



JOURNAL OF THE
MISSOURI NATIVE PLANT SOCIETY

CONTENTS

<u>Missouriensis</u> 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 Fall Board Meeting	24
Results of the Membership Survey	27
Missouri's Interesting Flora: Wood Anemone p. l by Art Christ	29
An Addition to the Flora of Missouri Found at the Missouri State Fairgrounds	30
Wild Leeks in Missouri	32
Aster vimineus Lam. var. vimineus in Taney County	34
Veronica anagallis-aquatica L. in Taney County p. 1 by Alice Allen Nightingale and Kenton C. Olson	36
The Missouri State Parks System's Herbarium Qualifies for International Status	38
News and Notes	40
Missouri Botanical County Records	43

Enclosed with this Issue:

BALLOT

Index to Missouriensis Volumes 1-3
 compiled by Catherine Filla and Joanna Turner

Minutes from the Fall Board Meeting

Missouri Native Plant Society Saturday, September 22, 1984 University of Missouri, Columbia

ATTENDANCE

Board Members present: President Melvin Conrad, Vice President Nancy Morin, Treasurer John Karel, Secretary Jean Webdell, Ginny Wallace, Jay Raveill, James E. Dimit, Joanna Turner, John L. Doggett, Wally R. Weber, and John Molyneaux.

Members present: Dick Humphrey, Joanne L. Watkins, Lynda Richards, Robert Hansen, John Logan, Martha Harris, Jean Freiling, Alex Cole, Dorothy Cole, Randal Clark, Monte Holder, Cal Royell, Dotty Epstein, Bill Epstein, Mervin Wallace, Art Christ, Sherry Morgan, Jim H. Wilson, Jim Key, Dona Key, Betty Nellums, Erna Eisendrath, Bill Summers, Dorothy Leake, Dick Russell, Susan Russell, Dave Castaner, Millie Curner, Dave Dunn and Steve Chaplin from the University of Missouri.

The meeting was called to order by President Melvin Conrad. Members present introduced themselves.

The minutes were approved as printed in MISSOURIENSIS.

TREASURER'S REPORT

The Treasurer's Report was made by John Karel. Income was Membership Dues - \$172.50 and money for Breakfast in Cape Girardeau - \$163.12, totaling \$335.62. (Note: Bill for breakfast has not yet been received.) Cash on hand on April 26, 1984, was \$4,924.41. Total income and cash - \$5,278.03. Disbursements included \$24.30 for utilities at MONPS meeting at Cuivre River State Park in October 1983; \$50.00 donation to the Missouri Park Association for the first State Parks Conference as authorized by the Board; and \$1,364.00 to the Missouri Botanical Garden for the printing and mailing of three issues of MISSOURIENSIS. Balance on hand as of September 21, 1984 - \$3.838.73.

MEMBERSHIP REPORT

No report other than what concerns local chapters.

OUESTIONNAIRE

A preliminary report was made on partial results of the questionnaire mailed with membership notices. These were compiled by Jean Webdell, Jean Freiling, and Bill and Dotty Epstein. By far the most important reason for belonging to MONPS was to preseve wildflowers. Complete details will be in MISSOURIENSIS.

ST. LOUIS CHAPTER OF MONPS

Board members had been in receipt of a letter from Dotty Epstein, President of the St. Louis Chapter of MONPS, requesting a decision on the collection of dues for the local and state organization. In her excellent letter Mrs. Epstein outlined considerations for three options for collection of dues. First, the dues could be collected on the local level and state dues forwarded to the state treasurer. Second, dues on the local level could be accessed in the form of field trip and meeting fees. Or third, members would send their dues to the state treasurer, who would then remit a portion back to the local chapter. This is similar to methods used in California and Florida.

A report was then submitted to the board by Wally Weber and James H. Wilson, who had reviewed the letter from Mrs. Epstein and MONPS Bylaws.

The committee did not feel that the dues should be collected by the state treasurer and returned to St. Louis. This was for several reasons: (1) it would require the establishment of different levels of dues; (2) it would place the burden of organization and record keeping for the chapter with the state treasurer, who might not be a member of the St. Louis Chapter; or (3) if there were no different levels, it would require accessing all members, whether local chapter members or not, additional dues.

The committee then recommended, after looking at the bylaws, that the local chapter treasurer or secretary-treasurer should collect local and state dues and remit those dues belonging to the state to the state treasurer.

A discussion then ensued. President Melvin Conrad noted that by local chapters collecting the dues, they could vary the amount collected on the local level.

Jean Webdell asked that it be considered that an additional \$3 be collected from all members and the money used to start other local chapters and expand the membership of MONPS.

A motion was made and adopted that the local chapters shall collect all local and state dues. The state dues will then be forwarded to the state treasurer. As set out, the following procedures will be used to handle membership: (1) the membership committee will draft information to be put in MISSOURIENSIS and a letter for the state treasurer to send out with the billing for dues that will explain about being a member of the St. Louis Chapter and the cost; (2) those wishing to belong to the St. Louis Chapter will remit their dues (local and state) to St. Louis, where the state's portion will then be forwarded on to the state treasurer.

A motion was also made and approved that \$100 be sent immediately to the St. Louis Chapter by Treasurer John Karel.

ELECTION OF BOARD MEMBERS

President Melvin Conrad apologized for not appointing a nominating committee to select members to be nominated to fill the expired offices now held by Otto Ohmart and John Doggett.

In accordance with the bylaws, the committee of Jim H. Wilson, John Doggett, Sherry Morgan, and Jim Key was appointed to nominate board members and also officers for the June 1985 election.

SPECIAL ELECTION

Nancy Morin announced her resignation as Vice President of MONPS. This was brought about for two reasons: (1) to have less concentration of board members in St. Louis; and (2) to give her more time to work on MISSOURIENSIS. A special election by the board then took place. Nominated were Sherry Morgan and Dave Castaner. Mr. Castaner was elected.

NEXT MEETING

Set for January \rightarrow possibly the weekend of January 12-13 \rightarrow to be held in St. Louis with Dr. Julian Steyermark to be invited as guest speaker.

Results of the Membership Survey

Earlier this year as part of membership renewals, a questionnaire was sent to members to solicit their input into the Missouri Native Plant Society. It was hoped that the information obtained would help make our organization more responsive to members' needs and interests. One-hundred fifty-seven questionaires were returned. While the results were not surprising, the comments were fascinating. In addition, a large group of people volunteered to help the organization in various ways, and their names are being forwarded to appropriate board members for recruitment.

Beginning with question number one, which concerned what members felt was the most important function of the Missouri Native Plant Society, by a large majority, members felt that the preservation of plants, wild areas, and plant communities was the most important. The exchange of information concerning plants was listed as the second most important to members. This was followed by the updating of Missouri plants, and the Newsletter. Much lower in preferrence were making statewide contacts and the attendance of meetings.

MISSOURIENSIS was the second area of concern in the questionnaire. Of those who replied to the question, 117 had received their copies of issues and 26 had not. The 26 names have been forwarded to the MISSOURIENSIS mailing list. It is unknown at this time why the names were not on the mailing list or if the books were lost in the postal system.

In response to the question about the content of MISSOURIENSIS, by far the majority of people preferred either articles of general interest or scientific topics. Scientific articles were selected number one by 54 respondents and general interest articles finished second. However, when first and second choices were added together, general interest articles finished higher with 76 people selecting those articles as their first or second choice. Seventy-one people chose scientific articles either first or second. Other topics to be covered included directions to interesting locations, which was either the first or second choice of 57 respondents. Articles for children and general membership articles were very much lower. However, after compiling these questionnaires with the help of three other members, we were all in agreement that MONPS members are a fascinating bunch, and we should learn more about each other. Many interesting comments were written about other articles that should be published or that have been published. These comments will be sent to the editors.

The next area of interest was field trips and meetings. Very few people who completed the questionnaires had been to more than five meetings. Saturdays and Sundays were the best days for meetings and field trips. Of the people who completed the question if they would be interested in local MONPS field trips, only two said they would

not. Of the 18 who did not reply to the local field trip question, many did not because they live out of state.

Most people favored natural areas as their first or second choice (122) for field trip sites. Areas not normally open to the public was listed second highest with 105 selecting those areas either first or second. Public lands and state parks were much lower as first choices with only 12 people picking one of those areas for their first or second choce. However, as one person noted, the type of land didn't really matter; what was on it was the important thing.

The selection of area types that people were most interested in visiting resulted in prairies being the highest area of interest. Fifty people picked them either as their first or second choice. The second highest area of interest was the glade, with 46 people ranking it one or two. Not far behind was wooded areas with 35 and fens with 28. Areas of lowest interest were sinkholes and caves. The closeness of this section probably indicates that to rank area types was particularly hard. Suggestions for other areas included power lines, orchards, and swamps, etc. One member volunteered her property for a field trip. Several people refused to select, one stating they were all interesting.

The questions and results of this questionnaire would not pass standards for scientific research, but hopefully the members who received the questionnaire gave careful consideration to the MONPS organization. Hopefully, they thought about what the organization could do for them, the preservation of our plants and plant communities, and what they could do for the organization. Those who completed the questionnaire have given the officers and board members some direction about their areas of interest and concern. The officers and board members should be excited to know about the many interesting members who are vitally concerned about plants and the MONPS organization.

Thanks to Jan Freiling and Dotty and Bill Epstein for help with the questionnaires.

Missouri's Interesting Flora: Wood Anemone Art Christ 1

On May 8, 1984, Karen Haller, John Molyneaux and I left for a two-day field trip to Shannon County. We were photographing the rare Waldsteinia fragarioides (Michx.) Tratt. (Barren Strawberry) when we observed an unfamiliar plant growing in the same area. We identified it as Anemone quinquefolia L. (Wood Anemone), which is a new species for Missouri.

Anemone quinquefolia L. is a low, delicate woodland plant that is from 10-20 cm in height. It has a solitary stalked flower that is about 2.5 cm across. The flowers do not have petals, but the four to nine white sepals are petal-like in appearance. Below the flower stalk there is a whorl of three stalked, deeply cut leaves, each of which is divided into from three to five narrow and sharply toothed segments, each about 3.1 cm long. There are also basal leaves that are similar to the ones on the flower stem, but they are either not present or just starting to grow at flowering time. The flowers have numerous stamens and pistils.

Anemone quinquefolia L. is found in open woods, thickets, and clearings. This species is rare in Illinois, but has been found in the northern fourth of the State. It is found from Quebec to western New York, south to North Carolina, and locally in Ohio and Kentucky. It flowers between April and June.

Anemone quinquefolia L. belongs to Ranunculaceae (Crowfoot family). The generic name Anemone is from the ancient Greek and Latin name, while the specific name quinquefolia means "five-leaved."



¹³⁴⁵⁸A Watson Rd. St. Louis, MO 63139

An Addition to the Flora of Missouri Found at the Missouri State Fairgrounds

David Castaner¹

This is the fifth report to the membership of the Missouri Native Plant Society on taxa new to Missouri from the Herbarium at Central Missouri State University (WARM).

An <u>Alyssum</u> was recently discovered in a routine examination of plants collected by students in our plant identification course (Systematic Botany, Biology 3711). Student collections are routinely verified and inspected for quality. A specimen collected by John D. Miller (Miller 77, 30 April 1983, Pettis County, Sedalia, State Fairgrounds, near the grandstand) during the spring of 1983 was initially turned in as Lesquerella filiformis, a very similar species. During the verification process, however, it was found to be A. desertorum Stapf (no common name; Figure 1).

In Missouri, only Alyssum alyssoides L. has been reported (Henderson, 1967). Another Alyssum, A. minus (L.) Rothmaler, is currently spreading in the high plains of Colorado (Weber, 1967). Alyssum desertorum is spreading in the Northwestern States of Oregon, Washington, Idaho, and Montana (Hitchcock, 1967). Since A. minus is geographically found nearer Missouri, I would have expected to find it in Missouri first; however, in view of the wide attraction of State Fairs to interstate travellers, it is not surprising that it was found at the Missouri State Fair.

The species forms a small colony near the grandstands. I have visited the colony in both 1983 and 1984 and it is still extant.

The following key may be inserted into the Flora of Missouri (Steyermark, 1952). Since \underline{A} , \underline{minus} may appear in Missouri in the future, it is included. The key will serve to characterize the species discussed. Refer to page 731 (Key to Genera of the Cruciferae).

- 16. Petals yellow; hairs on plant star-shaped (stellate)16A

 - - 16B. Fruit glabrous; sepals deciduous in fruit; 8-15 cm tall; densely stellate-pubescent throughout Alyssum desertorum

Herbarium, Biology Dept., Central Missouri State University, Warrensburg, MO 64093.

16B.	Fruit stellate pubescent
16C.	Styles 0.5 mm long; sepals persistant in fruit
16C.	Styles 1.5-2 mm long; sepals deciduous in fruit

Literature Cited

- Henderson, N. C. 1967. Additions to the Flora of Missouri. Trans. Missouri Acad. Sci. 1: 77 (Abstract).
- Hitchcock, C. Leo, et al. 1964. Vascular Plants of the Pacific Northwest. Univ. of Washington Press, Seattle. Volume 2. 597 pp.
- Steyermark, J. A. 1963. Flora of Missouri. Iowa State Univ. Press, Ames. 1xxxii + 1728 pp.
- Weber, W. A. 1967. Rocky Mountain Flora. Univ. of Colorado Press, Boulder. vii + 737 pp.

Figure 1. Xerograph of Miller 77, Alyssum desertorum. 1×10^{-1}



Wild Leeks in Missouri

Joanna Turner¹

A population of wild leek found in a wooded area of our property in Jefferson County has been confirmed as Allium burdickii (Haynes) A. G. Jones. Formerly all native wild leeks were classified under the species name Allium tricoccum Solander in Aiton, although variations have long been noted. Jones (1979) has reevaluated the status of the variant plants and declared a new species, A. burdickii, on the basis of significant morphological differences and reproductive isolation.

It took two growing seasons to identify the plants because the leaves are considerably narrower than the tulip-shaped leaves of the wild leeks I had previously seen. In addition, the leaves of the plant, which appear about two months before anthesis, have the disconcerting habit of dying back after about a month, and therefore locating the plants is difficult.

Once the plants were recognized, Jay Raveill helped out by informing me of the new species name. A specimen collected from a group of 11 flowering plants on 26 June 1983 is deposited in the Herbarium at the Missouri Botanical Garden. A specimen of the leaves taken from approximately 30 plants on 5 April 1984 is also deposited at MO.

Jones (1979) and Jones & Shildneck (1980) have declared A. burdickii to be of rare or doubtful occurrence in Missouri. A check of the Missouri Botanical Garden Herbarium showed Jones had tentatively determined three of the old Missouri specimens of A. tricoccum to be A. burdickii, but in a personal communication she expressed some doubt about these identifications. She suggests the find be considered as confirmation of A. burdickii in Missouri and as a new county record for Jefferson County. She also kindly gave permission for the reproduction of the following key, which should be helpful in future mapping of the distribution of wild leek in Missouri.

KEY TO THE SPECIES OF WILD LEEK²

Plants forming extensive clonal colonies; bulbs ovoid, 4-6 cm long and 1.5-3 cm in diameter; leaves elliptic to oblong-oblanceolate, tapering into a distinct petiole-like base, (15-)20-30(-40) cm long and (3-)5-8(-9) cm wide, the sheaths, petioles and lower portion of midribs maroon red;

¹¹⁶⁶ N. Brentwood, St. Louis, MO 63105 2From Jones & Shildneck (1980, p. 59)

scapes rising (12-)25-35 cm above the ground when fully grown, flexuous and bent in the upper portion; inflorescence buds usually nodding, the scapes and bracts at least somewhat red pigmented; umbels comprised of (20-)30-50(-60) flowers; perianths and capsules 4-6 mm high; seeds 3.0-3.2 mm in diameter. Flowering period: throughout July (occasionally into August).

1. Allium tricoccum Solander in Aiton

Plants growing in small scattered clusters of 3-20 individuals; bulbs slenderly ovoid, 2-4(-5) cm long and 1-1.5(-2) cm in diameter; leaves linear to linear-lanceolate, lacking a distinct petiole-like base, (10-)14-24 (-28) cm long and (1.5-)2-4(-4.5) cm wide, the sheaths and leaf-bases white; scapes green, lacking any trace of red pigment, rising (10-)13-16(-18) cm above the ground when fully grown, usually straight, the green-bracted inflorescence buds upright; umbels comprised of (6-)12-18 (-24) flowers; perianths and capsules 3-5 mm high; seeds 2.8-3.0 mm in diameter. Flowering period: throughout June.

2. Allium burdickii (Haynes) A. G. Jones

LITERATURE CITED

Jones, A. G. 1979. A study of wild leek, and the recognition of Allium burdickii (Liliaceae). Systematic Botany 4: 29-43.
Jones, A. G. & R. Shildneck. 1980. A note on the distribution of wild leek in Illinois. Transactions of the Illinois Academy of Science 72: 60-63.

Aster vimineus Lam. var. vimineus in Taney County

Alice Allen Nightingale 1

On August 13, 1984, a six-foot tall miniature-flowered weed was observed in an abandoned flower garden on the School of the Ozarks campus. At first glance, it was assumed to be just "Canada fleabane" and the plant was broken off about 15 inches from the ground to keep it from spreading. However, a closer look revealed that it was not an Erigeron but an unbelievably small Aster. The +26 bracts at the base of the +4 mm high heads were definitely graduated and imbricated with 3 to 4 series of bracts, the shortest on the outside. The receptacle was flat and alveolate. Since I had never seen an Aster that small, the plant ended in the laboratory instead of the trash can. It was studied, identified as Aster vimineus Lam., and mounted as specimens Soto 3692 and 3693, covering the development of the flowers from early stage to fruiting heads.

There were in each head about 14 to 16 white ray flowers and 10 to 14 tubular flowers, on the average. The plant was kept in water in the laboratory for subsequent study as the flowers matured and the white rays extended to display open "flowers" mostly 5 to 10 mm in diameter and 5 or 6 mm high. These tiny heads were crowded in close racemes on short bracteate branchlets or pedicels 3 to 5 (occasionally 6) mm long, but what they lacked in size they made up in number, for the inflorescence (a compound raceme with more or less recurved branch tips) measured up to 12 inches wide and 18 inches in length with hundreds of heads. Use of the botanical keys put the plant in Aster vimineus Lam*, which Steyermark lists as having flower heads "among the smallest of all the native species of Aster in Missouri."

At first it seemed natural to assume that the plant belonged to var. subdumosus Wieg., since Steyermark reported that variety as "scattered in southern and central Missouri." None of the reports were nearer than Greene and Jasper counties to the north and Howell to the east of Taney, but var. vimineus had been reported only from Monroe County in northeastern Missouri. However, the arrangement of the flowers on the branches did not look at all like that of the drawing for var. subdumosus Wieg. on plate 360 of Steyermark's "Flora of Missouri," so further studies were made. This included a second smaller (3 ft. 8 in. tall) plant which was gathered root and all September 6, 1984, from the same weedy garden. At that date, the first plant whose roots and lowest flowering branches had been left to grow and develop was already producing seeds to supplement its perennial nature.

Biology Herbarium, The School of the Ozarks

Measurements and microscopic studies of the heads of this second plant, made by both Dr. Kenton Olson and myself, proved this specimen to be the same as the larger plant, and so its rhizomatose roots and all were mounted as Soto 3694 "a" to "d" of which Soto 3694 "d" was sent to Missouri Botanical Garden's herbarium. Because the inflorescence has "heads densely crowded on short bracteate branchlets or pedicels mostly less than 7 mm long," (Gray), instead of being "loosely racemose or scattered on diffuse branchlets or pedicels mostly 0.5 to 30 mm long," we feel that, if this varietal differentiation is maintained, then our specimens belong to Aster vimineus Lam. var. vimineus, a new species and variety for Taney County.

Gleason and Gleason & Cronquist do not list two varieties but their description adequately describes as <u>Aster vimineus</u> Lam. the plants being studied. So in either case the specimens constitute a new species not already listed for that area of Missouri.

Literature Cited

- Gleason, H. A. 1952. Britton and Brown Illustrated Flora of the Northeastern U.S. and Adjacent Canada. Hafner Press for New York Botanical Garden Vol. 3: 444, 464, 465.
- Gleason, H. A. & A. Cronquist. 1963. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. D. Van Nostrand Co. Inc. 1i: +810 pp.
- Gray's Manual of Botany (rewritten and expanded by Merrit L. Fernald) 8th Edition, 1950. Amer. Book Co. 1xIV: +1632 pp.
- Steyermark, J. A. 1963. Flora of Missouri. Iowa State Univ. Press, lxxxiii: +1728 pp.



Veronica anagallis-aquatica L. in Taney County

Alice Allen Nightingale and Kenton C. $Olson^1$

The plants formed a large population growing in the shallow water and soggy bottom of the drainage ditch runoff from the rose garden beside the entrance road to the School of the Ozarks campus (T22N, R21W, S8, Taney Co.). When collected on 9/23/84 by Dr. Olson, the colony was in full bloom with many axillary racemes each bearing 20-50 or more bluish-violet four-lobed corollas ["Pale grayish violet blue" Plate XXIV to "Pale Wisteria Violet" Plate XXIII, Ridgeway, 3].

The plants had evidently been blooming for some time for, though the tips of the racemes were still crowded with young, growing flower buds, some of the older lower racemes had their lower blossoms already shedding seeds. Gleason & Cronquist (1) cites a blooming period of May-September and states that this species is "a native of Europe, now established throughout our range" but he does not claim to cover our state "south of the Missouri River." Gray (2) gives a "May-October" blooming period and says that it is "apparently both indigenous and naturalized from Europe" but cites no location for it nearer than Tennessee and Texas.

The three upper petal lobes of the corolla are larger than the lower lobe and are decorated inside with dark blue lines ending at the opening of the short tube. The two exerted stamens have dark blue (almost black) anthers and the style is entire with a single stigma. The fruits nestled in the middle of the 3 to 4 mm long acuminate sepals are roundish to slightly ovate and usually not at all notched or only very slightly so. They were 2.5-4 mm long, about the length of or a little shorter than the four green sepals. When ripe the capsules opened lengthwise in the center to expose the two chambers each of which bore several (3-6) tiny seeds $(\frac{1}{2}$ mm or less). The style (2 mm + long) still remained attached to the mature capsule.

The elliptic or ovate opposite leaves of the flowering stem are entire (occasionally very slightly serrulate), 40-60~mm long and 20-25~mm wide. They are definitely sessile with clasping bases which in most cases are in close contact with the opposite leaf base. A few leaves near the bottom of the plants had wide subpetiolar bases which narrowed to 8-10~mm at point of attachment and did not actually clasp the stem in a way to make union with the opposite leaf.

However, the plants produced a number of slender "sterile autumnal shoots" (1) whose leaves were smaller (usually under 15 X 30 mm), more

TBiology Herbarium -- The School of the Ozarks

rounded and petiolate (petioles 3-5 mm long). New fibrous roots usually occurred at the junction of these new branches with the stem. In fact, growing conditions were seemingly so favorable that new roots were beginning to form at the nodes of the upper clasping leaves.

Since this species usually grows in wet places near springs, ditches, and shores, it is conceivable that tourists pulling boats in trailers could be responsible for bringing in the original seeds which brought this species to its present location. It is readily distinguished from $\underline{V} \cdot \underline{comosa}$ Richter, which "has smaller whitish to pale rose corrollas and deeply notched capsules" (2).

Literature Cited

- Gleason, H. A. & A. Cronquist. 1963. Manual of Vascular Plants of Northeastern United States and Adjact Canada. D. Van Nostrand Co., Inc. 1i + 810 pp.
- Gray's Manual of Botany. (rewritten and expanded by Merritt L. Fernald). 8th edition 1950. American Book Co. lxiv + 1632 pp.
- Ridgeway, R. 1912. Color Standards and Color Nomenclature. Published by the author. A. Hoen and Co. Press, Baltimore. liii Plates.

The Missouri State Parks System's Herbarium Qualifies for International Status

Paul W. Nelson¹

We are honored to acknowledge the recent acceptance by Particia K. Holmgren of the New York Botanical Garden of the listing of our herbarium in the 7th edition of the Index Herbariorum. The Index Herbariorum contains information on herbarium resources of the United States and the world. Requirements for listing include a minimum of 5,000 specimens. The herbarium contains 5,251 plant specimens collected in Missouri's state parks and historic sites and is located at the Department of Natural Resource's main office in Jefferson City.

The establishment of the herbarium and accrual of the plant specimens was no easy task. In 1980, the first herbarium case was hand made of wood and contained about 800 specimens I collected from Johnson's Shut-Ins State Park. Today, the herbarium consists of five standard metal cases that protect over 5,200 specimens. In additon, the herbarium label data for each specimen is recorded on computer.

This storehouse of plant data represents the most recent collection efforts of many persons we know professionally and personally. The foundation of the herbarium consists of collections by masters study students. Studying under Dr. Paul Redfearn and Dr. Wallace Weber of Southwest Missouri State University were Gordon Maupin (Flora of Montauk State Park) and Kathy Hornberger (Flora of Roaring River State Park). Dr. Robert H. Mohlenbrock of Southern Illinois University gave us Mary Kay Solecki (Hawn State Park), Wanda Oskins Doolen (Big Oak Tree State Park), and myself (Johnson's Shut-Ins State Park).

State park naturalists continue to contribute specimens: Doug Ladd is nearing completion of a comprehensive flora for Bennett Spring, Bruce Schuette is now concentrating on sedge collections at Cuivre River State Park (generally meaning he has completed the easy identifications). Other contributing naturalists include Larry Larson (Prairie State Park), Merle Rogers (Roaring River State Park), Tom Nagel and Mike Skinner (Lake of the Ozarks State Park), Dan Drees (Meramec State Park), Dave Bradford (Babler State Park), Steve Schneider (Thousand Hills State Park), and Ron Mullikin (St. Francois State Park).

Many of you are to be thanked for your continued efforts to add to the lists of state park floras: Dr. David Castaner, Dr. Otto Ohmart, Dr. Robert Mohlenbrock, Dr. Marshall Crosby, Art Christ, Father James Sullivan, and many, many others.

Tpepartment of Natural Resources, P. O. Box 176, Jefferson City, MO 65102.

There comes to bear a great deal of toil and persistence in caring for incoming herbarium specimens. In less than four years, we reached the 5,000 specimen goal needed to attain international status in the Index Herbariorum. Beseiged by some 2,000+ specimens, it became necessary to find someone to help us. That someone, Jay Raveill, proved to possess the qualities and characteristics needed to care for our herbarium and push us over the 5,000 mark. We thank him for his invaluable expertise.

Finally, I'm sure that much of the momentum needed to help inventory plants on state parks was generated through the birth and interest of the Missouri Native Plant Society. We have witnessed in recent years the exciting discoveries of county records, state records, and sites for many rare or endangered plants in the forests, savannas, prairies, and glades in state parks.

I'm sure many more discoveries await those of you willing to investigate those yet explored such as Ha Ha Tonka, Pershing, Prairie, and Grand Gulf State Parks. Your contributions, as always, are respectfully welcomed.

-

News and Notes

Missouri-Illinois Reference Collection at MO

After several years of work by various dedicated volunteers and students, the MO-ILL reference collection has been completed. It is housed in the Herbarium of the Missouri Botanical Garden, St. Louis. A representative specimen of each species cited by Julian Steyermark in his Flora of Missouri (1963) has been pulled for each state, and put in the collection alphabetically by family for easy reference. Many of the specimens included are Steyermark collections. The reference collection is available to students, researchers and amateur botanists for identification and to familiarize themselves with the area flora.

MO also has a reference collection of rare and endangered species.

A Letter of Thanks

"On August 7 the voters of Missouri enacted by majority vote Constitutional Amendment No. 2. From any perspective this has to be considered a historic occasion. This vote will ensure an adequate level of operational funding for state parks starting in fiscal year 1986, July 1985.

"As you are aware the campaign to pass the amendment involved the toil and dedication of hundreds of people. One of those people was you. Those of us in state parks will never forget the debt that Missouri owes to your efforts and the efforts of hundreds of others.

"We in state parks feel that the best way we can show our gratitude will be to live up to the confidence that Missourians have placed in us to make the state park system in Missouri the best run in the nation. This is our pledge."

--John Karel
Director, Division of Parks
and Historic Preservation

Books Available

Paul Redfearn's Mosses of the Interior Highlands of North America (1972) has just been reprinted in an updated and corrected version and is available for \$15.70, postpaid from the Missouri Botanical Garden. The Garden also stocks other selected botanical titles, such as Steyermark's Flora of Missouri and Lawrence's Taxonomy of Vascular Plants. Send orders to or request a complete listing from Department Eleven, Missouri Botanical Garden, P. O. Box 299, St. Louis, MO 63166-0299.

Behind the Scenes, the recollections of Cora Steyermark, who accompanied Julian Steyermark on hundreds of trips over thousands of miles of Missouri highways and back roads while he collected plants and information for his monumental Flora of Missouri, has just been published by the Garden. It is softbound, 168 pages long, and costs \$6.50, including postage.

News from the Missouri Botanical Garden Library

Julian Steyermark's field books and annotated maps are the most important source of information for protecting endangered flora in Missouri. Gary Reese, coordinator of the Department of Conservation's program for identifying locations of endangered plant species, wished to microfilm the maps so that regional coordinators would not have to come to the Garden each time they needed to find a location. These maps show sites of Missouri plants collected by Dr. Steyermark from 1927 through the 1950s.

The process of microfilming was expedited by three volunteers who prepared the maps for filming and also in the process provided conservation of the maps themselves. As a result of the work of Patricia Grace and Ted Ruger, temporary volunteers, and Herb Bueltmann, a regular volunteer in the Archives, these microfilms are now available for use by the Conservation Department regional coordinators.

By documenting sites the Conservation Department has the power to prevent development which might threaten extinction of a rare species. Joanna Turner is now adding to the accessibility of this documentation by sorting Missouri photographs from Steyermark's collection.

-- Barbara Mykrantz, c/o Library, Missouri Botanical Garden.

More of Missouri's Disappearing Prairie Preserved ——from the St. Louis Post-Dispatch

Joseph and Virginia Rinehart of Nevada, MO, have donated a ten-acre tract containing a five-acre oxbow lake, called Backbone Lake, to the Nature Conservancy, a national conservation organization. The property will become part of the larger Marmaton River Bottoms Wet Prairie Preserve. The preserve is near Nevada, about 250 miles southwest of St. Louis. It will be named the "Maude Hays Rinehart Addition" to commemorate Rinehart's former wife, who is deceased, a spokesman said. The preserve, which now encompasses 305.5 acres, safeguards a sample of the wet prairie ecosystem that once was widespread. Less than 1,000 acres of wet prairie remain in Missouri. The Marmaton River Bottoms is the finest example of wet prairie in Missouri, the Nature Conservancy spokesman said. The Nature Conservancy is devoted to the protection of natural areas.

News of MONPS Members --Published in the Missouri Botanical Garden Bulletin (Vol. 72, Number 6, 1984)

Dr. Paul L. Redfearn, Jr., a research associate at the Garden and Professor of Botany at Southwest Missouri State University, recently returned from an expedition to study mosses (bryophytes) in the Yunnan Province of China. While the results of his studies will not be available for some time, Dr. Redfearn did comment that he had a difficult time collecting specimens because of the scarcity of uncut forests in southwestern China due to severe overcrowding. "What we saw in China is what we will see in the United States if we don't do something to control our forests," he said.

This was Dr. Redfearn's second expedition to China in as many years. Next year the Chinese government will send one or two botanists to the U.S. to study at the Missouri Botanical Carden. It is hoped that the relationships Dr. Redfearn has set up will lead to the Garden becoming a center for the study of Asian bryophytes.

8 8 8

Friends of Edgar Denison have set up a Fund for Study of Missouri Plants in honor of his 80th birthday, which was August 31. This fund will be administered by the Garden and will be available to students of the Missouri flora who need financial assistance for travel to the field.

Mr. Denison is well known as the author of "Missouri Wildflowers," which was published by the Missouri Department of Conservation in 1972. He was born in Germany and has lived in the St. Louis area for many years. Although professionally he was a cost analyst (now retired) for Union Electric Company, he is familiar to Garden members for his expertise as a naturalist. His many activities include bird watching, rock and mineral collecting, and wildflowers taxonomy, photography, and painting. Exhibits of his wildflower art have been displayed from time to time in the Lehmann Building. He is active in the Webster Groves Nature Study Society and the Missouri Native Plant Society, and he frequently leads tours to Shaw Arboretum and Tyson Research Center. His enthusiasm and knowledge have stimulated many others to learn more about the native Missouri flora, and this fund is an expression of appreciation and thanks for this.

Students interested in applying for travel funds should submit a short statement giving their intended destination, an overview of what is botanically interesting about the area or what plants they might expect to find there, and round-trip mileage, to N. R. Morin, Administrative Curator, Botany Department, Missouri Botanical Garden, P. O. Box 299, St. Louis, Missouri 63166.

Missouri Botanical County Records

HOKRT	Maps	COUM.	TY		COLLECTÓ	R	HER	BARIUM
Equisetum arvense		0010	St.	Francois	05/22/81	Orzell :	287	HO
Equisetum arvense		0010	Shan	non	05/27/81	Orzell :	315	NO
Equisetum arvense		0010	Lafa	yette	09/17/82	DeLozie	r 507	UMKC
Equisetum kansanum		0011	Noda	way	06/07/79	Castane	r & Brown	5755 WARM
Equisetum laevigatum		0012	Atch	ison	06/12/76	Sprague	31	NMSU
Equisetum laevigatum		0012	Noda	way	09/14/76	Mork 30		NMSU
Equisetum hyemale var. elatum		0013	John	son	07/06/72	Castane	r 2441	WARM
Equisetum hyemale		0013	Andr	e#	09/15/82	DeLozie	480	UMKC
Equisetum hyemale		0013	Ray		08/28/82	DeLozie	r 191	UMKC
Equisetum hyemale		0013	St.	Francois	05/22/81	Orzell 2	282	MO
Equisetum hyemale		0013	Noda	⊭ay	10/21/79	Brunson		NMSU
Botrychium dissectum var. obliquum		0014	John:	son	10/04/75	Castaner	4363	WARM
Botrychium dissectum var. dissectum		0014	Jeff	erson	08/15/80	Orzell 2	232	MD
Azolla mexicana		0019	Plat	te	08/10/82	Castaner	7252	WARM
Azolla mexicana		0019	St.	Charles	07/30/81	Orzell :	242	MO
Osmunda cinnamomea		0024	Shani	non	05/03/81	Orzell 2	253	MO
Pellaea atropurpurea		0030	John	son	10/15/76	Young 12	25	₩ARM
Notholaena dealbata		0031	Pett:	İs	10/03/82	DeLozier	- 656	UMKC
Onoclea sensibilis		0039	Lafa	yette	05/01/76	Boescher	1 64	WARM
Asplenium trichomanes		0043	Tane	4	04/13/74	Johnson	411	WARM
Camptosorus rhizophyllus		0049	John:	son	09/15/16	Stevens		WARM
Camptosorus rhizophyllus f. auriculatu	lm ¥	0049	Frant	klin	03/14/81	Orzell 2	234	MO
Athyrium thelypteroides		0051	Sull:	ivan	10/03/70	Conrad 5	5760	NEMO
Athyrium thelypteroides		0051	Reyno	olds	07/30/92	Orzell 7		MO
Typha angustifolia		0070	Atch	ison	06/20/76	Dixon 50		NMSU
Alisma plantago-aquatica		0090	Modai	vay	07/30/73	Holtz 61	ļ	NMSU
Sagittaria montevidensis		0094	Merci	2 <i>r</i>	09/02/76	Smith 5		NMSU
Sagittaria graminea		0094	Verno	חכ	05/28/82	Solecki	973	SMS
Festuca elatior		0120	St. 1	Francois	05/22/81	Orzell 2	285	MO

MISSOURIENSIS
VOL.
5(4)

HOKAT	MAPS C	VTHUO	COLLE	CTOR	HERBARIUM
Poa compressa	0133	Shannon	05/29/82	Orzell 521	MD
Poa pratensis	0134	Phelps	05/03/83	Solecki 1008	SMS
Poa pratensis	0134	St. Francois	05/23/82	Orzell 491	MO
Poa bulbosa	0139	Barry	05/10/82	Christ	MO
Diplachne fascicularis	0156	Mississippi	08/02/79	Christ 19-8-1	MO
Dactylis glomerata	0164	Shannon	06/03/82	Orzell 545	MO
Hordeum pusillum	0189	New Madrid	05/05/79	₩ilkerson b8-19	3 WARM
Stipa spartea	0245	St. Clair	06/07/77	Christ 19-46-1	MO
Eleusine indica	0256	Ray	08/18/82	Delozier 64	NWKC .
Chloris virgata	0262	Clay	10/05/82	Delozier 702	NWKC
Bouteloua curtipendula	0254	Cass	09/14/82	Henderson 82-18	3 NWKC
Eriochloa gracilis var. gracilis	0283	Pemiscot	08/01/79	Christ 19-66-2	MO
Paspalum pubiflorum	0289	Henry	09/07/82	Delozier 347	UMKC
Paspalum pubiflorum	0289	Pettis	10/03/82	Delozier 666	BWKC
Paspalum pubiflorum	0289	Ray	08/28/82	Delozier 195	NWKC
Paspalum ciliatifolium	0291	Ray	09/05/82	Delozier 293	UMKC
Setaria glauca	0340	Andrew	09/15/82	DeLozier 475	NWKC
Setaria glauca	0340	Douglas	10/26/82	DeLozier 766	UMKC
Setaria glauca	0340	Henry	09/07/82	DeLozier 350	UMKC
Setaria glauca	0340	Ray	08/21/82	Delozier 143	UMKC
Setaria glauca	0340	St. Clair	10/26/82	DeLozier 750	UMKC
Setaria glauca	0340	Pettis	10/03/82	DeLozier 697	UMKC
Setaria glauca	0340	Platte	09/11/82	DeLozier 382	NWKC
Setaria viridis	0343	Pettis	10/03/82	Delozier 665	UMKC
Setaria faberii	0344	Greene	10/26/82	Delozier 755	UMKC
Setaria faberii	0344	Ozark	10/27/82	Delozier 782	UMKC
Setaria faberii	0344	St. Clair	10/26/82	Delozier 752	ΠWKE
Setaria faberii	0344	Ray	08/21/82	Delozier 106	UMKC

-	•
U	0
0	0
1	`

танон	Mapa	COUNTY		COLLE	CTOR	HERBARIUM
Andropogon scoparius	035	2 St. Fran	ncois	09/05/81	Orzell 385	MD
Andropogon gerardii	035	3 Andrew		09/15/82	Delozier 491	UMKC
Andropogon gerardii	035	3 St. Fran	ncois	09/05/81	Orzell 394	MO
Andropogon virginicus	035	5 Clay		09/29/82	Delozier 586	UMKC
Andropogon virginicus	035	5 Jackson		10/15/82	Delozier 730	AWKC
Andropogon elliottii var. elliottii	035	6 Stoddard	1 -	09/16/81	Christ	MO
Sorghum halepense	035	9 Ray		09/05/82	Delozier 278	UMKC
Sorghastrum nutans	036	0 Greene		10/28/182	Delozier 786	UMKE
Cyperus strigosus	037	9 St. Fran	cois	09/05/81	Orzell 390	МО
Dulichium arundinaceum	038	9 Madison		06/17/82	Orzell 593	MO
Eleocharis smallii	039	8 Vernon		05/10/82	Solecki	SMS
Eleocharis calva	040	O Shannon		05/03/81	Orzell 256	MO
Eleocharis tenuis	040	2 St. Fran	cois	05/22/81	Orzell 266	MQ
Bulbostylis capillaris	040	3 Randolph	}	06/11/77	Guni er	NEMO
Fimbristylis caroliniana	040	4 Vernon		05/11/82	Solecki 957	SMS
Oxalis dillenii	041	O Gentry		05/28/76	Grace 42	NMSU
Scirpus lineatus	0424	Madison		06/17/82	Orzell 846	MO
Scirpus lineatus	042	4 St. Fran	cois	05/23/82	Orzell 489	MO
Scleria verticillata	0442	: Shannon		08/04/75	Christ 20-10-7	MO
Scleria verticillata	0442	St. Fran	cois	08/09/81	Orzell 367	MO
Carex retroflexa	0448	St. Clai	r	09/02/82	Solecki 1003	SMS
Carex cephalophora var. cephalophora	044	9 Reynolds	i	06/24/72	Castaner 2422	WARM
Carex cephalophora var. cephalophora	0449	Macon		05/24/73	Castaner 2845	WARM
Carex cephalophora var. cephalophora	0449	Cooper		05/24/73	Castaner 2894	WARM
Carex cephalophora var. cephalophora	0449	Henry		05/11/74	Castaner 3529	WARM
Carex cephalophora var. cephalophora	0449	7 Cole		05/22/74	Castaner 3711	WARM
Carex cephalophora var. cephalophora	0445) Lafayett	2	06/01/74	Castaner 4711	WARM
Carex cephalophora var. cephalophora	0449	7 " Moniteau		05/30/78	Castaner 5058	WARM
Carex cephalophora var. cephalophora	0449	Dallas		06/01/78	Castaner 5161	WARM
Carex cephalophora var. cephalophora	0449	9 Pettis		05/16/81	Castaner 6305	₩ARM

MISSOURIENSIS

VOL.

HERBARIUM

Carex buxbaumii f. buxbaumii

COUNTY

нокат	MAPS	COUNTY	COLLE	CTOR	HERBARIUM
Carex stricta var. striction	0529	St. Francois	05/23/82	Orzell 496	ĦD
Carex stricta var. striction	0529	Shannon	05/29/82	Orzell 518	MO
Carex laeviconica	0539	Holt	06/13/78	Christ 20-11-97	MD
Carex frankii	0541	Madison	06/14/81	Castaner 6548	WARM
Carex frankii	0541	Reynolds	06/24/72	Castaner 2419	₩ARM
Carex frankii	0541	Iron	06/13/82	Castaner 7039	WARM
Carex frankii	0541	Carter	07/19/82	Castaner 7158	WARM
Carex frankii	0541	Oregon	06/19/82	Castaner 7170	WARM
Carex frankii	0541	Texas	06/18/82	Castaner 7127	WARM
Carex frankii	0541	Ray	08/18/82	Deložier 37	UMKC
Carex vesicaria var. monile	0544	Shannon	05/15/75	Christ 20-11-102	MO
Tradescantia ozarkana	0568	Christian	06/04/75	Christ 33-1-2	MO
Tradescantia ohiensis	0572	Atchison	06/15/76	Dixon 31	NMSU
Commelina communis	0575	Andrew	09/15/82	Delozier 439	AWKC
Commelina communis	0575	Ray	08/21/82	Delazier 140	UMKC
Commelina erecta	0579	Nodaway	09/24/77	Burton	NMSU
Heteranthera limosa	0583	Butler	08/03/78	Christ 34-3-2	MO
Juncus effusus var. solutus	0585	Vernon	5/28/82	Solecki 968	SMS
Juncus effusus var. solutus	0585	St. Francois	05/22/81	Drzell 284	MO
Juncus interior	0591	Vernon	05/28/82	Solecki 967	SMS
Juncus subcaudatus	0596	Shannon	09/12/81	Orzell 443	MO
Juncus nodatus	0600	Shannon	07/02/82	Orzell 688	MO
Juncus torreyi	0601	Jefferson	07/19/79	Christ 36-1-17	MO
uncus acuminatus	0602	Madison	06/17/82	Orzell 842	MO
łemerocallis fulva	0626	Atchison	06/11/76	Dixon 20	NMSU
Camassia angusta	0632	Barton	06/07/82	Solecki 998	SMS
Asparagus officinalis	0639	Henry	10/26/82	Delozier 749	UMKC
sparagus officinalis	0639	Lafayette	09/17/82	Delozier 516	UMKC
Asparagus officinalis	0639	Platte"	10/14/82	Delozier 725	UMKC

HOKAT	MAPS	COUNTY	COLLE	CTOR	HERBARIUM
Polygonatum canaliculatum	0643	Henry	09/07/82	Delozier 360	UMKC
Trillium nivale	0649	Crawford	03/12/76	Christ 38-21-5	MO
Smilax herbacea	0652	Ray	09/05/82	Delozier 269	NWKC
Nemastylis geminiflora	0674	Vernon	06/04/82	Solecki 997	SMS
Belamcanda chinensis	0676	Ray	08/18/82	Delozier 79	UMKC
Sisyrinchium campestre	0678	St. Francois	05/23/82	Orzell 503	MO
Sisyrinchium bermudiana	0679	Ray	08/18/82	Delozier 83	UMKC
Cypripedium calceolus var. pubescens	0482	St. Francois	05/23/B2	Orzell 499	MO
Habenarea lacera	06 89	Madison	06/17/82	Orzell 587	MO
Habenaria lacera	0689	Reynolds	06/30/82	Orzell 634B	MO
Calopogon pulchellus	0697	St. Francois	08/16/71	Christ 50-7-1	MO
Spiranthes lucida	0704	Jefferson	06/08/73	Christ 50-9-6	MO
Liparis loeselii	0704	Carter	06/20/79	Christ 50-13-2	MO
Corallorhiza wisteriana	0707	St.Clair	04/30/82	Solecki 950	SMS
Corallorhiza odontorhiza	0708	Clay	10/02/82	Delozier 654	UHKC
Corallorhiza odontorhiza	0708	Ray	09/25/82	Delozier 552	MMKC
Salix caroliniana	0716	Ray	08/18/82	Delozier 3	UMKC
Populus alba	0729	Clay	08/22/81	Williamson	UMKC
Ulaus rubra	0781	Ray	08/18/82	Delozier 84	UMKC
Humulus lupulus	0792	Henry	09/07/82	Delozier 368	NWKC
Polygonum prolificum	0819	Vernon	06/17/82	Solecki 999	SMS
Polygonum ramosissimum	0820	Vernon	09/08/82	Solecki 1006	SMS
Polygonum aviculare	0823	Lafayette	09/17/82	Delozier 495	NWKC
Polygonum pensylvanicum	0829	Andrew	08/10/76	Nelson 56	NMSU
Polygonum persicaria	0833	Atchison	09/10/75	Grace 30	NMSU
Polygonum punctatum	0834	Andrew	09/15/82	Delozier 456	UMKC
Polygonum convolvulus	0839	Mercer	09/19/76	Smith 28	NMSU
Polygonum scandens	0840	Buchanan	09/11/82	Delozier 389	UMKC
Polygonum scandens	0840	Worth	09/09/76	Combs 36	NMSU
Polygonum cuspidatum	0841	St. Genevieve	05/23/81	Orzell 240	MO

μ.
9
∞
4

нокат	MAPS	COUNTY	COLLE	CTOR	HERBARIUM
Chenopodium standleyanum	085	6 Clinton	06/03/80	Raveill	NMSU
Chenopodium qigantospermum	085	7 Atchison	10/03/76	Hawkins 18	NMSU
Chenopodium album	086) Andrew	09/15/82	Delozier 423	UMKC
Chenopodium album	480	O Clay	09/29/82	Delozier 580	UMKC
Chenopodium album	0860) Douglas	10/26/82	Delozier 356	NWKC .
Chenopodium album	086) Henry	09/07/82	Delozier 356	UMKC
Chenopodium album	0860) Pettis	10/03/92	Delozier 678	UMKC
Chenopodium album	086) Atchison	10/03/76	Hawkins 27	NMSU
Chenopodium album	0860) Harrison	09/28/75	Martin	NMSU
Celosia argentea	087	i Platte	10/14/82	Delozier 720	NWKC
Amaranthus hybridus	0882	? Ray	10/01/82	Delozier 607	NWKC
Amaranthus retroflexus	088	3 Andrew	08/05/76	Nelson 36	NMSU
Amaranthus retroflexus	0883	Nodaway Nodaway	09/20/79	Herrman 22	NMSU
Froelichia gracilis	089) Nodaway	08/11/38	Singleton 226b	NMSU
Mirabilis hirsuta	0892	Worth !	06/13/76	Mayes 12	NMSU
Portulaca oleracea	090) Andrew	09/15/82	Delozier 477	UMKC
Seocarpon minimum	0909	Lawrence	04/22/80	Christ 87-2-1	MO
Stellaria media	0918	Nodaway	05/10/80	Raveill	NMSU
Holosteum umbellatum	0930) Jefferson	04/13/70	Christ 87-9-1	MO
Lychnis alba	. 0933	S Nodaway	09/18/79	Jackson 45	NMSU
Dianthus armeria	0949) Gentry	06/18/76	Grace 26	NMSU
Delphinium tricorne	0972	2 Gentry	05/03/76	Grace 6	NMSU
Ranunculus septentrionalis	0991	Butler	04/24/82	Brink 63	WARM
Clematis dioscoreifolia	1005	i Jackson	09/30/82	Delozier 588	UMKC
Stylophorum diphyllum	1023	S Franklin	04/18/81	Drzell 236	MO
Lepidium campestre	104	nodaway Nodaway	05/04/77	Wilmes 10	NMSU
Rorippa sylvestris	1088	Jackson	06/05/79	Raveill	NMSU
Rorippa sinuata	1083	Vernon_	05/11/82	Solecki 956	S MS
Chorispora tenella	1093	100	05/07/78	Koh1 66	WARM

1	ERB	REUM
	NMSU	
	MO	
	NMSU	
	MO	
	UMKE	
	UMKC	
	WARM	
	NMSU	
	MO	
	MO	
	NMSU	
5	UMKC	
	NMSU	
	UMKC	
	NMSU	
	MMCII	

Hesperis matronalis	1094	Nodaway	06/10/76	Davis 30	NMSU	
Erysiaum inconspicuum	1098	Crawford	07/07/76	Christ 105-28-4	MO	
Sisymbrium officinale	1099	Mercer	10/19/76	Smith 50	NMSU	
Descurainia sophia	1106	Holt	06/13/78	Christ 105-32-2	MD	
Polanisia dodecandra	1109	Ray	08/18/82	Delozier 477	UMKE	
Sedum sarmentosum	1113	Jackson	08/11/82	Williamson	UMKC	
Fragaria virginiana	1205	Wayne	04/24/82	Traxler 42	WARM	
Potentilla recta	1215	Atchison	06/19/76	Dixon 43	NMSU	
Potentilla arguta	1216	Cedar	06/06/77	Christ 126-11-8	MO	
Filipendula rubra	1217	St. François	07/28/76	Christ 126-12-1	MO	
Rubus pensilvanicus	1235	Clinton	09/03/80	Raveill	NMSU	
Prunus americana	1259	Livingston	05/26/56	Steyermark 81775	NWKC	
Prunus serotina	1266	Andrew	08/08/76	Nelson 45	NMSU	
Cassia marilandica	1276	Ray	08/18/82	Delozier 50	NWKC	
Trifolium pratense	1289	Worth	06/13/76	Mayes 19	NMSU	
Trifolium repens	1293	Atchison	09/19/59	Straub	NMSU	
Medicago sativa	1301	Pettis	10/03/82	Delozier 696	UMKC	
Medicago sativa	1301	Worth	09/03/76	Combs 48	NMSU	_
Melilotus albus	1306	St. Francois	06/24/81	Orzell 327	MO	II
Lotus corniculatus	1308	Jackson	08/22/82	Delozier 163	UMKC	386
Lotus corniculatus	1308	Lafayette	08/09/81	Williamson	NWKC	MISSOURIENSIS
Lotus corniculatus	1308	Ray	08/18/82	Delozier 90	UMKE	£ L
Lotus corniculatus	1308	Atchison	06/24/76	Dixon 53	NMSU	Z
Lotus corniculatus	1308	Worth	06/13/76	Combs 26	NMSU	IS
Petalostemon candidum	1318	St. Francois	06/24/82	Orzell 520	MO	
Petalostemon purpureum	1319	St. Francois	06/24/82	Orzell 621	MO	VOL.
Sesbania exaltata	1324	Stoddard	08/09/72	Christ 128-22-1	MO	•
Coronillia varia	1335	Holt	06/14/76	Dixon 28	NMSU	5
Desmodium paniculatum	1351	Reynolds	08/05/82	Orzell 844	MO	6(4)

COUNTY

Mapa

HOKRT

COLLECTOR

нокат	MRPS	COUNTY	COLLE	STOR	HERBARIUM
Lespedeza capitata	136	4 Worth	09/09/75	Combs 26	NMSU
Lespedeza striata	138	7 Lafayette	08/18/81	Williamson	SWKC
Vicia grandiflora	137	1 Butler	04/24/82	Brink 78	WARM
Vicia sativa	137	2 Butler	04/24/82	Brink 80	WARM
Vicia villosa	137	9 Butler	04/24/82	Brink 68	WARM
Phaseolus polystachios	138	9 Reynolds	08/16/81	Orzell 379	MO
Strophostyles helvola	139	3 Lafayette	08/23/81	Williamson	UMKC
Glycine max	139	76 Ray	08/18/82	Delozier 53	NWKC
Amphicarpa bracteata	139	•	08/18/82	Delozier 94	UMKC
Pueraria lobata	140	'	09/21/82	Henderson 82-184	1 UMKC
Oxalis stricta	141	1 Atchison	06/19/76	Dixon 45	NWSU
Geranium molle	141		05/13/74	Christ 129-1-5	MD
Ptelea trifoliata	142	,	08/06/78	Krohn 119	WARM
Polygala sanguinea	142		10/01/82	Delozier 642	UMKC
Croton capitatus	143	,	10/10/79	Herrman 34	NMSU
Acalypha ostryaefolia	143	1977	09/14/82	Henderson 82-174	I UMKC
Acalypha ostryaefolia	143		08/18/79	Raveill	NMSU
Acalypha rhombnidea	143		10/14/82	Delozier 719	₽ ₩ KC
Acalypha virginica	143		09/15/82	Delozier 442	UMKC
Acalypha virginica	143		09/11/82	Delozier 383	UMKC
Euphorbia heterophylla	144		08/18/82	Delozier 6	UMKC
Euphorbia heterophylla	144	•	09/09/76	Combs 15	NMSU
Euphorbia cyparissias	144		05/03/83	Solecki 1007	SMS
Euphorbia supina	145	•	09/11/82	Delozier 385	UMKC
Euphorbia supina	145		09/11/82	Delozier 405	UMKC
Euphorbia supina	145		08/18/82	Delozier 87	UMKC
Euphorbia supina	145	•	06/08/78	Orht 1	NMSU
Floerkea proserpinacoides	146	6 Lincoln	05/03/78	Christ 152-1-1	MO
Floerkea proserpinacoides	146	6 Pike	05/17/78	Christ 152-1-1a	₩Ū

MISSOU	
OURIENSIS	
VOL.	
5(4)	

TANON	MAP38	COUNTY	COLLE	CTOR	HERBARIUM
A	1483	Nodaway	09/05/79	Chambers 20	NMSU
Acer nigrum	1491	,	09/17/82	Delozier 510	UMKC
Impatiens pallida	1518		09/19/76	Smith 23	NMSU
Malva neglecta	1527		08/18/82	Delozier 54	UMKC
Sida spinosa	1534	-	09/05/82	Delozier 249	UMKC
Hibiscus trionum	1538		08/21/82	Delozier 131	UMKC
Hypericum punctatum	1552	'	06/04/75	Christ 193-1-1	MO
Helianthemum bicknellii	1564	•	04/24/82	Brink 66	WARM
Viola viarum	1574		07/07/76	Christ 206-1-2	MO
Mentzelia albescens	1575		08/18/82	Delozier 103	UMKC
Opuntia compressa	1584	•	08/28/82	Delozier 196	UMKC
Lythrum alatum	1585	,	09/17/82	Delozier 548	UMKC
Lythrum salicaria	1613		08/13/82	Delozier 63	UMKC
Denothera speciosa	1613		06/03/80	Raveill	NMSU
Oenothera speciosa	1623		05/28/82	Solecki 970	SMS
Myriophyllum pinnatum	1641		05/25/78	Barksdale 9	NMSU
Osmorhiza longistylis	1641		06/12/76	Grace 44	NMSU
Osmorhiza longistylis	1642	·	08/18/82	Delozier 18	UMKC
Torilis japonica	1642	· ·	06/25/78	Terry	NMSU
Torilis japonica	1546		05/23/82	Orzell 501	M0
Conium maculatum	1664		09/13/81	Orzell 445	MO
Ptilimnium costatum	1676		05/06/78	Russum 16	WARM
Lomatium foeniculaceum	1677	-	06/14/76	Dixon 30	NMSU
Pastinaca sativa	1677		09/08/76	Smith 8	NMSU
Pastinaca sativa	1677		06/13/76	Mayes 11	NMSU
Pastinaca sativa	1679		10/26/82	Delozier 764	UMKC
Daucus carota	1688	•	09/24/80	Christ 229-2-20) M0
Nyssa sylvatica var. sylvatica	1707		10/03/82	Delozier 664	UMKC
Anagallis arvensis	1707		06/05/44	NO coll.	NMSU
Diospyros virginiana	1713		07/21/82	Orzell 758	MO
Sabatia angularis f. albiflorus	1/2/	MeAuntas	V// **! UL		

такон	MAPSE C	COUNTY	COLLECTOR		HERBARIUN	
- Alia was essidentalis	1732	St. Francois	09/26/81	Orzell 475	MO	
Gentiana quinquefolia var. occidentalis	1745	Clinton	05/05/77	Burton	NMSU	
Vinca minor	1750	Atchison	06/13/76	Dixon 46	NMSU	
Apocynum sibiricum	1753	Worth	06/13/76	Mayes	HMSU	
Asclepias tuberosa	1755	St. Francois	08/09/81	Drzell 363	MO	
Asclepias incarnata	1755	Ray	08/18/82	Delozier 19	UMKC	
Asclepias hirtella	1765	Nodaway	07/19/60	No coll.	NMSU	
Asclepias hirtella	1780	Atchison	10/07/59	Straub	NMSU	
Convolvulus sepium	1782	Ray	08/18/82	Delozier 100	UMKC	
Convolvulus arvensis	1787	Cass	09/14/82	Henderson 82-17	3 UMKC	
Cuscuta campestris	1801	Worth	09/09/76	Combs 32	NMSU	
Phlox paniculata	1825	Hickory	05/14/78	Russun 24	WARM	
_ithospermum incisum	1862	Gentry	05/22/76	Brace	NMSU	
Scutellaria parvula	1866	Atchison	06/19/76	Dixon 41	NMSU	
Nepeta cataria	1869	Andrew	09/15/82	Delozier 488	UMKC	
Prunella vulgaris	1859	Lafayette	08/23/81	Williamson	UMKC	
Prunella vulgaris	1869	Pettis	10/03/82	Delozier 681	UMKC	
Prunella vulgaris	1869	St. Francois	08/09/81	Orzell 353	MO	
Prunella vulgaris var. lanceolata	1871	St. Francois	08/09/81	Orzell 373	MO	
Physostegia angustifolia	1874	Atchison	06/06/76	Dixon 10	NMSU	
Leonurus cardiaca	1877	Atchison	06/11/75	Dixon 22	NMSU	
Lamium amplexicaule	1977	Buchanan	04/11/63	Marcinko	NMSU	
Lamium amplexicaule	1883	Clay	10/01/82	Delozier 681	UMKC	
Salvia azurea	1884	Platte	10/14/82	Delozier 718	UMKC	
Salvia reflexa	1894	Andrew	09/15/82	Delozier 428	UMKC	
Blephilia hirsuta	1903	Ray	08/21/82	Delozier 122	UMKC	
Pycnanthemum pilosum	1703 1904	nay Stoddard	08/0 9 /72	Christ 254-22-5		
Pycnanthemum muticum	1904		08/21/82	Delozier 134	UMKC	
Mentha arvensis		Ray St. Francois	08/09/81	Orzell 370	MO	
Mentha piperita	1913	Andrew >	09/15/82	Delozier 468	UMKC	
Perilla frutescens	1916		09/13/02	Delozier 25	UMKC	
Physalis heterophylla	1931	Ray	VQ/10/02	REIDETE: FA	21119	

HOKAT	MAPS	COUNTY	COLLE	CTOR	HERBARIUM
Datura stramonium	1941	Dekalb	07/27/77	No coll.	NMSU
Datura stramonium	1941	Harrison	09/28/75	Martin	NMSU
Gratiola virginiana	1952	Vernon	05/28/82	Solecki 974	SMS
Mimulus ringens var. minthodes	1954	St. Francois	08/09/81	Orzell 357	MO
Mimulus alatus f. albiflorus	1955	Jefferson	08/15/80	Orzell 233	MO
Linaria vulgaris	1975	Atchison	06/18/76	Dixon 36	MMSU
Pedicularis lanceolata	2005	St. Francois	09/05/81	Orzell 383	MO
Castilleja coccinea f. lutescens	2006	Shannon	05/29/82	Orzell 520	MO
Campsis radicans	2009	Atchison	6/20/76	Dixon 49	NMSU
Catalpa speciosa	2012	Morgan	09/16/79	Moore 27	₩ARM
Plantago rugelii	2028	Lafayette	08/20/81	Williamson	UMKC
Plantago rugelii	2028	Ray	08/21/82	Delozier 138	AWKC
Plantago rugelii	2028	•	06/24/76	Dixon 52	NMSU
Plantago lanceolata	2029		09/05/82	Delozier 310	UMKC
Plantago lanceolata	2029	•	06/10/76	Dixon 18	NMSU
Houstonia nigricans	2040		10/01/82	Delozier 643	UMKC
Lonicera japonica	2064		10/02/76	Bure 9	NMSU
Dipsacus sylvestris	2088		07/20/78	Brommel	NMSU
Chinocystis lobata	2096	Pettis	10/03/83	Delozier 679	NWKC
Campanula rapunculoides	2098	Atchison	06/09/76	Dixon 13	MMSU
ampanula rapunculoides	2098		06/10/76	Davis 23	NMSU
Campanula rapunculoides	2098	Worth	06/13/76	Mayes 9	NMSU
Campanula aparinoides	2101	Reynolds	07/22/82	Orzell 769	MO
Lobelia inflata	2106	,	10/03/82	Delozier 663	UMKC .
nbelia inflata	2106		08/21/82	Delozier 117	UMKC
operia inflata Vernonia baldwini	2114	·	08/21/82	Delozier 110	UMKC
upatorium purpureum	2118	,	07/30/73	Holts 52	NMSU
upatorium purpureum upatorium altissimum	2119	'	09/09/76	Combs 27	NMSU
upatorium coelestinum	2127		09/25/81	Orzell 472	MO
iatris pycnostachya f. hubrichtii	2132		08/09/81	Orzell 360	MO
Gutierrezia dracunculoides	2142	•••	09/13/81	Christ	MO
Gutierrezia dracunculoides	2142		08/18/76	Christ 280-10-	-1 MO

ľ	
١,	2
,	-
•	

TANON	MAPS	COUNTY	COLL	ECTOR	HERBARIUM
Solidago rugosa var. rugosa	2161	Reynolds	09/11/B1	Orzell 403	MO
Solidago riddellii	2166	Jefferson	09/28/77	Christ 280-13-22	MO
Solidago riddellii	2166	Madison	09/25/81	Orzell 467	MO
Solidago graminifolia	2169	Ray	10/01/82	Delozier 594	UMKC
Aster azureus var. azureus f. laevicaulis	2178	St. Francois	09/26/81	Orzell 471	MD
Aster puniceus var. firmus f. lucidulous	2185	St. Francois	09/26/81	Orzell 477	MO
Aster praealtus	2198	Shannon	08/31/82	Orzell 870	MO
Aster simplex	2200	Reynolds	09/11/81	Orzell 424	ĦO
Erigeron annuus	2207	Shannon	05/30/82	Orzell 534	MO
Erigeron strigosus	2208	Madison	06/17/82	Orzell 589	MO
Ambrosia bidentata	2223	Lafayette	09/17/82	Delozier 539	UMKC
Ambrosia bidentata	2223	Nodaway	09/26/79	Brunson 23	NMSU
Xanthium chinense	2231	Clay	09/29/82	Delozier 583	UMKC
Silphium perfoliatum	2240	St. Francois	05/23/82	Orzell 493	MO
Parthenium integrifolium	2248	Reynolds	07/30/82	Orzell 645	MO
Helianthus annuus	2268	Pettis	10/03/82	Delozier 690	UMKC
Helianthus salicifolius	2270	Taney	08/18/76	Christ 280-41-3	MO
Verbesina alternifolia	2287	Clay	09/29/82	Delozier 582	UMKC
Bidens aristosa var. aristosa	2304	Stoddard	09/15/81	Christ	MO
Bidens aristosa var. fritcheyi	2304	Reynolds	09/11/81	Orzell 409	MD .
Bidens bipinnata	2306	Henry	09/07/82	Delozier 366	UMKC
Helenium amarum	2316	Johnson	08/22/82	Delozier 160	UMKC
Dyssodia papposa	2321	Lafayette	09/17/82	Delozier 544	UMKC
Anthemis cotula	2326	Atchison	06/12/76	Sprague 33	NMSU
Chrysanthemum leucanthemum	2330	Gentry	06/10/76	Grace 20	NMSU
Arctium minus	2354	Andrew	08/05/76	Nelson 32	NMSU
Carduus nutans	2354	Atchison	06/12/76	Sprague 23	NMSU
Carduus nutans	2354	Nodaway	06/ / 77	Smith 35	NMSU
Carduus nutans	2354	Worth	06/13/76	Mayes 20	NMSU
Arctium minus	2354	Hercer	10/10/76	Smith 47	NMSU
Cirsium discolor	2358	St. Francois	09/05/81	Orzell 395	MD
Centaurea cyanus	2366	Dunklin	05/05/79	Wilkerson b11-169	₩ARM

HOKAT	MAPS	COUNTY	COLL	ECTOR	HERBARIUM
Cichorium intybus	2374	Buchanan	09/11/82	Delozier 390	UMKC
Cichorium intybus	2374	Pettis	10/03/82	Delozier 677	UMKC
Krigia biflora	2379	St. Francois	05/23/82	Orzell 502	NO
Taraxacum officinale	2385	Andrew	09/15/82	Delozier 444	UMKE
Taraxacum officinale	2385	Douglas	10/26/82	Delozier 779	UMKC
Taraxacum officinale	2385	Holt	09/11/82	Delozier 393	UMKC
Taraxacum officinale	2385	Lafayette	08/02/81	Williamson	UMKC
Sonchus oleraceus	2387	Clinton	09/03/78	Daniel	MMSU
Sonchus oleraceus	2387	Jackson	05/21/79	Raveill	NMSU
Sonchus oferaceus	2387	Mercer	10/19/79	Smith 53	NMSU
Sonchus asper	2388	Atchison	06/14/75	Dixon 26	HMSU
Sonchus asper	2388	Holt	11/03/78	Siebert 32	NMSU
Sonchus asper	2388	Nodaway	06/29/76	Mayes 36	NMSU

*New Record for Missouri Contributors

- (1) Patrick DeLozier, 1212 West Short, Independence, Missouri 64050. All specimens deposited in UMKC herbarium.
- (2) Mary Kay Solecki, Rt. 1, Box 505, Fairmount, IL 61841. All specimens deposited in SMSU herbarium.
- (3) Steve Orzell, 503 E. 7th St., Apt. G, Little Rock, AR 72202. All specimens deposited in MO herbarium.
- (4) Art Christ, 3458A Watson Road, St. Louis, MO 63139. All specimens deposited in MO herbarium.
- (5) Dr. David Castaner, Herbarium (WARM), Central Missouri State University, Warrensburg, MO 64093. All specimens in WARM herbarium.
- (6) Jay Raveill, Dept. of Natural Resources, Natural History Section, P. O. Box 176, Jefferson City, MO 65102. All specimens cited in NMSU herbarium.