showy Lady-slipper (Orchidaceae) in a series of calcareous seep fens in Shannon County. Approximately 96 stems of C. reginae occur with Parnassia grandifolia DC., Rudbeckia fulgida Aiton, Scirpus atrovirens Willd., Satureja arkansana (Nutt.) Briq., Spiranthes lucida (H. Eaton) Ames, and Senecio aureus L. 21 June 1982, Orzell 875. Cypripedium reginae is listed as rare (MDC, 1984).

Eupatorium cuneifolium Wild. var. semisseratum (DC.) Fern. & Griscom

Thoroughwort (Asteraceae) is on the watch list (MDC, 1984). A new station was located in a semi-open bottomland forest in Stoddard County. Associates included Quercus phellos L., Carya tomentosa Nutt., Ilex decidua Walter, Aster vimineus Lam., Hymenocallis occidentalis (Le Conte) Kunth, and Pycnanthemum muticum (Michaux) Pers. 8 August 1983, Orzell & Christ 1083

Filipendula rubra (Hill) Robinson

Queen of the Prairie (Rosaceae) is listed as endangered (MDC, 1984). A new station was located in St. Francois County in a calcareous seep fen. Associates include Carex stipata Willd., Carex stricta Lam. var. strictior (Dewey) Carey, Aster novae-angliae L., Pycnanthemum virginianum (L.) Durand & Jackson, Rudbeckia fulgida Aiton, Salix caroliniana Michaux, Oxypolis rigidior (L.) J. Coutter & Rose, and Glyceria striata (Lam.) A. Hitchc. It should be noted that this station lies east of the St. Francois State Park station located some years ago by the Webster Groves Nature Study Society. 31 July 1983, Orzell 1068.

Habenaria clavellata (Michaux) Sprengel (Platanthera clavellata (Michaux) Luer

Two new Wayne County stations are reported, both from deep shaded seep forest, for the Green Wood Orchid (Orchidacaee). H. clavellata occurs

on thick mossy hummocks of Thuidium delicatulum (Hedwig) B.S.G. and Climacium americanum Brid. Solidago patula Muhlenb., Impatiens capensis Meerb, and Carex bromoides Willd. are common associates at one Wayne County station. 18 June 1983, Orzell 1021. Hundreds of plants thrive on Sphagnum sp. - Thuidium delicatulum - Climacium americanum hummocks formed around the base of Acer rubrum L. or Alnus serrulata (Aiton) Willd. 28 May 1983, Orzell 925. The majority of plants remained sterile and few produced flowers in 1983. This orchid is listed as endangered (MDC, 1984).

Liparis loeselli (L.) Rich.

Loesel's Twayblade (Orchidaceae) is an endangered orchid (MDC, 1984) reported from Shannon, Carter, and Bollinger counties (Summers, 1981). Four new stations in Carter, Bollinger, Shannon, and Madison counties were discovered.

The newly located Carter County station is in a calcareous seep fen complex in a remote watershed. There are two populations of L. loeselli. One population thrives in full sun along a spring branch with Parnassia grandifolia, DC., Oxypolis rigidior (L.) J. Coulter & Rose, Carex hystericina Willd., Helenium autumnale L., Carex leptalea Wahlenb., and Rudbeckia fulgida Aiton. The other population thrives in partial shade on quaking mucky peat with copious seepage, associated with Impatiens capensis Meerb., Blyceria striata (Lam.) A. Hitchc., Carex laevivaginata (Kük.) Mackenzie., Carex lurida Wahlenb., and Senecio aureus L. 17 June 1983, Orzell 994.

The new station in Bollinger County is in a sedge shrub fen. Associates included Alnus serrulata (Aiton) Willd., Salix sericea Marshall, Cornus obliqua Raf., Carex leptalea Wahlenb., Ludwigia alternifolia L., Carex lurida Wahlenb., Solidago patula Muhlenb., Solidago riddellii Frank, Rudbeckia fulgida Aiton, and Pycnanthemum virginianum (L.) Durand & Jackson. 28 May 1983, Orzell & Wilhelm 924.

At the new Shannon County station L. loeselli occurs on the lower portion of a (hanging) calcareous seep fen. Rudbeckia fulgida Aiton, Carex leptalea Wahlenb., Scirpus atrovirens Willd., Hydrangea arborescens L., Satureja arkansana (Nutt.) Briq., Cypripedium reginae Walter, and Eupatorium perfoliatum L., are associates. No specimen collected, photographed on 19 July 1983.

The Madison County station is a new county record, from a sedge shrub fen. Associates were Salix sericeae Marshall, Carex suberecta (Olney) Britton, Carex interior L. Bailey, Carex lanuginosa Michaux, Carex leptalea Wahlenb., Rudbeckia fulgida Aiton, Senecio aureus L., Eupatorium perfoliatum L., Pedicularis lanceolata Michaux, Boehmeria cylindrica (L.) Sw. var. drummondiana Wedd., Chelone glabra L., Scirpus atrovirens Willd., Oxypolis rigidior (L.) J. Coulter & Rose, Agrimonia parviflora Aiton, Dulichium arundinaceum (L.) Britton, and Onoclea sensibilis L. 28 May 1983, Orzell & Wilhelm 920.

Peltandra virginica (L.) Schott & Endl.

Arrow Arum (Araceae) is listed as rare (MDC, 1984). A single robust plant of P. virginica was located in standing water of a roadside drainage ditch in Stoddard County. Aquatic associates included Lemna valdiviana Philipp, Azolla mexicana Presl, Polygonum hydropiperoides Michaux, and Ludwigia palustris (L.) Elliott. A single leaf and fruit serves as a voucher 3 August 1983. Orzell & Christ 1084.

Phlox maculata L. var. pyramidalis (Smith) Wherry

Seven new stations were located for Meadow Phlox (Polemoniaceae), considered rare (MDC, 1984). Six were in Reynolds County and one in Washington County. Phlox maculata most frequently associates with Carex vulpinoidea Michaux, Rudbeckia fulgida Aiton, and Pycnanthemum virginianum (L.) Durand & Jackson. In Missouri it is entirely restricted to fens in the southeastern Ozarks. Flowering has been recorded from July 11 through September 24, peaking July 15 - August 16 in most fens. Some of the material collected exhibited noteworthy phenotypic variation; a white-flowered form (Orzell 348), pink-flowered form (Orzell 812), and a form with a white inner corolla tube and lacking stem maculation (Orzell 729). None of these forms was previously known in Missouri.

Plantago cordata Lam.

Heart-leaf Plantain (Plantaginaceae) is on the Missouri watch list (MDC, 1984). This plant is a Category II species currently under review for possible federal listing as either a federally threatened or endangered species (U.S. Department of Interior, 1983). Eleven new stations were located (8 in Reynolds County, 2 in Carter County, and 1 in Dent County) along calcareous seep-fed streams or seep springs in fens. The largest population noted was along a remote high-quality calcareous seep-fed stream in Carter County where thousands of robust plants occur in dense stands. Flowering occurs from mid-April to early May. Not all of the sites are represented by vouchered material. 30 June 1982, Orzell 626: 26 April 1983, Orzell 880; 9 June 1983, Orzell 985; 17 June 1983, Orzell 995.

Pycnanthemum muticum (Michaux) Pers.

Mountain Mint (Lamiaceae) is listed as rare (MDC, 1984). Plants were occasional in a semi-open bottomland forest in Stoddard County, with Quercus phellos L., Carya tomentosa Nutt., Ilex decidua Walter, Eupatorium cuneifolium Willd. var. semisseratum (DC.) Fern. & Griscom, Hymenocallis occidentalis (LeConte) Kunth, and Aster vimineus Lam. 8 August 1983, Orzell & Christ 1079.

Scleria verticillata Willd.

Nut-rush (Cyperaceae) is on the watch list (MDC, 1984). Four new stations were located (1 in St. Francois County, 1 in Reynolds County, 1 in Shannon County and 1 in Washington County). All collections were from marly (calcareous ooze) areas in Ozark fens. Associates frequently included Satureja arkansana (Nutt.) Briq., Rhynchospora capillacea Torrey, Rudbeckia fulgida Aiton, Parnassia grandifolia DC., Panicum flexile (Gattinger) Scribner, Lysimachia quadriflora Sims, and often Fuirena simplex Vah. 9 August 1981, Orzell 367; 4 August 1981, Orzell 835; 12 August 1982, Orzell 846; 24 September 1983, Orzell 1199.

Sullivantia renifolia Rosend.

S. renifolia (Saxifragaceae) was located at two new stations in Jefferson County and one in Franklin County. The Franklin County station was along a north-facing sandstone bluff of the Roubidoux formation (Ordovician age) near Moselle, several miles from the Franklin County Steyermark station. Jefferson County stations were all on dripping wet St. Peter sandstone formations (Ordovician age): one along the Meramec River; the other from a series of shelter caves near Clubmoss Hollow (a former Steyermark station). 25 June 1980, Orzell 225; 16 July 1980, Orzell 226; 21 July 1980, Orzell 229.

Symphoricarpos occidentalis Hook.

Wolfberry (Caprifoliaceae) is listed as endangered (MDC, 1984). Several plants were located along a railroad right-of-way in Nodaway County. Associates included Solidago graminifolia (L.) Salisb., Helianthus grosseserratus Martens, Setaria faberii Herrm., Asclepias syriaca L., Ambrosia trifida L., and Muhlenbergia sp. 11 September 1983, Orzell & Raveill 1169.

LITERATURE CITED

Christ, A. 1980. A New Sedge for Missouri. Missouriensis 1(4): 10.

Department of Interior, U.S. Fish & Wildlife Service. 1983. Endangered and Threatened Wildlife and Plants; Supplement to Review of Plant Taxa for Listing; Proposed Rule. Federal Register 48(229): 53640-53670.

Iffrig, G. F. 1983. Distribution and Ecology of Loess Hill Prairies in Atchison and Holt Counties in Northwestern Missouri. In: C. L. Kucera, ed., Proceedings of the 7th North American Prairie Conference. August 4-6, 1980. Pp. 129-133.

Missouri Department of Conservation. 1984. Checklist of Rare and Endangered Species of Missouri. Jefferson City. 16 pp.

Orzell, S. L. and M. Wallace. 1983a. Notes on some Rare/Endangered Howell and Douglas County Plants. Missouriensis 4(4): 108-110.

_____. 1983b. New record for Barren Strawberry. Missouriensis 4(4): 110.

Steyermark, J. A. 1963. Flora of Missouri. Iowa State University Press. Ames. xxxii + 1728 pp.

Summers, J. W. 1981. Missouri Orchids. Natural History Series, No. 1. Missouri Department of Conservation, Jefferson City. 92

The Spirit of Wildflower Gardening

Paul Nelson[1]

Just less than 200 years ago, Missouri's 44 million acres of land provided habitat for a variety of wildflowers. Our European ancestors were enthralled by the state's scenery and wildflower spectacles. Since the time of settlement, we have witnessed rapid alteration of the fabric of delicate plant communities. Indeed, looking today at what remains, one finds it hard to grasp the concept of the original landscape and its varied wildflowers. One can now drive thousands of miles in Missouri only to see mosaics of fescue, corn, soybeans, weedy depleted pastures, reservoirs, stripped land, and urban sprawl.

The mere cameos of our presettlement wildflower landscapes which still exist are places of special importance to us. So valuable to us are these special remnants of original landscape that they form part of our heritage. We especially recognize the scientific value in preserving the purity of natural areas set aside in state parks, wildlife refuges, forest service property, scenic riverways, and on the properties of private individuals.

We so cherish the value of our wildflower heritage that, in recent years, we have encouraged our members and the general public to capture this beauty in wildflower gardens. As one who appreciates this heritage, and cannot always visit these special places away from home to see wildflowers, I have planted a backyard wildflower garden. In fact, I'm sure its the only one in Loose Creek! With so many new members now considering establishing wildflower gardens, I would like to reinstate several points considered in past years by the Society:

1) Do not transplant or seed native wildflowers or plants in natural habitats where the plants can spread uncontrolled. This is especially critical in scientifically valuable natural areas, state parks, or other lands where native assemblages of plants can still be studied or preserved. Remember, these cameos of natural habitat are the purest, most precious remnants of our natural heritage left.

2) When considering native plants, be sure to use seed sources or plantings known only from your local area. The seed of bloodroot or blue-eyed Mary collected in Tennessee and planted in

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northern Missouri does not produce the exact genetic plants found locally. You should investigate the source of plant material listed in seed catalogues.

3) Good sources of plant material come from salvage operations. I collected wildflowers from a reservoir construction site where they were to be destroyed.

4) Remember the property rights of others. You must have permission to collect seed or dig plants on the land of other landowners. Wildflowers are protected on most public lands including state parks, wildlife refuges, Forest Service and National Park Service property.

5) Finally, remember good ethics in collecting or transplanting native plants. Our Society has developed policies regarding these ethics which were published in Missouriensis*.

In the spirit of those ancestors first inspired by our wildflower heritage, let's garden with plants "wild" from "Missouri" and protect and appreciate those wild in our Missouri wilderness.

*Reference: Missouriensis; Spring, 1980. Volume 1, Number 4, pp. 2-3.

Wildflowers I Have Grown

Edgar Denison[1]

Allium stellatum - Wild Onion. About 1 foot high, free flowering in fall. Seeds readily. Full sun. September - October.

Anemone canadensis - White Anemone. About 20" high, long-flowering, April through June. Spreads aggressively by stolons. Excellent border plant.

Aquilegia canadensis - Wild Columbine. About 2 feet tall, free-flowering in April/May. Aggressive spreader through seeds. Seeds germinate best immediately upon ripening.

Arisaema dracontium - Green Dragon. Light shade, easy from seed. Culture 1. To 3' tall, forms corms. Must be kept in check.

Arisaema triphyllum - Jack in the Pulpit. Similar in every respect to A. dracontium but not as aggressive. Flowers in April. Fruit of both species of Arisaema are brilliant red berries.

Asarum canadense - Wild Ginger. Best started from root cutting. Good ground cover, spreads rapidly. Shiny leaves; roots are a ginger substitute. Needs some shade.

Asclepias incarnata - Swamp Milkweed. To 6' tall, pink (rarely white) flowers, fragrant and showy. Spreads rapidly through seeds. Subject to infestation by yellow aphids. Attracts butterflies. Water during dry spells.

Aster oblongifolius - Oblong-leaf Aster. In contrast to its appearance in nature forms large, wide-spread clumps in garden. Very free-flowering in fall, to 2 1/2' tall. Self-seeds freely.

Aster novaeangliae-New England Aster. To 6 feet tall, in many color variants, free-flowering. Forms clumps which should be staked. Treat like Chrysanthemums and pinch back repeatedly until late August. Full sun. Water when dry.

Campanula americana - Tall Bellflower. To 7' tall, wide branched, with many blue (rarely white) flowers. As in the wild, it needs water. Self-seeds profusely, prefers light shade. Probably a biennial.

Cassia marilandica - Wild Senna. Vigorous perennial to 8' tall, with many branches loaded with yellow, pea-flowers. Grows in the wild in varied habitats: on glades and in moist bottomlands. Seeds germinate readily.

Chelone obliqua - Rose Turtlehead. RARE, to 7' tall with fleshy roots. Does well in good soil when given water in summer. Seeds germinate readily (Culture 1). Even very small, young plants will set flowers.

Cimicifuga racemosa - Black Snakeroot. Shade-loving, to 7' tall. Showy, white racemes are long lasting in summer (June - July). Spreads by root division. Demands humus-rich soil and moisture.

Clematis fremontii - Fremont's Leather Flower. A glade dweller, which appeared on an imitation mini-glade in my garden and has persisted. Drainage paramount requirement, soil secondary. Flowers in April. This is a non-climbing Clematis.

Collinsia verna - Blue-eyed Mary. Annual, about 10" high. Seeds germinate in late fall and stay green through the winter as seed-leaves (cotyledons). Will carpet entire garden if permitted. Excellent companion to tulips and narcissus. Blooms in April.

Dicentra cucullaria - Dutchman's Breeches. To 15" high in shade, with perfect drainage (never on level ground) and humus-rich soil. Flowers in April. Corms can be divided.

Dicentra canadensis - Squirrel Corn. Similar to preceding. Does not tolerate sun. Needs perfect drainage on a hill.

Dodecatheon meadia - Shooting Star. This is a report of a failure. Germinates readily but will not tolerate transplanting. Seed where it is to grow. Being both a prairie and a glade dweller D.C. should not be a difficult subject.

Filipendula rubra - Queen of the Prairie. RARE, found in very moist situations. Does very well under garden conditions with supply of moisture during dry periods. To nearly 7' tall with magnificent clusters of pink flowers from late June to August. Must be divided about every 3 years or will exhaust soil. Full sun or light shade.

Gentiana alba - Pale Gentian (formerly G. pallida). Very RARE. Good germination from seed collected in Warren County. To 2' tall, large white flowers in terminal clusters. Limestone habitat, but protected from afternoon sun by Junipers. Culture 1. Flowers in September.

Gentiana andrewsii - Closed Gentian (formerly G. clausa). Readily grown from seeds and self-seeds. Prefers light shade and moist habitat. Spectacular purple and blue floral clusters in September/October on 18" stems. Subject to a fungal disease, causing withering. Primarily a rock garden species.

Geranium maculatum - Wild Geranium, Crane's Bill. Woodland dweller demanding shade and rich humus. Spreads readily from seeds. Aggressive plant with rose to magenta flowers in April/May.

Heterotheca latifolia - Golden Aster. A composite but NOT an Aster. Easy from seed. Many flowers on much branched plants to 3' tall, yellow, in September. Full sun.

Iris fulva - Copper Iris. Though at home in southern Missouri does very well in central parts. To 3' tall with light brown to copper color blossoms. Rich soil and ample moisture (grows normally in ditches and sloughs). Roots must be divided occasionally.

Iris virginica - Southern Blue Flag. About 3' tall, easy from seed. Needs ample water during dry times. Roots spread. Flower color very variable from palest purple to deep and (very rare) almost white. Short flowering season in June.

Iris cristata - Crested Iris. A low growing Iris of rich valleys and slopes. Tolerates open shade well (may even like it!). Spreads through rhizomes into large groups. Flowers in April.

Iris brevicaulis - Short-stemmed Iris. Quite RARE near sloughs and flowing water, but always with excellent drainage. Flowers low but very large and variable in color light to deep purple. Foliage tall to 2½' hides flowers. Seed germination easy.

Lithospermum latifolium - (no common name). A perennial, shrub-like relative of the Hoary Puccoon. RARE, with insignificant flowers, grown as a curiosity. Has no garden value.

Lobelia cardinalis - Cardinal Flower. Tall dwellers of stream borders do well in rich soil if given water during dry season. To 6' tall with cardinal-red spikes of flowers from July to September. Easy from seed. Forms rosette 1st year and blooms during 2nd.

Lobelia siphilitica - Great Blue Lobelia. Found in creek bottoms and other wet situations. To 2' tall (occasionally much taller!) with blue or purple flowers, rarely white, blooms August - September. Difficult to get started but quite vigorous once established.

Mertensia virginica - Blue bells. In nature only in bottomlands, but an excellent garden subject in rich soil. Flowers light blue and pink in April. As foliage disappears in June their place of growth should be marked. The roots look like old leather very unroot-like. About 2' tall.

Mimulus alatus - Monkey Flower. Habitat: wet places. Much branched plant with lavender flowers during summer. Very aggressive in garden through self-seeding. To 3' tall.

Monarda fistulosa - Wild Bergamot. Of easiest culture, spreading through roots, to 3' tall with pink flowers, which attract butterflies. Highly aromatic foliage. The well-known M. didyma with brilliant red flowers is NOT native to Missouri. Flowers in summer. The earlier flowering M. russeliana is paler.

Nemastylis geminiflora - (Steyermark gives no common name). A beautiful member of the Iris family to 1' tall with lavender flowers. They are incredibly deep rooted, often in sticky clay, and demand excellent drainage. Full sun. Need a dry season in summer. Do not dig, try seeds planted immediately on ripening.

Oenothera macrocarpa - Large-fruited evening Primrose. This glory of our glades (formerly named O. missouriensis) grows well in gardens if near-glade conditions are provided, i.e. lots of rubble, little soil, perfect drainage. It can bloom itself to death. Huge, lemon-yellow flowers open during afternoon in May and June. Do not water in summer. About 1' tall.

Oenothera triloba - Evening Primrose (no specific common name). RARE in Missouri. Needs poor soil with good drainage. Flowers large, but smaller than O. macrocarpa open in 2-3 seconds at dusk and are usually closed by daybreak. Foliage dandelion-like. Full sun. About 9" tall.

Polygonatum canaliculatum - Solomon's Seal. Easy from root division. Tolerant to soil and situation, either sun or open shade. To 3' high with small bells hanging from nodes. Can be very aggressive in garden.

Rudbeckia triloba - Brown-eyed Susan. I have grown selected stock from a plant, found in the wild, which has a deep-red center of the normally yellow ray florets. Makes a very showy "bush" to 4' tall under garden conditions. Many small inflorescences over a long period in fall.

Sanguinaria canadensis - Bloodroot. Easily grown from corms. Flowers short-lived in early spring with irregular number of petals. Shade in rich soil.

Silene regia - Royal Catchfly. FAIRLY RARE in dry situations, often in light shade. Tall, to 3½' with many brilliantly red flowers, which resemble the also native Firepink. Easy from seed when first stratified. Very long-flowering perennial.

Silene virginica - Firepink. Low plants to 18" with brilliantly red flowers in April and sometimes later. Want shade, rich soil and no competition. A plant of woodland borders.

Sisyrinchium campestre - Blue-eyed Grass. A glade dweller, which, however, thrives on better soil. To 1' tall with many small, blue flowers and very narrow leaves. It will take over any rock garden if permitted through copious seeding.

Spigelia marilandica - Pinkroot. A RARE plant of Ozark stream bottoms. Does very well in garden soil if protected from noon and afternoon sun. About 18" high with many tubular flowers in late May, brick red on the outside and yellow on the inside. Has never seeded. The seeds disappear during night and can only be saved by wrapping each stem. Quite showy, divides well after forming large clumps.

Stylophorum diphyllum - Celandine Poppy. Do not confuse with the European Celandine Poppy, which has small, insignificant flowers. Low, dense plants, about 15" high with beautiful, blue-green foliage and large, yellow blossoms in April. Like open shade, but tolerate some sun. Seeds profusely on humus-rich soil. Under garden conditions flowering is extended through mid-summer.

Talinum calycinum - Rock Pink. Not a "Pink" but a member of the Portulaca Family. Plant on raised surface (rock-garden) in rubble and sand. Forms small, fleshy rosettes from which arise pencil-line thin flowering stalks with cherry-pink flowers in June/July. Rhizomatic roots. Flowers open around noon each day. Ca 8" high.

Verbena canadensis - Rose Verbena. Low growing, creeping, an indicator of poor soil. Flowers off and on all through spring and summer in variable shades from pink to purple. Easiest culture.

Viola species - Violets. With exception of V. pedata, Birdsfoot Violet, the other common species are of easiest culture and readily raised from ripe seed. As all violets (with exception of V. pedata) produce seeds all through the season from unfertilized flowers (cryptogamous) the supply of seeds is no problem. Common species are: V. pensylvanica - yellow; V. striata - white; V. papilionaceae, V. sororia, viarum, sagittata, triloba - violet.

V. papilionaceae f. albiflora, the so-called Confederate Violet, is a white and violet form much seen in gardens.

V. pedata - Birdsfoot Violet. In many trials I have never been able to keep plants more than 2 years. It demands perfect drainage in a rocky soil with full sun or partial shade.

Note: All plant species mentioned are NATIVES of Missouri. There are, of course, many more native Missouri species which can be grown in gardens. Due to lack of space I have never worked with the large composites (Helianthus, Silphium, Heliopsis, Rudbeckia), many of which would be stunning additions to gardens. Nor have I experimented with the large tribe of Goldenrod (Solidago), of which lately a number appear in catalogues as worthy of garden space.

Culture 1 - Stratify seeds over winter, i.e., spread them on a layer of sand, cover lightly, and expose to freezing and thawing. It is desirable to protect the stratified seed so that heavy rain will not wash out the seeds. Cover seeds with old screening wire or hardware cloth to keep birds and rodents from eating the seeds. Seeds should germinate in spring, though a number of plants have a seed dormancy of 2 (or more) years.

WHAT'S NEW IN MISSOURI? II

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This is the second installment of a regular column designed to rapidly disseminate post-Steyermark Missouri state records. Our first installment (see Missouriensis 5(1) generated welcome feedback; we encourage further comments on content and arrangement of data.

The names presented here are those that we consider currently acceptable. If no consensus exists in the primary literature, opposing viewpoints will be noted. Where nomenclature differs from Steyermarkian usage synonyms are included. Explanatory notes are added as needed.

Albizzia julibrissin Durz. (FABACEAE = LEGUMINOSAE) Thompson 1980: 194.
Arabis glabra L. (BRASSICACEAE = CRUCIFERAE) Mohlenbrock 1980: 14.
Asplenium montanum Willd. (POLYPODIACEAE) Key 1982: 152; Key & Redfearn 1973: 1-2.

Beta vulgaris L. (CHENOPODIACEAE) Mühlenbach 1969: 165.
Brassica napus L. (BRASSICACEAE = CRUCIFERAE) Mühlenbach 1983: 172.
Brassica oleracea L. (BRASSICACEAE = CRUCIFERAE) Mühlenbach 1983: 172.

Carex crawfordii Fern. (CYPERACEAE) Mühlenbach 1983: 171; see also Hermann 1970.
Chasmanthium sessiliflorum (Poir.) Yates (Uniola sessiliflora) (POACEAE = GRAMINEAE) Yates 1966: 428.
Cicuta maculata L. var. bolanderi (S. Wats.) G.A. Mulligan (Cicuta bolanderi) (APIACEAE = UMBELLIFERAE) Mulligan 1980: 1766.

Dichanthelium sabulorum (Lam.) Gould & Clark var. thinium (A.S. Hitchc. & Chase) Gould & Clark (Panicum columbianum) (POACEAE = GRAMINEAE) Weber 1982: 58.
Dodecatheon frenchii (Vasey) Rydb. (PRIMULACEAE) Nelson 1979a: 7-8.

Echinochloa utilis Ohwi & Yabuno (POACEAE = GRAMINEAE) Mühlenbach 1983: 171; Yabuno 1966: 319; Ohwi 1962: 50. Note: new to North America?
Equisetum X ferrissii Clute (EQUISETACEAE) Key 1982: 52. Note: distribution based on collections at MO.
Eragrostis secundiflora Presl. subsp. oxylepis (Torr.) S.D. Koch (Eragrostis oxylepis or E. secundiflora) (POACEAE = GRAMINEAE) Koch 1974: 397; Mühlenbach 1969: 165.
Eschscholtzia californica Cham. (PAPAVERACEAE) Steyermark 1963 (Supplement): 1652.

Galium divaricatum Poir. ex Lamark (RUBIACEAE) Castaner 1983: 111; Dempster 1979: 12. Note: This taxa might eventually be lumped with G. parisiense L.
Galium pedemontanum (Bellardi) All. (RUBIACEAE) Sanders 1976: 73-80.

Heliotropium curassavicum L. (BORAGINACEAE) Nelson 1979b: 246-247.

Ipomoea trichocarpa Ell. (CONVOLVULACEAE) Austin 1978: 125. Note: localities were not cited in this reference.

Lactuca sativa L. (ASTERACEAE = COMPOSITAE) Mühlenbach 1983: 172.

Parthenocissus tricuspidata (Sieb. & Zucc.) Planch. (VITACEAE) Mühlenbach 1969: 167.
Pisum sativum L. (FABACEAE = LEGUMINOSAE) Mühlenbach 1969: 167.
Plantago patagonica Jacq. (PLANTAGINACEAE) Rahn 1978: 149. Note: localities were not cited in this reference.
Plantago wrightiana Dcne. (PLANTAGINACEAE) Steyermark 1963(Supplement): 1653.

Salix X rubens Schrank (Salix alba X S. fragilis) (SALICACEAE) Mühlenbach 1983: 171; Kartesz & Kartesz 1980: 427.
Selaginella eclipes Buck (SELAGINELLACEAE) Buck 1977: 366-371; Redfearn 1982: 16-17. Note: See corrected map for S. apoda.
Smilax illinoensis Mangaly (SMILACACEAE split from LILIACEAE) Steyermark 1963(1968 Errata): 1727; Mangaly 1968: 263-264.
Symphoricarpos albus (L.) Blake (CAPRIFOLIACEAE) Mühlenbach 1983: 172.

Torilis arvensis (Huds.) Link (APIACEAE = UMBELLIFERAE) Mühlenbach 1969: 168.

Viola arvensis Murray (VIOLACEAE) Mühlenbach 1983: 172.

ERRATA

1. Alliaria officinalis is now Alliaria petiolata (Bieb.) Cavara & Grande Tutin et al., eds. 1964: 267; Patman & Iltis 1961: 42; Smith 1978: 123.

2. Bothriochloa bladhii (Andropogon intermedia) Allred & Gould 1983: 168-184.

3. The following are family names for plants discussed in the previous issue:

Aeschynomene = FABACEAE/GRAMINEAE
Aira = POACEAE/GRAMINEAE
Alliaria = BRASSICACEAE/CRUCIFERAE
Alyssum = BRASSICACEAE/CRUCIFERAE
Artemisia = ASTERACEAE/COMPOSITAE
Asclepias = ASCLEPIADACEAE
Atriplex = CHENOPODIACEAE
Aubrieta = BRASSICACEAE/CRUCIFERAE
Bothriochloa = POACEAE/GRAMINEAE
Bromus = POACEAE/GRAMINEAE
Brunnera = BORAGINACEAE
Centaurea = ASTERACEAE/COMPOSITAE
Ceratostigma = PLUMBAGINACEAE
Chenopodium = CHENOPODIACEAE
Coreopsis = ASTERACEAE/COMPOSITAE
Crepis = ASTERACEAE/COMPOSITAE
Croton = CHENOPODIACEAE
Cucumis = CUCURBITACEAE
Cynosurus = POACEAE/GRAMINEAE
Cyperus = CYPERACEAE
Fumaria = FUMARIACEAE
Gaura = ONAGRACEAE
Geum = ROSACEAE
Gossypium = MALVACEAE
Gutierrezia = ASTERACEAE
Ipomoea = CONVOLVULACEAE
Juncus = JUNCACEAE
Lepidium = BRASSICACEAE
Lonicera = CAPRIFOLIACEAE
Lychnis = CARYOPHYLLACEAE
Mentzelia = LOASACEAE
Oenothera = ONAGRACEAE
Ophioglossum = OPHIOGLOSSAC.
Paspalum = POACEAE
Pennisetum = POACEAE
Philadelphus = SAXIFRAGAC.
Physalis = SOLANACEAE
Prunus = ROSACEAE
Ratibida = ASTERACEAE
Reseda = RESEDACEAE

Desmodium = FABACEAE/LEGUMINOSAE
Dipsacus = DIPSACACEAE
Eragrostis = POACEAE/GRAMINEAE
Erodium = GERANIACEAE
Eupatorium = ASTERACEAE/COMPOSITAE
Fimbristylis = CYPERACEAE
Salsola = CHENOPODIACEAE
Sclerochloa = POACEAE
Senecio = ASTERACEAE
Thelesperma = ASTERACEAE
Verbena = ASTERACEAE
Veronica = SCROPHULARIAC.

LITERATURE CITED

Allred, Kelly W. & F.W. Gould. 1983. Systematics of the Bothriochloa saccharoides complex (Poaceae: Andropogoneae). Systematic Botany 8(2): 168-184.

Austin, Daniel. 1978. The Ipomoea batatas complex - I. Taxonomy. Bulletin Torrey Botanical Club 105(2): 114-129.

Buck, William R. 1977. A new species of Selaginella in the Selaginella apoda complex. Canadian Journal of Botany 55: 366-371.

Castaner, David. 1983. Additions to the flora of Missouri from Europe. Missouriensis 4(4): 111-112.

Dempster, Lauramay T. 1979. A flora of California by Willis Lynn Jepson. Vol. 4, No. 2. Rubiaceae. Jepson Herbarium and Library, University of California at Berkeley. 47p

Gould, Frank W., et al. 1972. A revision of Echinochloa in the United States. American Midland Naturalist 87(1): 36-59.

Hermann, F.J. 1970. Manual of the carices of the Rocky Mountains and Colorado Basin. U.S.D.A., Agriculture Handbook 374.

Kartesz, John T. & R. Kartesz. 1980. A synonymized checklist of the vascular flora of the United States, Canada, and Greenland. Vol. 2. The biota of North America. University of North Carolina Press, Chapel Hill, NC. 498p

Key, James S. 1982. Field guide to Missouri ferns. Missouri Department of Conservation, Jefferson City, MO.

_____. & P.L. Redfearn Jr. 1973. Additions and a deletion to the fern flora of Missouri. American Fern Journal 63: 1-2.

Koch, Stephen D. 1974. The Eragrostis pectinacea complex in North and Central America (Gramineae-Eragrostoideae). University of Illinois, Biol. Monogr. Ser. 48.

Mangaly, Jose K. 1968. A cytotaxonomic study of the herbaceous species of Smilax section Coprosmanthus. Rhodora 70: 55-82, 247-273.

Mühlenbach, Viktor. 1969. Adventive plants new to the Missouri flora (III). Annals Missouri Botanical Garden 56(2): 163-171.

Mühlenbach, Viktor. 1983. Supplement to the contributions to the synanthropic (adventive) flora of the railroads in St. Louis, Missouri, U.S.A. Annals Missouri Botanical Garden 70: 170-178.

Mulligan, Gerald A. 1980. The genus Cicuta in North America. Canadian Journal of Botany 58: 1755-1767.

Nelson, Paul. 1979a. Frenches Shooting Star (Dodecatheon frenchii) revealed in Missouri. Missouriensis 1(1): 7-8.

_____. 1979b. A new halophyte for Missouri. Castanea 44: 246-247.

Ohwi, J. 1962. On the Japanese species of the genus Echinochloa. Acta Phytotax. and Geobot., Kyota 20: 50-55.

Patman, J.P. & H.H. Iltis. 1961. Preliminary reports on the flora of Wisconsin. No. 44. Cruciferae - mustard family. Wisconsin Academy of Sciences, Arts, and Letters, Trans. 50: 17-72.

Rahn, Knud. 1978. Plantago section Gnaphaloides Rahn, a taxonomic revision. Botanisk Tidsskrift 73: 137-154.

Redfearn, Paul L. Jr. 1982. New Selaginella species. Missouriensis 3(4): 16-17.

Sanders, Roger W. 1976. Distributional history and probably ultimate range of Galium pedemontanum (Rubiaceae) in North America. Castanea 41(1): 73-80.

Smith, Edwin B. 1978. An atlas and annotated list of the vascular plants of Arkansas. 592p

Steyermark, Julian A. 1963. Flora of Missouri. The Iowa State University Press, Ames, IO.

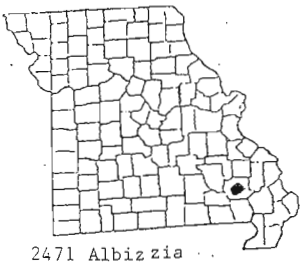
Thompson, Ralph L. 1980. Woody vegetation and floristic affinities of Mingo Wilderness Area, a northern terminus of southern floodplain forest, Missouri. Castanea 45: 194-212.

Tutin, T.G., et al., eds. 1964. Flora Europaea. Vol. 1. Lycopodiaceae to Platanaceae. University Press, Cambridge. 464p

Weber, Wallace R. & D. Ladd, eds. 1982. Missouri botanical record. Missouriensis 4(2): 58-63.

Yabuno, Tomosaburo. 1966. Biosystematic study of the genus Echinochloa. Japanese Journal of Botany 19(2): 277-323.

Yates, Harris O. 1966. Revision of grasses traditionally referred to Uniola. II. Chasmanthium. Southwestern Naturalist 11(4): 415-455.

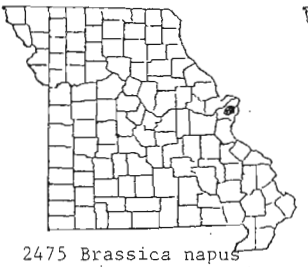


2471 Albizzia julibrissin

2472 Arabis glabra

2473 Asplenium montanum

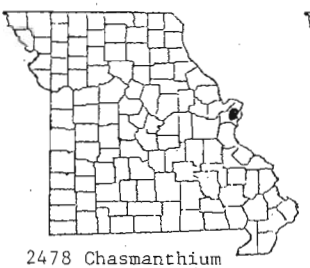
2474 Beta vulgaris



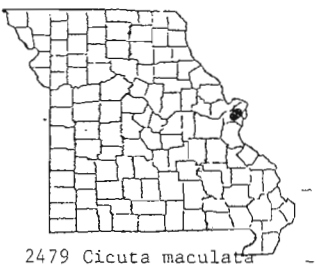
2475 Brassica napus var. napus

2476 Brassica oleracea

2477 Carex crawfordii

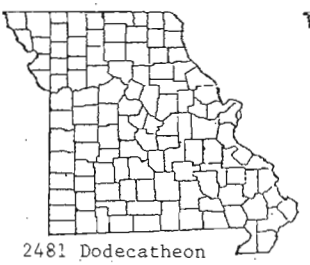


2478 Chasmanthium sessiliflorum



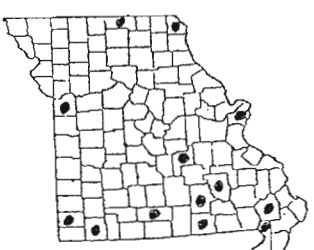
2479 Cicuta maculata var. bolanderi

2480 Dichanthelium sabulorum var. thinium



2481 Dodecatheon frenchii

2482 Echinochloa utilis



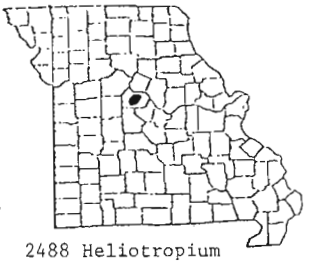
2483 Equisetum X ferrissii

2484 Eschscholtzia californica

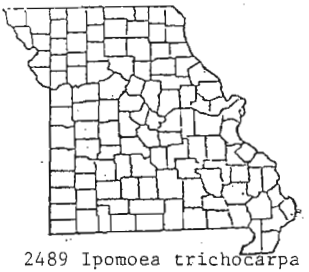
2485 Eragrostis secundiflora ssp. oxylepis

2486 Galium divaricatum

2487 Galium pedemontanum



2488 Heliotropium curassavicum

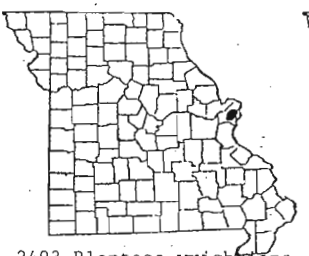


2489 Ipomoea trichocarpa

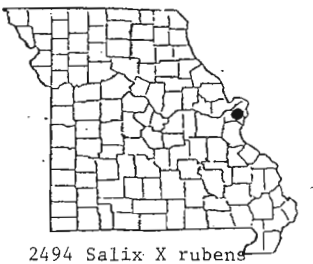
2490 Lactuca sativa

2491 Parthenocissus tricuspidata

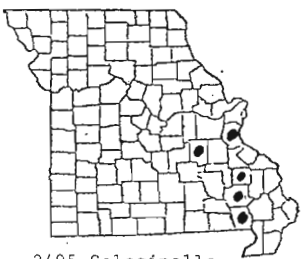
2492 Plantago patagonica



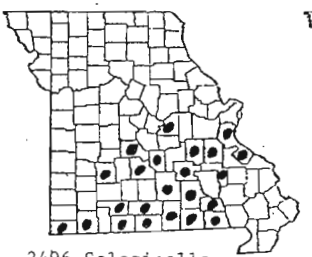
2493 Plantago wrightiana



2494 Salix X rubens



2495 Selaginella apoda



2496 Selaginella eclipes

2497 Smilax illinoensis

2498 Symphoricarpos albus

2499 Torilis arvensis

2500 Viola arvensis

MISSOURI BOTANICAL RECORD*

Edited by Wallace R. Weber[1] and Jay Raveill

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Equisetum arvense var. arvense	0010	Adair	Conrad 4365	
Equisetum laevigatum	0012	Adair	Conrad 4872	NEMO
Equisetum hyemale var. pseudohyemale	0013	Macon	Hein	NEMO
Botrychium dissectum var. dissectum	0014	Sullivan	Conrad 5759	NEMO
Botrychium dissectum var. obliqum	0014	Sullivan	Conrad 5757	NEMO
Botrychium dissectum var. obliqum	0014	Randolph	Conrad 8776	NEMO
Matteuccia struthiopteris var. pensylvanica	0038	Sullivan	Conrad 9014	NEMO
Asplenium platyneuron var. platyneuron f. platyneuron	0045	Adair	Conrad 5338	NEMO
Asplenium platyneuron var. platyneuron f. platyneuron	0045	Randolph	Conrad 5734	NEMO
Asplenium platyneuron var. platyneuron f. platyneuron	0045	Sullivan	Conrad 5761	NEMO
Asplenium platyneuron var. platyneuron f. platyneuron	0045	Macon	Hein	NEMO
Camptosorus rhizophvllus	0049	Adair	Conrad 5586	NEMO
Woodsia obtusa	0053	Macon	Hein	NEMO
Dryopteris austriaca var. spinulosa	0058	Adair	Conrad 5662	NEMO
Taxodium distichum	0066	Adair	Conrad 8042	NEMO
Typha angustifolia	0070	Adair	Conrad 5635	NEMO
Typha angustifolia	0070	Clark	Conrad 9349	NEMO
Typha angustifolia	0070	Randolph	Conrad 9539	NEMO
Sparganium eurycarpum	0072	Adair	Conrad 5659	NEMO
Potamogeton foliosus var. macellus	0077	Adair	Conrad 7765	NEMO
Potamogeton diversifolius	0079	Adair	Conrad 4867	NEMO
Potamogeton nodosus	0083	Adair	Conrad 4335	NEMO
Potamogeton illinoensis	0084	Randolph	Conrad 8584	NEMO
Sagittaria graminea	0096	Macon	Conrad 5905	NEMO
Sagittaria graminea var. graminea	0096	Adair	Conrad 4331	NEMO

TAXON	MAP#	COUNTY	COLLECTOR	HERBARIUM
Sagittaria engelmanniana subsp. brevirostra	0098	Randolph	Conrad 8408	NEMO
Anacharis nuttallii	0100	Clark	Conrad 9296	NEMO
Bromus inermis	0106	Adair	Conrad 4755	NEMO
Bromus racemosus	0111	Clark	Conrad 9315A	NEMO
Bromus japonicus	0113	Adair	Conrad 4756	NEMO
Bromus japonicus	0113	Randolph	Conrad 8054	NEMO
Bromus tectorum var. tectorum	0116	Adair	Conrad 4801	NEMO
Bromus tectorum var. tectorum	0116	Randolph	Sanders	NEMO
Festuca elatior var. elatior f. aristata	0120	Randolph	Conrad 8051	NEMO
Festuca elatior var. elatior f. elatior	0120	Randolph	Conrad 8082	NEMO
Festuca elatior var. elatior f. elatior	0120	Lewis	Conrad 9702	NEMO
Poa pratensis	0134	Randolph	Conrad 8056	NEMO
Eragrostis capillaris	0144	Randolph	Conrad 8411	NEMO
Eragrostis pectinacea	0147	Adair	Conrad 7411	NEMO
Eragrostis pectinacea	0147	Randolph	Conrad 8230	NEMO
Agrostis hyemalis var. hyemalis	0215	Adair	Conrad 5609	NEMO
Eragrostis cilianensis	0148	Randolph	Conrad 8729	NEMO
Eragrostis poaeoides	0149	Randolph	Conrad 8286	NEMO
Eragrostis spectabilis var. spectabilis	0154	Randolph	Conrad 8528	NEMO
Uniola latifolia	0162	Randolph	Conrad 8283	NEMO
Dactylis glomerata	0164	Adair	Conrad 5607	NEMO
Dactylis glomerata	0164	Randolph	Conrad 8115	NEMO
Melica nitens	0167	Adair	Conrad 5666	NEMO
Agropyron repens var. subulatum f. subulatum	0174	Adair	Conrad 5716	NEMO
Agropyron smithii	0175	Adair	Conrad 5663	NEMO
Aegilops cylindrica	0178	Adair	Dierker	NEMO
Elymus villosus var. arkansanus	0181	Randolph	Conrad 8277	NEMO
Elymus villosus f. villosus	0181	Randolph	Conrad 8360	NEMO

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TAXON	MAP#	COUNTY	COLLECTOR	HERBARIUM
Elymus villosus f. villosus	0181	Sullivan	Conrad 9972	NEMO
Elymus canadensis	0183	Randolph	Conrad 8234	NEMO
Elymus virginicus var. jejunus	0185	Lewis	Conrad 9703	NEMO
Elymus virginicus var. glabrifloras f. australis	0185	Randolph	Conrad 8502	NEMO
Elymus virginicus var. glabrifloras f. glabrifloras	0185	Randolph	Conrad 8559	NEMO
Elymus virginicus var. virginicus f. virginicus	0185	Randolph	Conrad 8052	NEMO
Hystrix patula var. patula	0187	Randolph	Gunier	NEMO
Sphenopholis obtusata var. obtusata	0195	Adair	Conrad 5610	NEMO
Sphenopholis obtusata var. obtusata	0195	Randolph	Bredehoeft	NEMO
Sphenopholis nitida	0197	Randolph	Conrad 8536	NEMO
Danthonia spicata var. longipila	0205	Adair	Conrad 6254	NEMO
Agrostis stolonifera var. major	0212	Randolph	Collin	NEMO
Agrostis stolonifera var. major	0212	Adair	Conrad 4879	NEMO
Cinna arundinacea var. arundinacea	0217	Randolph	Conrad 8557	NEMO
Phleum pratense var. pratense f. pratense	0221	Randolph	Conrad 8149	NEMO
Phleum pratense	0221	Macon	Hein	NEMO
Muhlenbergia schreberi var. schreberi	0231	Adair	Conrad 9965	NEMO
Rubus pensilvanicus f. pensilvanicus	1235	Adair	Conrad 5869	NEMO
Sporobolus asper	0235	Randolph	Conrad 8789	NEMO
Stipa spartaea	0245	Sullivan	Broyles	NEMO
Aristida oligantha	0248	Randolph	Crane	NEMO
Aristida longespica var. geniculata	0250	Adair	Conrad 4359	NEMO

TAXON	MAPS#	COUNTY	COLLECTOR	HERBARIUM
Eleusine indica	0256	Adair	Conrad 5045	NEMO
Spartina pectinata	0260	Randolph	Conrad 8174	NEMO
Phalaris arundinacea	0271	Adair	Conrad 4754	NEMO
Phalaris arundinacea	0271	Knox	Conrad 8601	NEMO
Phalaris arundinacea	0271	Clark	Conrad 9324	NEMO
Phalaris arundinacea	0271	Lewis	Conrad 9658	NEMO
Leersia oryzoides f. oryzoides	0274	Adair	Conrad 4978	NEMO
Leersia oryzoides f. oryzoides	0274	Randolph	Conrad 8271	NEMO
Digitaria sanguinalis	0278	Randolph	Conrad 8429	NEMO
Digitaria sanguinalis var. ciliaris	0278	Adair	Conrad 7766	NEMO
Digitaria ischaemum var. ischaemum	0279	Adair	Conrad 4982	NEMO
Digitaria ischaemum var. ischaemum	0279	Randolph	Conrad 8424	NEMO
Paspalum pubiflorum var. glabrum	0289	Randolph	Conrad 8731	NEMO
Paspalum ciliatifolium var. muhlenbergii	0291	Randolph	Conrad 8053	NEMO
Panium depauperatum var. depauperatum	296	Adair	Conrad 5623	NEMO
Panicum linearifolium	0298	Adair	Conrad 5627	NEMO
Panicum lanuginosum var. fasciculatum	0308	Randolph	Conrad 9278	NEMO
Panicum lanuginosum var. implicatum	0308	Adair	Conrad 5681	NEMO
Panicum lanuginosum var. implicatum	0308	Randolph	Westfall	NEMO
Panicum lanuginosum var. lindheimeri	0308	Randolph	Conrad 8569A	NEMO
Panicum clandestinum	0320	Randolph	Conrad 8057	NEMO
Panicum philadelphicum var. philadelphicum	0328	Sullivan	Conrad 5767	NEMO
Panicum capillare var. capillare	0329	Randolph	Conrad 8760	NEMO
Panicum virgatum var. virgatum	0331	Randolph	NO coll.	NEMO
Echinochloa crusgalli var. crusgalli f. longiseta	0338	Adair	Conrad 4238	NEMO
Setaria geniculata	0341	Adair	Conrad 4362	NEMO
Setaria viridis var. viridis	0343	Adair	Conrad 5014	NEMO
Setaria viridis var. viridis	0343	Randolph	Conrad 8097	NEMO
Setaria faberii	0344	Randolph	Conrad 8073	NEMO
Cenchrus longispinus	0346	Randolph	Conrad 8732	NEMO

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Andropogon scoparius	0352	Adair	Conrad 4346	NEMO
Andropogon scoparius	0352	Randolph	Conrad 8757	NEMO
Andropogon scoparius	0352	Macon	Hein	NEMO
Andropogon virginicus	0355	Randolph	Conrad 8599	NEMO
Sorghum sudanense	0359	Randolph	Conrad 8215	NEMO
Zea mays	0363	Adair	Conrad 4355	NEMO
Cyperus aristatus	0368	Adair	Conrad 7759A	NEMO
Cyperus ferruginescens	0375	Adair	Conrad 5037	NEMO
Cyperus esculentus var. esculentus f. angustispicatus	0378	Randolph	Conrad 9527	NEMO
Cyperus esculentus var. esculentus f. esculentus	0378	Randolph	Conrad 8539	NEMO
Cyperus esculentus var. esculentus f. esculentus	0378	Knox	Conrad 5875	NEMO
Cyperus strigosus var. strigosus	0379	Randolph	Conrad 8457	NEMO
Cyperus strigosus var. strigosus	0379	Adair	Conrad 4239	NEMO
Cyperus filiculmis var. filiculmis	0385	Randolph	Conrad 8434	NEMO
Eleocharis engelmanni	0395	Clark	Conrad 9784	NEMO
Eleocharis obtusa var. obtusa	0396	Randolph	Conrad 8080	NEMO
Eleocharis smallii	0398	Clark	Conrad 9370	NEMO
Eleocharis tenuis	0402	Adair	Conrad 5612	NEMO
Scirpus americanus var. americanus	0413	Clark	Conrad 9326	NEMO
Scirpus americanus var. polyphyllus	0413	Macon	Conrad 5914	NEMO
Scirpus validus var. creber	0415	Clark	Conrad 9334	NEMO
Scirpus heterochaetus	0417	Adair	Conrad 5660	NEMO
Scirpus heterochaetus	0417	Randolph	Conrad 9520	NEMO
Scirpus heterochaetus	0417	Clark	Conrad 9730	NEMO
Scirpus fluviatilis	0419	Randolph	Conrad 9519	NEMO
Scirpus fluviatilis	0419	Clark	Conrad 9729	NEMO

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Scirpus atrovirens var. georgianus	0421	Adair	Conrad 4269	NEMO
Scirpus atrovirens var. georgianus	0421	Randolph	Conrad 8081	NEMO
Scirpus atrovirens var. atrovirens f atrovirens	0421	Randolph	Walker	NEMO
Scirpus atrovirens var. atrovirens f. stchnocephalus	0421	Adair	Conrad 4880	NEMO
Scirpus lineatus	0424	Randolph	NO coll.	NEMO
Scirpus cyperinus var. cyperinus	0425	Adair	Conrad 4881	NEMO
Carex retroflexa var. retroflexa	0446	Randolph	Conrad 9146	NEMO
Carex rosea	0448	Adair	Conrad 4602	NEMO
Carex cephalophora var. mesochorea	0449	Clark	Conrad 9303	NEMO
Carex leavenworthii	0450	Lewis	Conrad 9708	NEMO
Carex muhlenbergii	0452	Randolph	Conrad 8500B	NEMO
Carex muhlenbergii var. australis	0452	Adair	Conrad 5842	NEMO
Carex gravida var. lunelliana	0453	Adair	Conrad 4601	NEMO
Carex vulpinoidea	0456	Randolph	Bredehoeft	NEMO
Carex vulpinoidea	0456	Lewis	Conrad 9710	NEMO
Carex annectens var. annectens	0457	Marion	Dierker	NEMO
Carex stipata var. stipata	0461	Randolph	Conrad 9261	NEMO
Carex muskingumensis	0466	Randolph	Conrad 8388	NEMO
Carex scoparia var. scoparia f. scoparia	0467	Clark	Conrad 9339	NEMO
Carex scoparia var. scoparia f. scoparia	0467	Lewis	Conrad 9709	NEMO
Carex tribuloides	0468	Randolph	Conrad 8276	NEMO
Carex projecta	0469	Randolph	Conrad 8391	NEMO
Carex cristatella	0470	Adair	Conrad 4762	NEMO
Carex normalis	0471	Adair	Conrad 4764	NEMO
Carex normalis var. normalis	0471	Clark	Conrad 9338	NEMO
Carex brevior	0476	Clark	Conrad 9363	NEMO
Carex pensylvanica var. pensylvanica	0486	Adair	Conrad 4576	NEMO

TAXON	MAP#	COUNTY	COLLECTOR	HERBARIUM
Carex blanda	0500	Knox	Conrad 5602	NEMO
Carex granularis var. granularis	0502	Randolph	Conrad 9252B	NEMO
Carex oligocarpa	0505	Adair	Conrad 5403	NEMO
Carex amphibola var. amphibola	0508	Randolph	Conrad 9195	NEMO
Carex amphibola var. turgida	0508	Randolph	Conrad 8328	NEMO
Carex davisii f. davisii	0512	Adair	Conrad 4766	NEMO
Carex complanata var. complanata	0517	Randolph	Conrad 8160	NEMO
Carex complanata var. hirsuta	0517	Adair	Conrad 5632	NEMO
Carex lanuginosa	0520	Adair	Conrad 5605	NEMO
Carex shortiana	0522	Lewis	Conrad 9706	NEMO
Carex lurida	0534	Clark	Conrad 9342	NEMO
Carex laeviconica	0539	Adair	Conrad 5387	NEMO
Carex laeviconica	0539	Lewis	Conrad 9708	NEMO
Carex frankii	0541	Randolph	Conrad 8088	NEMO
Carex squarrosa	0542	Randolph	Conrad 8416	NEMO
Carex typhina	0543	Clark	Conrad 9763	NEMO
Carex grayii var. grayii	0545	Randolph	Conrad 8296	NEMO
Carex lupulina var. lupulina	0548	Randolph	Conrad 8389	NEMO
Carex lupulina var. pedunculata	0548	Adair	Conrad 4922	NEMO
Carex lupulina var. pedunculata	0548	Randolph	Conrad 8301	NEMO
Arisaema atrorubens f. viride	0551	Adair	Conrad 4604	NEMO
Arisaema atrorubens f. zebrinum	0551	Adair	Conrad 4597	NEMO
Arisaema atrorubens f. zebrinum	0551	Sullivan	Conrad 9031	NEMO
Arisaema atrorubens f. zebrinum	0551	Randolph	Conrad 9065	NEMO
Arisaema dracontium	0552	Adair	Conrad 5379	NEMO
Acorus calamus	0554	Adair	Collin	NEMO
Lemna minor	0558	Randolph	Conrad 8274	NEMO
Lemna minor	0558	Clark	Conrad 9298	NEMO
Commelina communis	0575	Adair	Conrad 4975	NEMO

TAXON	MAPS#	COUNTY	COLLECTOR	HERBARIUM
Commelina communis	0575	Randolph	Conrad 8529	NEMO
Pontederia cordata f. latifolia	0581	Clark	Conrad 9229	NEMO
Pontederia cordata f. latifolia	0581	Randolph	Conrad 9514	NEMO
Juncus effusus var. solutus	0585	Clark	Conrad 9340	NEMO
Juncus secundus	0589	Randolph	Conrad 8762	NEMO
Juncus tenuis f. discretiflorus	0590	Adair	Conrad 4865	NEMO
Juncus tenuis f. discretiflorus	0590	Randolph	Conrad 8538	NEMO
Juncus tenius f. tenius	0590	Adair	Conrad 4939	NEMO
Juncus tenius f. tenius	0590	Randolph	Conrad 9213A	NEMO
Juncus interior	0591	Adair	Conrad 4767	NEMO
Juncus dudleyi	0592	Clark	Conrad 9355	NEMO
Juncus marginatus var. marginatus	0593	Adair	Conrad 4864	NEMO
Juncus marginatus var. marginatus	0593	Randolph	Conrad 8078	NEMO
Juncus torreyi	0601	Adair	Conrad 4856	NEMO
Juncus acuminatus f. acuminatus	0602	Adair	Conrad 4332	NEMO
Hemerocallis fulva	0626	Randolph	Sanders	NEMO
Erythronium albium var. mesochoreum	0630	Randolph	Conrad 8995	NEMO
Yucca smalliana	0637	Adair	Conrad 7813	NEMO
Yucca smalliana	0637	Randolph	Conrad 8768	NEMO
Smilacina racemosa var. cylindrata	0640	Randolph	Conrad 9218	NEMO
Smilax rotundifolia	0657	Randolph	Conrad 8102	NEMO
Dioscorea villosa f. villosa	0659	Adair	Conrad 5689	NEMO
Dioscorea villosa f. villosa	0659	Randolph	Conrad 8170	NEMO
Hypoxis hirsuta	0663	Adair	Conrad 4617	NEMO
Sisyrinchium campestre f. campestre	0678	Adair	Conrad 5408	NEMO
Sisyrinchium campestre f. campestre	0678	Sullivan	Conrad 9009	NEMO
Sisyrinchium campestre f. kansanum	0678	Adair	Conrad 5407	NEMO
Spiranthes gracilis	0700	Adair	Conrad 9609	NEMO
Spiranthes cernua	0702	Adair	Conrad 4338	NEMO

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Spiranthes cernua	0702	Randolph	Conrad 5735	NEMO
Corallorhiza odontorhiza f. odontorhiza	0708	Grundy	Conrad 9930	NEMO
Liparis liliifolia	0710	Macon	Hein	NEMO
Salix nigra	0715	Randolph	Conrad 8178	NEMO
Salix caroliniana	0716	Adair	Conrad 5695	NEMO
Salix alba var. vitellina	0720	Adair	Conrad 5709	NEMO
Salix interior var. interior f. wheeleri	0721	Adair	Conrad 5706	NEMO
Salix eriocephala	0723	Randolph	Conrad 8989	NEMO
Salix humilis var. microphylla	0725	Adair	Conrad 5580	NEMO
Populus grandidentata	0730	Adair	Conrad 7911	NEMO
Populus tremuloides	0732	Schuyler	Brischetto	NEMO
Populus tremuloides	0732	Lewis	Brischetto	NEMO
Populus deltoides var. deltoides f. deltoides	0737	Randolph	Conrad 8404	NEMO
Carya illinoensis	0741	Randolph	Conrad 8522	NEMO
Carya laciniosa	0746	Randolph	Conrad 8333	NEMO
Ostrya virginiana var. lasia	0752	Adair	Conrad 4352	NEMO
Quercus prinoides var. acuminata f. alexanderi	0765a	Adair	Bell	NEMO
Ulmus thomasi	0779	Randolph	Conrad 8312	NEMO
Ulmus alata	0780	Adair	Conrad 5830	NEMO
Celtis occidentalis var. occidentalis	0784	Randolph	Conrad 8375	NEMO
Celtis occidentalis var. pumila	0784	Clark	Conrad 9735	NEMO
Celtis laevigata var laevigata	0786	Lewis	Conrad 9664	NEMO
Celtis laevigata var. smallii	0786	Adair	Conrad 8036	NEMO
Morus alba	0788	Adair	Conrad 4792	NEMO
Morus alba	0788	Monroe	Mitchell	NEMO
Morus alba	0788	Randolph	Conrad 8525	NEMO
Cannabis sativa	0791	Adair	Keith 4973	NEMO

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Cannabis sativa	0791	Schuyler	Conrad 5558	NEMO
Cannabis sativa	0791	Clark	Conrad 9325	NEMO
Humulus japonicus	0793	Adair	Conrad 7335	NEMO
Parietaria pensylvanica var. pensylvanica	0800	Adair	Conrad 4798	NEMO
Rumex acetosella var. acetosella	0807	Randolph	Conrad 9212	NEMO
Rumex altissimus	0811	Randolph	Conrad 8046	NEMO
Rumex crispus	0814	Randolph	Conrad 8427	NEMO
Polygonum achoreum	0822	Adair	Conrad 5852	NEMO
Polygonum aviculare	0823	Randolph	Conrad 8259	NEMO
Polygonum coccineum var. pratincola	0826	Adair	Conrad 5043	NEMO
Polygonum coccineum var. coccineum f. coccineum	0826	Randolph	Conrad 9516	NEMO
Polygonum pensylvanicum var. laevigatum f. laevigatum	0829	Scotland	Conrad 5073	NEMO
Polygonum pensylvanicum var. laevigatum f. laevigatum	0829	Adair	Conrad 4249	NEMO
Polygonum pensylvanicum var. laevigatum f. laevigatum	0829	Randolph	Conrad 8302	NEMO
Polygonum lapathifolium var. lapathifolium	0830	Randolph	Conrad 8419	NEMO
Polygonum persicaria var. persicaria	0833	Adair	Conrad 4310	NEMO
Polygonum persicaria var. persicaria	0833	Knox	Conrad 5876	NEMO
Polygonum persicaria var. persicaria	0833	Randolph	Conrad 8425	NEMO
Polygonum punctatum var. confertiflorum	0834	Adair	Conrad 7754	NEMO
Polygonum punctatum var. punctatum	0834	Scotland	Conrad 5077	NEMO
Polygonum sagittatum var. sagittatum f. sagittatum	0836	Adair	Conrad 4289	NEMO
Polygonum convolvulus var. convolvulus	0839	Adair	Conrad 4996	NEMO
Polygonum cuspidatum	0841	Adair	Conrad 7334	NEMO
Chenopodium ambrosioides var. ambrosioides	0849	Adair	Conrad 4311	NEMO
Chenopodium album var. album	0860	Adair	Conrad 4301	NEMO

TAXON	MAPS#	COUNTY	COLLECTOR	HERBARIUM
Chenopodium album var. lanceolatum	0860	Adair	Conrad 7760	NEMO
Chenopodium album var. lanceolatum	0860	Randolph	Conrad 8439	NEMO
Atriplex patula var. patula	0865	Adair	Conrad 5068	NEMO
Amaranthus tuberculatus	0876	Adair	Conrad 8904	NEMO
Amaranthus hybridus	0882	Adair	Conrad 4298	NEMO
Amaranthus albus var. pubescens	0885	Adair	Conrad 5042	NEMO
Amaranthus graecizans	0886	Adair	Bell	NEMO
Amaranthus graecizans	0886	Randolph	Conrad 8432	NEMO
Amaranthus tamariscinus	0887	Adair	Conrad 4295A	NEMO
Amaranthus tamariscinus	0887	Randolph	Conrad 8300	NEMO
Mirabilis nyctaginea	0891	Adair	Conrad 5613	NEMO
Mirabilis nyctaginea	0891	Randolph	Conrad 9210A	NEMO
Portulaca oleracea	0900	Adair	Conrad 4816	NEMO
Portulaca oleracea	0900	Randolph	Conrad 8295	NEMO
Stellaria media	0918	Adair	Conrad 5809	NEMO
Stellaria media	0918	Randolph	Conrad 8972	NEMO
Cerastium pumilum	0929	Adair	Conrad 6175	NEMO
Holosteum umbellatum	0930	Adair	Conrad 5807	NEMO
Silene antirrhina f. apetala	0934	Adair	Conrad 4748	NEMO
Silene antirrhina f. apetala	0934	Randolph	Bredehaeft	NEMO
Saponaria officinalis	0945	Adair	Conrad 4834	NEMO
Saponaria officinalis	0945	Randolph	Bredehoeft	NEMO
Dianthus armeria	0949	Adair	Conrad 4710	NEMO
Dianthus armeria	0949	Randolph	Intveld	NEMO
Dianthus armeria	0949	Sullivan	Conrad 10022	NEMO
Ceratophyllum demersum	0951	Clark	Conrad 9297	NEMO
Hydrastis canadensis	0963	Adair	Conrad 5563	NEMO
Thalictrum revolutum f. glabrum	0968	Adair	Conrad 4702	NEMO
Aquilegia canadensis f. canadensis	0970	Randolph	Conrad 8355	NEMO
Delphinium ajacis	0971	Randolph	Walker	NEMO

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Delphinium virescens	0976	Adair	Conrad 4727	NEMO
Delphinium virescens	0976	Sullivan	Broyles	NEMO
Isopyrum biternatum	0977	Adair	Conrad 4544	NEMO
Ranunculus abortivus var. abortivus f. abortivus	0982	Adair	Conrad 5573	NEMO
Ranunculus sceleratus var. sceleratus f. sceleratus	0986	Lewis	Conrad 9700	NEMO
Myosurus minimus	0997	Adair	Conrad 5344	NEMO
Myosurus minimus	0997	Randolph	Conrad 9189	NEMO
Anemone virginiana	1000	Randolph	Conrad 8346	NEMO
Anemone virginiana f. virginiana	1000	Adair	Conrad 5867	NEMO
Corydalis crystallina	1032	Clark	Conrad 9723	NEMO
Corydalis micrantha	1034	Adair	Conrad 5827	NEMO
Corydalis micrantha	1034	Clark	Conrad 9744	NEMO
Brassica nigra	1040	Adair	Conrad 4774	NEMO
Lepidium virginicum var. virginicum	1051	Adair	Conrad 5370	NEMO
Lepidium densiflorum var. densiflorum	1052	Adair	Conrad 5615	NEMO
Lepidium densiflorum var. densiflorum	1052	Monroe	Conrad 7675	NEMO
Thlaspi arvense	1056	Randolph	Conrad 8983	NEMO
Draba verna var. verna	1062	Monroe	Conrad 7673	NEMO
Draba brachycarpa	1063	Adair	Conrad 5342	NEMO
Draba brachycarpa	1063	Monroe	Conrad 7674	NEMO
Cardamine douglassii	1072	Randolph	Conrad 8981	NEMO
Cardamine hirsuta	1073	Adair	Conrad 8876	NEMO
Cardamine pensylvanica var. pensylvanica	1074	Adair	Conrad 4558	NEMO
Arabis canadensis	1084	Randolph	Conrad 8504	NEMO
Nasturtium officinale var. officinale	1085	Clark	Conrad 9321	NEMO
Rorippa islandica var. fernaldiana	1090	Adair	Conrad 4802	NEMO
Rorippa islandica var. fernaldiana	1090	Knox	Conrad 5878	NEMO

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Rorippa islandica var. fernaldiana	1090	Randolph	Conrad 8044	NEMO
Iodanthus pinnatifidus	1092	Randolph	Conrad 9248	NEMO
Hesperis matronalis	1094	Adair	Conrad 5636	NEMO
Erysimum repandum	1097	Adair	Conrad 5432	NEMO
Sisymbrium officinale var. leiocarpum	1099	Adair	Conrad 4740	NEMO
Camelina microcarpa	1103	Randolph	Conrad 9281	NEMO
Penthorum sedoides	1116	Randolph	Conrad 8402	NEMO
Crataegus phaenopyrum	1154	Adair	Conrad 6220	NEMO
Crataegus crus-galli var. crus-galli f. crus-galli	1167	Randolph	Conrad 8493	NEMO
Crataegus mollis	1185	Randolph	Conrad 9198	NEMO
Potentilla recta	1215	Randolph	Weakhoff	NEMO
Geum canadense var. camporum	1219	Randolph	Conrad 9263	NEMO
Geum canadense var. canadense	1219	Adair	Conrad 4906	NEMO
Geum canadense var. canadense	1219	Randolph	Sanders	NEMO
Rubus flagellaris var. flagellaris	1227	Randolph	Conrad 8150	NEMO
Rubus flagellaris var. occidualis f. occidualis	1227	Randolph	Gunier	NEMO
Agrimonia gryposepala	1238	Adair	Conrad 4851	NEMO
Agrimonia parviflora	1239	Randolph	Conrad 8256	NEMO
Rosa multiflora	1242	Adair	Conrad 6237	NEMO
Rosa multiflora	1242	Lewis	Conrad 9657	NEMO
Rosa multiflora	1242	Randolph	Conrad 9083	NEMO
Rosa carolina var. carolina f. glandulosa	1251	Randolph	Thunburg	NEMO
Rosa blanda f. blanda	1255	Randolph	Conrad 9532	NEMO
Prunus mexicana	1258	Randolph	Conrad 8262	NEMO
Prunus hortulana	1260	Randolph	Conrad 8991	NEMO
Prunus munsoniana	1261	Clark	Conrad 9789	NEMO

TAXON	MAP#	COUNTY	COLLECTOR	HERBARIUM
Prunus munsoniana	1261	Randolph	Conrad 8291	NEMO
Desmanthus illinoensis	1269	Macon	Conrad 5906	NEMO
Schrankia uncinata	1271	Randolph	Bredehoeft	NEMO
Cassia marilandica	1276	Adair	Conrad 4947	NEMO
Trifolium pratense var. pratense f. pratense	1289	Adair	Conrad 5621	NEMO
Trifolium repens f. repens	1293	Adair	Conrad 5619	NEMO
Trifolium hybridum var. pratense	1294	Adair	Conrad 5638	NEMO
Trifolium hybridum var. pratense	1294	Randolph	Conrad 8546	NEMO
Trifolium reflexum var. glabrum	1297	Adair	Conrad 5670	NEMO
Thifolium reflexum var. glabrum	1297	Clark	Conrad 9776	NEMO
Trifolium campestre	1299	Adair	Conrad 5699	NEMO
Trifolium campestre	1299	Randolph	Intveld	NEMO
Medicago lupulina var. glandulosa	1302	Adair	Conrad 7798	NEMO
Melilotus officinalis	1305	Adair	Conrad 4751	NEMO
Lotus corniculatus	1308	Adair	Gates	NEMO
Petalostemon candidum	1318	Randolph	Bagby	NEMO
Amorpha fruticosa var. angustifolia	1322	Lewis	Conrad 9659	NEMO
Robinia pseudo-acacia	1326	Adair	Conrad 5419	NEMO
Robinia pseudo-acacia	1326	Clark	Conrad 9748	NEMO
Robinia psuedo-acacia	1326	Randolph	Conrad 8279	NEMO
Astragalus distortus	1328	Knox	Conrad 5600	NEMO
Astragalus canadensis var. canadensis	1330	Adair	Conrad 4848	NEMO
Coronilla varia	1335	Macon	Meyer	NEMO
Desmodium sessilifolium	1343	Adair	Conrad 4985	NEMO
Desmodium rigidum	1344	Adair	Conrad 4965	NEMO
Desmodium rigidum	1344	Randolph	Conrad 9231	NEMO
Desmodium canadense	1347	Adair	Conrad 4364	NEMO
Lespedeza procumbens	1355	Adair	Peterson	NEMO
Lespedeza capitata var. vulgaris	1364	Adair	Conrad 4958	NEMO

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Lespedeza capitata var. vulgaris	1364	Randolph	Conrad 8152	NEMO
Lespedeza cuneata	1366	Randolph	Conrad 8775	NEMO
Lespedeza cuneata	1366	Chariton	Jackson	NEMO
Lathyrus latifolius	1385	Adair	Dimit	NEMO
Apios americana var. americana f. pilosa	1388	Randolph	Conrad 8110	NEMO
Strophostyles helvola var. helvola	1393	Randolph	Conrad 8451	NEMO
Strophostyles leiosperma	1395	Randolph	Conrad 8446	NEMO
Glycine max	1396	Randolph	Conrad 8524	NEMO
Oxalis corniculata	1409	Adair	Conrad 7458	NEMO
Oxalis dillenii	1410	Adair	Conrad 6255	NEMO
Oxalis stricta	1411	Randolph	Conrad 8049	NEMO
Geranium carolinianum var. carolinianum	1413	Randolph	Conrad 9275	NEMO
Ptelea trifoliata var. trifoliata f. trifoliata	1421	Adair	Conrad 5719	NEMO
Ailanthus altissima	1423	Adair	Conrad 4813A	NEMO
Polygala sanguinea f. sanguinea	1426	Randolph	Gunier	NEMO
Croton capitatus var. capitatus	1432	Adair	Conrad 6030	NEMO
Croton capitatus var. capitatus	1432	Randolph	Conrad 8059	NEMO
Acalypha gracilens var. gracilens	1440	Randolph	Conrad 8448	NEMO
Euphorbia dentata f. dentata	1444	Adair	Conrad 4302	NEMO
Euphorbia dentata f. dentata	1444	Randolph	Conrad 8157	NEMO
Euphorbia marginata	1452	Adair	Conrad 4305	NEMO
Euphorbia marginata	1452	Monroe	Morgan	NEMO
Euphorbia serpens	1456	Macon	Conrad 5916	NEMO
Euphorbia supina	1458	Randolph	Conrad 8428	NEMO
Callitriche terrestris	1464	Knox	Conrad 5884	NEMO
Rhus copallina var. latifolia	1470	Randolph	Conrad 8123	NEMO
Acer negundo interius	1486	Randolph	Conrad 8966	NEMO
Acer negundo negundo	1486	Clark	Conrad 9354	NEMO

TAXON	MAPS	COUNTY	COLLECTOR	HERBARIUM
Impatiens pallida f. pallida	1491	Adair	Conrad 4921	NEMO
Vitis aestivalis var. aestivalis	1506	Randolph	Conrad 8084	NEMO
Tilia heterophylla	1514	Adair	Conrad 5080	NEMO
Malva neglecta	1518	Adair	Conrad 7391	NEMO
Hypericum perforatum	1537	Adair	Conrad 4808	NEMO
Hypericum perforatum	1537	Randolph	Collier	NEMO
Hypericum mutilum var. mutilum	1542	Adair	Conrad 4333	NEMO
Hypericum mutilum var. parviflorum	1542	Adair	Conrad 5082	NEMO
Viola missouriensis	1560	Randolph	Conrad 8319	NEMO
Viola viarum f. pilifera	1564	Adair	Conrad 5567	NEMO
Viola pensylvanica var. pensylvanica	1568	Randolph	Conrad 9207	NEMO
Viola kitaibeliana var. rafinesquii	1571	Adair	Dimit	NEMO
Viola kitaibeliana var. rafinesquii	1571	Clark	Conrad 9761	NEMO
Opuntia macrorhiza	1576	Adair	Conrad 5704	NEMO
Ammannia coccinea	1582	Randolph	Conrad 9509	NEMO
Cuphea petiolata	1586	Adair	Conrad 4340	NEMO
Jussiaea repens var. glabrescens	1591	Adair	Conrad 4329	NEMO
Oenothera laciniata var. laciniata	1605	Clark	Conrad 9305	NEMO
Circaea quadrisulcata var. canadensis	1620	Adair	Conrad 5692	NEMO
Sanicula canadensis var. canadensis	1632	Randolph	Conrad 8209	NEMO
Chaerophyllum procumbens var. procumbens	1636	Adair	Conrad 5367	NEMO
Osmorhiza longistylis var. villicaulis	1641	Adair	Conrad 4600	NEMO
Torilis japonica	1642	Adair	Conrad 5853	NEMO
Torilis japonica	1642	Randolph	Conrad 8530	NEMO
Torilis japonica	1642	Macon	Hein	NEMO
Conium maculatum	1646	Adair	Conrad 4739	NEMO
Conium maculatum	1646	Clark	Conrad 9720	NEMO
Sium suave f. suave	1661	Randolph	Conrad 9515	NEMO

TAXON	MAPS#	COUNTY	COLLECTOR	HERBARIUM
Thaspium barbinode var. barbinode	1671	Adair	Conrad 4616	NEMO
Thaspium barbinode var. barbinode	1671	Randolph	Conrad 9220	NEMO
Daucus carota f. epurpuratus	1679	Adair	Conrad 4773	NEMO
Cornus drummondii	1683	Randolph	Conrad 9277	NEMO
Cornus obliqua	1684	Macon	Conrad 5909	NEMO
Cornus racemosa	1685	Macon	Hein	NEMO
Monotropa uniflora	1689	Adair	Conrad 5335	NEMO
Monotropa uniflora	1689	Grundy	Conrad 9929	NEMO
Monotropa hypopithys	1690	Macon	Hein	NEMO
Lysimachia nummularia	1700	Adair	Conrad 5574	NEMO
Fraxinus pennsylvanica var. subintegerrima	1717	Randolph	Conrad 8182	NEMO
Gentiana clausa	1735	Sullivan	Conrad 9991	NEMO
Vinca minor	1745	Adair	Conrad 5810	NEMO
Apocynum medium	1748	Adair	Conrad 4729	NEMO
Apocynum cannabinum	1749	Randolph	Conrad 8103	NEMO
Apocynum sibericum var. sibericum	1750	Adair	Conrad 5654	NEMO
Asclepias purpurascens	1754	Adair	Conrad 5671	NEMO
Asclepias incarnata var. incarnata f. incarnata	1755	Adair	Conrad 4877	NEMO
Asclepias incarnata var. incarnata f. incarnata	1755	Randolph	Conrad 8109	NEMO
Asclepias amplexicaulis	1761	Adair	Conrad 8039	NEMO
Cynanchum laeve	1766	Randolph	Conrad 8597	NEMO
Ipomoea hederacea var. hederacea	1775	Adair	Conrad 4997	NEMO
Ipomoea pandurata var. leviuscula	1777	Randolph	Gunier	NEMO
Ipomoea pandurata var. pandurata	1777	Adair	Conrad 4845	NEMO
Ipomoea lacunosa	1778	Adair	Conrad 4976	NEMO
Convolvulus sepium var. sepium f. sepium	1780	Randolph	Conrad 8112	NEMO
Convolvulus sepium var. fraterniflorus	1780	Adair	Conrad 4771	NEMO
Convolvulus pellitus f. anestius	1781	Linn	Coulson	NEMO

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Cuscuta pentagona	1786	Randolph	Conrad 8453	NEMO
Cuscuta campestris	1787	Adair	Conrad 5050	NEMO
Phlox divaricata var. laphamii f. candida	1796	Adair	Conrad 5381	NEMO
Phlox paniculata f. paniculata	1801	Adair	Conrad 4314	NEMO
Phacelia gilioides	1809	Randolph	Conrad 9210	NEMO
Lithospurum arvense	1823	Adair	Conrad 4553	NEMO
Verbena stricta f. stricta	1842	Adair	Conrad 4846	NEMO
Verbena stricta f. stricta	1842	Randolph	Conrad 8437	NEMO
Lippia lanceolata	1847	Randolph	Collier	NEMO
Scutellaria ovata var. versicolor	1854	Adair	Conrad 4826	NEMO
Scutellaria ovata var. versicolor	1854	Randolph	Conrad 8387	NEMO
Scutellaria nervosa	1861	Randolph	Conrad 8376	NEMO
Agastache nepetoides	1864	Adair	Conrad 5002	nemo
Glechoma hederacea var. micrantha	1867	Adair	Conrad 4573	NEMO
Physostegia virginiana var. virginiana f. virginiana	1870	Adair	Conrad 4980	NEMO
Lamium amplexicaule f. amplexicaule	1877	Adair	Conrad 5808	NEMO
Lamium amplexicaule f. amplexicaule	1877	Randolph	Conrad 8971	NEMO
Lamium purpureum	1878	Adair	Conrad 7569	NEMO
Lamium purpureum	1878	Randolph	Conrad 8969	NEMO
Lycopus virginicus	1907	Randolph	Conrad 8324	NEMO
Lycopus americanus var. americanus	1908	Randolph	Conrad 8048	NEMO
Solanum americanum	1921	Randolph	Conrad 8726	NEMO
Solanum rostratum	1927	Randolph	Bredehoeft	NEMO
Physalis heterophylla var. heterophylla	1931	Randolph	Conrad 8062	NEMO
Physalis virginiana	1932	Randolph	Conrad 9142	NEMO

TAXON	MAP#	COUNTY	COLLECTOR	HERBARIUM
Physalis longifolia var. longifolia	1933	Adair	Conrad 5718	NEMO
Physalis longifolia var. longifolia	1933	Randolph	Gunier	NEMO
Datura stramonium	1941	Randolph	Conrad 8727	NEMO
Datura stramonium	1941	Clark	Conrad 9816	NEMO
Datura stramonium var. tatula	1941	Adair	Conrad 4306	NEMO
Bacopa rotundifolia	1948	Chariton	Conrad 5697	NEMO
Bacopa rotundifolia	1948	Adair	Conrad 7421	NEMO
Mimulus alatus f. alatus	1955	Randolph	Conrad 8203	NEMO
Penstemon digitalis	1967	Lewis	Conrad 9654	NEMO
Scrophularia marilandica f. neglecta	1971	Randolph	Conrad 9525	NEMO
Linaria vulgaris f. vulgaris	1975	Randolph	Collier	NEMO
Linaria vulgaris f. vulgaris	1975	Adair	Dimit	NEMO
Veronica peregrina var.xalapensis	1987	Adair	Conrad 5340	NEMO
Veronica arvensis	1988	Adair	Conrad 5341	NEMO
Gerardia tenuifolia var. tenuifolia	1995	Randolph	Conrad 8742	NEMO
Castilleja coccinea f. lutescens	2006	Adair	Conrad 5575	NEMO
Catalpa speciosa	2012	Adair	Conrad 4712	NEMO
Orobanche uniflora	2015	Adair	Conrad 4588	NEMO
Utricularia vulgaris	2018	Clark	Conrad 9721	NEMO
Ruellia humilis var. expansa	2021	Adair	Conrad 4829	NEMO
Ruellia humilis var. expansa	2021	Macon	Hein	NEMO
Plantago cordata	2026	Clark	Conrad 9347	NEMO
Plantago rugelii var. rugelii	2028	Adair	Conrad 4888	NEMO
Plantago rugelii var. rugelii	2028	Randolph	Conrad 8090	NEMO
Plantago aristata	2030	Randolph	Conrad 8058	NEMO
Plantago virginica var. virginica	2033	Adair	Conrad 9819	NEMO
Galium triflorum var. triflorum	2040	Randolph	Conrad 8310	NEMO
Diodia teres var. teres	2051	Adair	Conrad 6029	NEMO
Diodia teres var. teres	2051	Randolph	Conrad 8076	NEMO
Cephalanthus occidentalis var. occidentalis f. occidentalis	2053	Randolph	Conrad 8386	NEMO

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Vernonia baldwini var. interior	2114	Randolph	Conrad 8704	NEMO
Eupatorium fistulosum	2117	Adair	Conrad 5703	NEMO
Eupatorium purpureum	2118	Randolph	Conrad 8374	NEMO
Eupatorius altissimum	2119	Monroe	Morgan	NEMO
Eupatorium rugosum var. tomentellum	2125	Sullivan	Conrad 5772	NEMO
Eupatorium rugosum var. tomentellum	2125	Randolph	Conrad 8705	NEMO
Solidago missouriensis var. missouriensis	2152	Adair	Conrad 4955	NEMO
Solidago ulmifolia var. palmeri	2160	Adair	Conrad 4348	NEMO
Solidago ulmifolia var. palmeri	2160	Randolph	Conrad 8503	NEMO
Solidago rugosa var. rugosa	2161	Adair	Conrad 4348	NEMO
Solidago canadensis	2163	Adair	Conrad 5005	NEMO
Solidago gigantea var. gigantea	2164	Randolph	Conrad 8452	NEMO
Solidago gymnospermoides	2168	Randolph	Conrad 8405	NEMO
Solidago graminifolia var. media	2169	Randolph	Conrad 8139	NEMO
Aster cordifolius	2179	Sullivan	Conrad 5765	NEMO
Aster sagittifolius f. hirtellus	2180	Randolph	Conrad 9094	NEMO
Aster sagittifolius f. hirtellus	2180	Sullivan	Conrad 5773	NEMO
Aster drummondii	2181	Adair	Conrad 4320	NEMO
Aster pilosus var. platyphyllus	2189	Randolph	Conrad 8542	NEMO
Aster pilosus var. platyphyllus	2189	Adair	Conrad 5063	NEMO
Aster pilosus var. pilosus f. pilosus	2189	Adair	Conrad 4283	NEMO
Vernonia baldwini var. baldwini f. baldwini	2114	Randolph	Conrad 8135	NEMO
Houstonia minima	2056	Adair	Conrad 7302	NEMO
Valerianella radiata var. missouriensis	2084	Randolph	Conrad 9267	NEMO
Specularia perfoliata f. perfoliata	2103	Adair	Conrad 5682	NEMO
Lobelia spicata var. hirtella	2107	Sullivan	Broyles	NEMO
Lobelia spicata var. spicata	2107	Randolph	Collier	NEMO
Lobelia cardinalis f. cardinalis	2110	Randolph	Conrad 8383	NEMO
Vernonia baldwini	2114	Adair	Conrad 4962	NEMO

TAXON	MAP#	COUNTY	COLLECTOR	HERBARIUM
Aster pilosus var. pilosus f. pilosus	2189	Randolph	Conrad 8588	NEMO
Aster pilosus var. pilosus f. pilosus	2189	Sullivan	Conrad 10014	NEMO
Aster ontarionis	2197	Adair	Conrad 4273	NEMO
Aster ontarionis	2197	Randolph	Conrad 8299	NEMO
Aster praealtus var. praealtus	2198	Adair	Conrad 5064	NEMO
Aster praealtus var. praealtus	2198	Sullivan	Conrad 9987	NEMO
Aster simplex	2200	Adair	Conrad 5059	NEMO
Erigeron strigosus var. beyrichii	2208	Randolph	Conrad 8133	NEMO
Erigeron strigosus var. strigosus f. strigosus	2208	Adair	Conrad 4267	NEMO
Gnaphalium obtusifolium var. obtusifolium	2218	Randolph	Conrad 8718	NEMO
Ambrosia trifida var. trifida f. integrifolia	2224	Adair	Conrad 7339	NEMO
Echinacea pallida f. albida	2262	Adair	Conrad 6240	NEMO
Ratibida pinnata	2265	Macon	Conrad 5920	NEMO
Helianthus laetiflorus var. laetiflorus	2273	Adair	Conrad 4795	NEMO
Helianthus hirsutus var. hirsutus	2277	Randolph	Conrad 8398	NEMO
Helianthus hirsutus var. trachyphyllus	2277	Adair	Conrad 4961	NEMO
Helianthus hirsutus var. trachyphyllus	2277	Randolph	Conrad 8069	NEMO
Helianthus hirsutus var. trachyphyllus	2277	Macon	Hein	NEMO
Helianthus tuberosus var. subcanescens	2283	Adair	Conrad 4262	NEMO
Verbesina alternifolia	2287	Randolph	Conrad 8548	NEMO
Coreopsis palmata	2295	Randolph	Sanders	NEMO
Coreopsis tripteris var. deamii	2296	Adair	Conrad 4956	NEMO
Coreopsis triperis var. deamii	2296	Randolph	Walker	NEMO
Bidens frondosa var. frondosa f. frondosa	2302	Randolph	Conrad 8746	NEMO
Bidens aristosa var. mutica	2304	Adair	Conrad 4251	NEMO
Bidens aristosa var mutica	2304	Sullivan	Conrad 9982	NEMO
Bidens polylepis var. polylepis	2305	Randolph	Conrad 8700	NEMO
Bidens bipinnata	2306	Adair	Conrad 7784	NEMO
Galinsoga ciliata	2312	Adair	Conrad 4368	NEMO

TAXON	MAPS*	COUNTY	COLLECTOR	HERBARIUM
Helenium flexuosum	2317	Adair	Conrad 4817	NEMO
Helenium flexuosum	2317	Randolph	Conrad 8304	NEMO
Dyssodia papposa	2321	Randolph	Conrad 8769	NEMO
Achillea millefolium f. roseum	2323	Adair	Conrad 5620	NEMO
Achillea millefolium var. millefolium f. millefolium	2323	Adair	Conrad 4744	NEMO
Prenanthes aspera	2404	Adair	Conrad 4265	NEMO
Hieracium longipilum var. longipilum	2409	Adair	Conrad 4946	NEMO
Hieracium longipilum var. longipilum	2409	Randolph	Conrad 8070	NEMO
Anthemis cotula	2326	Knox	Conrad 5874	NEMO
Chrysanthemum leucanthemum var. leucanthemum	2330	Adair	Conrad 4327	NEMO
Chrysanthemum leucanthemum var. pinnitifidum f. pinnitifidum	2330	Adair	Conrad 4735	NEMO
Cacalia atriplicifolia	2344	Adair	Conrad 7364	NEMO
Senecio aureus var. semicordatus	2350	Adair	Conrad 5611	NEMO
Senecio aureus var. semicordatus	2350	Randolph	Conrad 9221	NEMO
Arctium minus f. minus	2352	Adair	Conrad 4309	NEMO
Cirsium discolor f. albiflorum	2358	Adair	Conrad 4277	NEMO
Cirsium discolor f. discolor	2358	Adair	Conrad 4276	NEMO
Serinia oppositifolia	2373	Randolph	Conrad 9266	NEMO
Tragopogon dubius	2382	Randolph	Conrad 8098	NEMO
Taraxacum erythrospermum	2384	Adair	Conrad 5339	NEMO
Taraxacum officinale	2385	Adair	Conrad 5569	NEMO
Taraxacum officinale	2385	Randolph	Conrad 8970	NEMO
Sonchus oleraceus	2387	Adair	Conrad 5078	NEMO
Lactuca scariola f. scariola	2389	Randolph	Conrad 8107	NEMO
Lactuca scariola f. integrifolia	2389	Adair	Conrad 4234	NEMO
Lactuca saligna f. ruppiana	2390	Randolph	Conrad 8560	NEMO
Lactuca saligna f. saligna	2390	Randolph	Conrad 8171	NEMO
Lactuca floridana var. floridana f. floridana	2395	Randolph	Conrad 8370	NEMO

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