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JOURNAL OF THE

MISSOURI NATIVE PLANT SOCIETY

PUBLISHED FOR THE SOCIETY
AT
SOUTHWEST MISSOURI STATE UNIVERSITY, SPRINGFIELD

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.

IN THIS ISSUE

MINUTES OF ANNUAL MEETING

Seventeen dedicated members assembled in the Library of the Science Building on this Friday evening, June 4, 1982. Board Members present: Melvin Conrad, Erna Eisendrath, Karen Haller, John Karel, Ginny Wallace, Wallace Weber, and Jim H. Wilson. Other society members were: Dave Castaner, Katherine Chambers, Art Christ, Eula Conrad, Becky Haefner, Don Kurz, John Molyneaux, Sherry Morgan, Joanna Turner, and Mervin Wallace.

Vice President Melvin Conrad called the meeting to order by 7:55 P.M. For the next two hours, concentration was intense. Numerous matters were discussed.

MINUTES Minutes from the March Meeting were approved as published in Missouriensis.

TREASURER'S REPORT Due to the absence of Rick Daley, no Treasurer's report was available.

OLD BUSINESS

Replacement of Board Member Otto Ohmart has been selected by the Board to fill the unexpired term of Norlan Henderson. He will serve until Jun, 1984.

Non-attendance of Board Members Should Board Members who miss three consecutive meetings be replaced? Or, is two meetings enough to indicate lack of interest and commitment? If excused for inportant reasons, does that make a difference? How shall we handle this problem? It was decided to draft an amendment to the By-Laws addressing the question. Paul Redfearn, Dave Castener, Wally Weber, and Jim H. Wilson constitute the committee for drafting said amendment for presentation at the September Board Meeting.

Number of Board Meetings How many meetings shall be held each year? Four, as has been the custom? Or three? And at what intervals? Shall we meet in conjunction with other compatible groups? Are rising fuel costs a problem? What is the feeling of the general membership? Discussion regarding this topic resulted in the decision to place the issue on the September agenda.

Program Planning Ginny Wallace, our Field Trip Chairman, has excelled in expanding her services to the Society by planning all of the meetings during the past year. Family expansion and other commitments compel her to ask to be relieved of this interesting but time consuming task. Therefore, a Program Chairman is needed. It was moved, seconded, and approved to have President Redfearn appoint such a person.

Not For Profit Status Thanks to the generous efforts of Society member Peter Ruger, the IRS has finally accepted our standing as a "not for profit" organization. Along with this now official status comes the welcome ruling that gifts to the Society are tax-deductible. Such gifts should be sent to our legal address, The Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166, in the name of our registered agent, Richard Daley.

Patches and Decals Wally Weber displayed an array of patches and decals, which are now on sale for the small sum of $1.50 per patch and $.75 per decal. Purchases may be made through the mail or in person from Karen Haller, in the St. Louis area, and Wally Weber for the rest of the state.

Postcards and Membership Cards For the sum of $4.00, our logo has been printed on the address side of 300 golden-colored postcards and 300 membership cards. Thanks were extended to Wally Weber and Southwest Missouri State University for this service. Cards were distributed to Board Members to be used according to their varying capacities and needs. Ideas were submitted by both Wally Weber and Erna Eisendrath regarding future design and sale of postcards. Wally submitted cards bearing reprints of Paul Nelson's black and white flower sketches. Erna suggested the possibility of incorporating the work of Howard Jones, a St. Louis artist. Actual slides of his floral montages were submitted for the Board's viewing. If it can be worked out, the membership cards will be distributed by the Treasurer upon receipt of individual annual dues.

Membership Committee Jim H. Wilson plans to distribute up-to-date membership lists in the packets to be available at the Annual Meeting. Regional grouping is a special feature of these new lists.

Nominating Committee Report Kenton Olson, Becky Haefner, Greg Iffrig, and Art Christ are serving as the Nominating Committee, with Kenton Olson as Chairman. As the offices of President, Vice President, Secretary, and Treasurer are two year terms, no replacements are necessary. Two positions on the Board expire - those of Robert Mohlenbrock and John Karel; thus the Committee is charged with submitting nominations for these positions. Ballots will be sent to the general membership directly or printed in Missouriensis as a cut-out section. Members are encouraged to vote by filling in the form and mailing it to the designated person.

September Meeting Saturday, September 11 is the date. Big Lake State Park is quite possibly the place. John Karel is checking it out. Further information will come in a separate mailing.

Further Amendments to the By-Laws It was suggested that we consider amending the By-Laws in regard to Article II, Section I. Since application for membership in the MoNPS is best handled through the Treasurer, "application to the Secretary" as stated in the By-Laws is incorrect.

Editorial Report Erna Eisendrath reported on the very productive meeting of the Editorial Committee regarding the new format of Missouriensis.

She led the Board in a show of appreciation for the time and effort given by Wally Weber to this project. What is to be done with the extra copies of Missouriensis? Wally Weber agreed to accept those from Erna Eisendrath and Jim H. Wilson. He will not only consolidate but will inventory the entire collection

Environmental Reports Irish Wilderness Update. John Karel submitted a letter, written by Greg Iffrig and approved by Paul Redfearn, from MoNPS to the Honorable State Representative John Seiberling. The intent of the letter was approved by the complete board, but the exact wording was questioned by some. Much discussion ensued.. Eventually, however, it was agreed to send the letter, as time is extremely short for submitting comments into the Congressional Record. It is hoped that our support will help in gaining wildernes status for both the Irish Wilderness and Paddy Creek.

Endangered Species Act Re-Authorization An Action Alert arrived from the Natural Resources Defense Council, Inc. It was passed on to Bill Dierker, Environmental Action Committee Chairman, for further action. (See pg. 6)

Thanks Many thanks were extended to Dave Castaner our host for this weekend Annual Meeting at Central Missouri State University.

Respectfully submitted,
Karen S. Haller (signed)
Secretary

WHAT YOU MISSED

Besides the sometimes lively Board discussions reported in the minutes of our Annual Meeting, held at Central Missouri State University, on Friday evening, June 4th, those of you who were not present during the sessions held on the following day missed two lectures and three workshops that could not but interest anyone who belongs to the Missouri Native Plant Society. The first lecture, on Wildflower Photography, given by Don Kurz of the MDC, whose ability in his chosen field is known to all readers of The Missouri Conservationist, not only provided generous tips to less professional picture-takers, but brought to the attention of the few of us who don't even attempt photography, the particular problems involved in showing the various parts of a given plant in proper light and without distracting background, while at the same time dealing with the idiosyncracies of subjects shown often to be as temperamental about posing as one assumes the most sophisticated human models to be. Needless to say, identification of the plants pictured, with a bit of natural history accompaniment for each, was a plus that made Kurz's talk of wide interest to all with the good fortune to hear it.

The second talk was as scheduled only in its topic, announced in the flier about the meeting as "Commercial Trade in Native Plants." Dr. Walter Lewis, of Washington University, discovered only a day or so before he was scheduled to be with us that the present day intricacies of air-line schedules made it impossible for him to keep his date. Result: he furnished his notes and some other basic material to Jim Henry Wilson, of the MDC and an active member of the MoNPS Board of Directors since its inception. After our original disappointment, Wilson made it abundantly clear that as a substitute he was also a front runner! The exceedingly interesting topic was introduced by a report of his recent attendance at a Ginseng conference in Kentucky. The facts and figures cited opened many eyes as to the significance of Panax quinquefolia in world trade. This was followed by the same sort of detail about the more common Golden Seal (Hydrastis canadensis), May Apple (Podophyllum peltatum), and a number of other native plants less widely recognized by Missouri's human natives as of medicinal importance. One of these, for instance, is our Passiflora incarnata, Passion Flower or Maypops, of which some 60,000 pounds of dried leaves were shipped abroad in the past few months! Of even more startling interest was Wilson's report that species of our Purple Coneflower have recently attracted attention in the world of pharmaceuticals, thus climaxing the thrust of the whole subject of "Commercial Trade in Native Plants": When and if such native favorites as our Coneflower are found to have properties significant in one way or another to human physiology, they must be treated with more serious attention than a group such as ours affords them for their aesthetic and ecological values. Wilson made it abundantly clear that there is great need in Missouri for stronger legislation relevant to collection of native plants for use in trade.

The talks were followed by a Business Meeting, ably chaired by Melvin Conrad, who had managed the Board meeting the preceding evening, without previous notice, without a scheduled agenda, and at the end of a day that had begun at 3 a.m. and in Kirksville. The whole Society truly owes Dr. Conrad a vote of confidence in his lasting powers and of thanks for his able assumption of the presidential role (pro tem). After a lunch break, members reassembled to attend one or another of the three concurrent workshops. (The announced workshop on Natural Dyes had been cancelled.)

The difficult subject of Grass and Sedge identification drew a large group to the meeting at which Dr. David Castaner, of Central Missouri State, made Sedges a subject of interest and appeal to the many of us who had hitherto been satisfied merely to pigeon-hole them into the proper family. Following Castaner's eloquent introduction to the Cyperaceae, Dr. Grant Pyrah, of Southwest Missouri State University, approached his subject, the Grasses, from a different, but equally effective, angle: he shamed his listeners for being so ignorant about, and frightened of, working with one of the largest and certainly the most important of all plant families, the Poaceae. Both talks were followed by examination of fresh and dried materials, the opportunity to study both under dissecting microscopes, and to discuss them individually with the two speakers who gave so generously of their expertise.

A second workshop, run by Wanda Oskins and Jay Raveill of the fast-growing Southern Illinois Chapter of the Missouri Native Plant Society (see pg.) was based on a wide interpretation of the title "Plant Collecting." Oskins and Raveill gave full and detailed information of the sort that will be of great importance to the growing number of MoNPS members who are volunteering to assist in updating the Flora of Missouri (see pg.). This included the acceptable procedures to which collectors must adhere, as well as the further procedures that must be followed for proper documentation of new county records. Attendance at this workshop was large, which is hopefully a sign that more volunteers will come forward to help with the survey.

The third workshop was ably chaired by our State Botanist, Ginny Wallace (who had also had a great deal to do with the successful planning of the whole meeting). The subject, "Poisonous and Edible Wild Plants," was discussed and illustrated in various ways, including books that help in identification of plants of both sorts. Differentiation between the two was further clarified when the attending group was offered Persimmon Bread and Gooseberry Pie; if tempting morsels were based on plants of the other sort, no one survived to report on them!

NEWS FOR CONSERVATIONISTS

William Dierker
Chairman, Environmental Action Committee

In a letter addressed to all plant conservationists, and dated June 11, 1982, Faith Campbell of the National Resources Defense Council jubilantly exclaimed, "We Won!!"

This victory note was followed by the happy news that the Endangered Species Act passed by voice vote of the House, on June 8, a similar bill being accepted, also by voice vote, of the Senate, the following day. "The two bills," she continued, "will be reconciled in a conference--not expected to be difficult since there are only a few substantive differences between them. Then both Houses will pass the common version and it must be signed by the President. (So far.. on June 11...there are no indications that he will veto it.)"

The whole subject relates to worldwide trade in endangered plants and for those interested in international plant trade TRAFFIC (USA) - Trade Records Analysis of Flora and Fauna in Commerce is a scientific fact-finding group monitoring international trade in wildlife and wildlife products. The Convention on International Trade in Endangered Species (CITES) has provided means for protecting species threatened by trade. TRAFFIC (USA) has recently announced the publication of a new report entitled, "International Trade in Plants: Focus on U.S. Exports and Imports".* The report includes information on the international trade in four major plant groups, viz., cacti and succulents, orchids, cycads, and insectivorous plants, many of which are CITES-listed species.

Approximately 165 million plants are imported into the U.S. each year, 10% of which are CITES-listed species. The U.S. exports about 279 thousand CITES-listed plants. Of the 165 million plants imported annually approximately 10 million are cactus plants, and another one half million are orchids. Many insectivorous plants, some rare, are exported from the U.S. These include the Venus Flytrap, Dionaea muscipula.

*Copies of the plant trade report can be obtained by sending $9.50 (check payable to World Wildlife Fund) to TRAFFIC (USA), 1601 Connecticut Avenue NW, Washington, D.C., 20009

WARNING : A WORD TO THE WISE IS SUFFICIENT

Julian A. Steyermark
Instituto Botanico
Caracas, Venezuela

Dear Friends:

I am much elated to read about the beginning of an updated Flora of Missouri. It would be foolish at this stage of the project to estimate when such a work would be completed (!) or ready for publication. Much depends on the dedication and sacrifice of extra time and effort devoted to the projectby a number of persons throughout the state. Trips must be taken throughout the collecting season and in those counties most in need of concentrated attention, especially those bordering and north of the Missouri River (Caldwell, Livingston, Linn, Harrison, Nodaway, Gentry, Schuyler, Adair--you name them). The Bootheel counties, of course, still need much attention. The Ozark counties have had an exaggerated amount of attention as compared to the others, so that if it is the desire to speed up the project, then the Ozark counties could be given much less time and attention.

If northern and central Missouri are to receive their due and important attention, then it will be necessary to plunge into the business of canvassing all parts of these counties with topographical maps for guidance to areas to be explored. In some of these places, one may not find the bluffs, clear streams, scenic hills and glades, or other features associated with Ozark habitats, but the importance of the record is what now counts, and we are now counting on you and others to assemple the new records.

We should not destroy our valuable objective to produce such an updated flora by thinking we can complete the project in two, three, four, or five years. We must organize first to learn who will work where. If the work is done consistently over a period of years by dedicated volunteers willing to perspire heavily throughout the summer months, as well as tripping around in the more enjoyable (weather-wise) spring and autumn months, we may be able to complete the work within the next six to ten years. I, certainly, and you likewise, would not like to see a quickly put-together, still incomplete type of flora, which would still need a later, more complete, updated flora to replace it.

One possibility before the next updated Flora of Missouri is ready is that of following along the lines of the Deam's Flora of Indiana: The Indiana Academy of Sciences had a Committee of Nomenclature and Flora which every year, I believe, published a list of new records of each species by counties, This could be done for Missouri also. Then, in the future, all such additions to county records could at one time be assembled and readied for inclusion in the more comprehensive treatment for the state flora.

If we are going to do this job, let us do it thoroughly and consistently, and not by piecemeal or lackadaisically.

Good luck to all of you!

MISSOURI INVENTORY: A PROGRESS REPORT

With this issue of Missouriensis, we begin the publication of the county records gathered in the MONPS inventory project. Many enthusiastic members around the state are already busy collecting county records. Help from many additional people is needed before we can produce a truly updated flora of the state. Those who attended the collecting workshop at the annual meeting discovered that one need not have formal botanical training to collect many significant plant records. Information on how to properly collect plant specimens is now available from Paul Nelson, Missouri Dept. of Natural Resources, P.O. Box 176, Jefferson City, MO 65102.

The instructions are not difficult and everyone can help!

Paul is trying to arrange for one person to be responsible for collecting in each of the poorly botanized counties within the state. Even if you do not want the responsibility of a whole county, we are still interested in seeing the plants that you find around your home and any of the places that you visit. Many of us will find county records as close as the weeds in our front yards and gardens, and everyone of these county records is important.

The plant specimens collected need to be sent to one of the herbaria that have agreed to accept them (see Missouriensis Vol. 3, n. 3). Curators that have agreed to take unidentified specimens are Central Missouri State University, Northeast Missouri State University, and Southern Illinois University-Carbondale. It would expedite the processing of specimens if the collector would also send along a list of their collection numbers in the package, including any identifications he has made. The identifications will be checked or determined by herbaria personnel, changes and additions added to the list which will be returned to the collector. The herbarium curator will then forward the county and state records to Dr. Weber.

The system is now in place to begin the monumental task of updating the flora of the state. All we need is your help!

MISSOURI BOTANICAL RECORD I

Edited By
Wallace R. Weber[1] & Douglas Ladd[2]

With this issue, Missouriensis begins publication of the Missouri Botanical Record, which is the official register for the update of Missouri state and county records since Steyermark, 1963, and Henderson, 1980. It will follow the format established by the Inventory Committee in Missouriensis 3(3): 18-20. These reports are intended as a place of publication of county and state records which otherwise might remain unpublished. Critical taxonomic identification and reference to a voucher specimen cannot be overemphasized. Voucher specimens are to be housed in recognized herbaria, and new collections should be deposited in the herbaria listed in Missouriensis 3(3): 19. All contributions to this register should be sent to the editor, whose address is listed with the Record in this issue. Anyone who does not have access to previous issues of Missouriensis should write the editor of the Missouri Botanical Record for a copy of the guidelines established by the Missouri Inventory Committee.

MISSOURI BOTANICAL RECORD[3]

Edited By

Wallace R. Weber[1] & Douglas Ladd[2]

TAXON	COUNTY	DATE	COLLECTOR	HERB.
REPORTED BY JOANNA TURNER, 9564 LITZSINGER RD., ST. LOUIS, MO. 63124.				
Trillium recurvatum f. foliosum (447)	Jefferson	4/21/81	Turner	MO
REPORTED BY DR. PAUL L. REDFEARN, DEPT. OF BIOLOGY, SOUTHWEST MO. STATE UNIVERSITY, SPRINGFIELD, MISSOURI 65802.				
Adiantum capillus-veneris (22)	Webster	5/18/71	Thompson 143	SMS
Asplenium x bradleyi (31)	Lawrence	10/26/80	Redfearn 32561	SMS
	Stone	4/7/62	Redfearn 9707	SMS
A. platyneuron f. serratum (31)	Carter	7/11/63	Redfearn 12733	SMS
	Greene	9/29/74	Key 169	SMS
A. trichomanes (30)	Lawrence	5/10/80	Weber 6335a	SMS
Azolla mexicana (17)	Stoddard	5/20/72	Weber	SMS
Botrychium dissectum var. obliquum (15)	Montgomery	9/18/71	Key 856	SMS
Cheilanthes lanosa (25)	Carter	10/11/67	Redfearn 22426	SMS
Cystopteris bulbifera f. horizontalis (37)	Christian	8/26/70	Key 456	SMS
	Greene	7/16/70	Key 399	SMS
	Ozark	5/17/64	Eggers 988	SMS
	Shannon	7/11/69	Redfearn 507	SMS
C. fragilis var. mackayii (36)	Cedar	7/1/63	Redfearn 12625	SMS
	Montgomery	9/18/71	Key 849	SMS
	Ozark	5/23/70	Key 335	SMS
	St. Clair	6/6/70	Redfearn 26909	SMS
	Texas	6/27/69	Pyrah 61	SMS
Dryopteris marginalis (40)	Lawrence	11/7/70	Redfearn 26968	SMS
	Webster	3/6/71	Thompson 2	SMS
Equisetum arvense var. arvense f. arvense (11)	Dent	5/13/60	Redfearn 5655	SMS
	Reynolds	7/8/75	Breyfogle 332	SMS
	St. Francois	4/10/77	Blackwell 296	SMS
	Shannon	7/14/69	Redfearn 1345	SMS

TAXON	COUNTY	DATE	COLLECTOR	HERB.
E. hyemale var. pseudohyemale (14)	Camden	4/16/72	Brockman 145	SMS
	Dade	4/2/66	Scruggs	SMS
	Dent	5/25/75	Maupin 1090	SMS
	Douglas	4/2/66	Redfearn 18906	SMS
	Greene	3/31/59	Redfearn 4095	SMS
	Jefferson	10/16/66	Redfearn 20601	SMS
	Oregon	4/6/63	Redfearn 12049	SMS
	Ozark	5/15/64	Dyer	SMS
	Pulaski	10/12/66	Redfearn 20577	SMS
	Reynolds	7/9/63	Redfearn 12651	SMS
	Shannon	4/16/65	Redfearn 16954	SMS
	Webster	5/16/72	Brockman	SMS
E. hyemale var. elatum (14)	Dallas	4/16/63	Eggers 639	SMS
	Greene	7/25/75	Stalker 474	SMS
	Webster	6/13/71	Thompson 201	SMS
Isoetes melanopoda f. melanopoda (10)	Taney	5/27/68	Redfearn 23478a	SMS
Onoclea sensibilis f. sensibilis (27)	Dade	7/7/70	Redfearn 26946	SMS
	St. Clair	5/7/66	Bowers 290	SMS
Osmunda regalis var. spectabilis (18)	Dade	7/7/70	Redfearn 26937	SMS
Pellaea glabella var. glabella (24)	Greene	4/23/70	Key 260	SMS
Pteridium aquilinum var. latiusculum (21)	Carter	4/25/59	Redfearn 4137	SMS
	Ste. Genev	5/8/64	Redfearn 14481	SMS
Selaginella apoda (8)	Camden	1/3/75	Redfearn 30141	SMS
S. rupestris (8)	Greene	2/21/59	Redfearn 4081	SMS
Thelypteris hexagonoptera (38)	Camden	4/23/72	Brockman 146	SMS
	Polk	5/5/75	Keeland 408	SMS
	Pulaski	10/12/66	Redfearn 20573	SMS
Woodsia obtusa (36)	Dent	9/21/74	Maupin 878	SMS
	Lawrence	6/27/70	Key 367	SMS

[1]Dept. of Biology, Southwest Mo. State University, Springfield, MO 65802 (Editor);
[2]Bennett Spring State Park, Brice Route, Lebanon, MO 65536 (Associate Editor).
[3]The official register for the update of state and county records since Steyermark, 1963, and Henderson, 1980. All contributors should follow the format established by the Inventory Committee in Missouriensis 3(3): 18-20, and contributions should be sent to the editor of the MO BOT RECORD for publication. The number in parenthesis after each taxon indicates page number in Steyermark.

(Editor's note: We are delighted to print in the same issue articles pertaining to the uncommon prairie plants of both Missouri and Illinois. Schwegman's was originally prepared for the Northern Illinois Prairie Conference, held on March 13 of this year, and the plants he lists appear in the order in which he found them in the publication from which his data is taken(see his paragraph 3). Gary Reese has, on the other hand, listed Missouri's endangered and rare prairie plants alphabetically, by species, in the categories that appear at the end of his article. We are grateful to both author's for the interesting contrasts and similarities that their work points up; and many members of MoNPS will enjoy the challenge of cross-referencing their lists as an exercize in plant systematics!)

RARE AND ENDANGERED PRAIRIE PLANTS

John.E.Schwegman,
Illinois Department of Conservation
Springfield,62706

Illinois has an official list of 52 threatened and 312 endangered vascular plants. The Illinois Endangered Species Protection Board has determined that 364 species are in danger of becoming extinct in Illinois or will likely be in such danger in the near future. Of this group, 72 or 20% grow in prairies.

For the purposes of this analysis, "prairie" is interpreted to include the loam black-soil prairies, sand prairies, gravel prairies, loess hill prairie and bedrock communities such as the dolomite prairies of northeastern Illinois and limestone glades of southwestern Illinois and the Shawnee Hills. It does not include dunes, marshes, pannes or ponds, although these habitats may occur in prairies.

Data for this analysis is taken from the 1982 publication "Endangered and Threatened Vertebrate Animals and Vascular Plants of Illinois," edited by Marlin Bowles and John Ebinger and published by the Illinois Department of Conservation. Where a plant was listed for more than one type of prairie, I chose the habitat I felt the most typical for it for purposes of the listing by habitat types. Table 2 lists the species.

Of the 72 endangered and threatened prairie plants, 32 grow in sand prairie, 21 in loam prairie, 9 in gravel or dolomite prairie, 6 in limestone glades and 4 in loess hill prairie. The fact that a majority of these plants grow in soils that are not the predominant prairie soils of Illinois is an indication that they were relatively restricted in range even before destruction of most of Illinois' prairie. Of the 21 species that do grow in the widespread loam soils, 9 appear to be plants that were common in at least parts of Illinois and which almost disappeared, with the plowing of the prairie. (Table 1.)

Table 1.Plants that were formerly widespread in black-soil loam prairies:

Tradescantia bracteata	
Cypripedium candidum	Trifolium reflexum
C.reginae	Sabatia campestris
Habenaria lwucophaea	Calopogon tuberosus
Asclepias meadii	Lactuca ludoviciana

These plants appear to be the exceptions, however, rather than to be following the rule. Most of the species occur in habitats of limited distribution in Illinois, where many are also plants at the edge of their range. A few species represent disjunct populations in specialized habitats. Ten of these, including Penstemon grandiflorus, Hymenoxys acaulis, and Lesquerella ludoviciana are apparently western relicts of the xerothermic period surviving in xeric habitats. Others, such as Stylisma pickeringii are widely scattered in xeric sand habitats in the east, but apparently owe their distribution to chance dispersal. Petalostemum foliosum and Astragalus tennesseensis, of gravel and dolomite prairies in northern Illinois, have their primary range in the limestone glades of the Interior Low Low Plateaus Province of middle Tennessee. Thismia americana is the only species endemic to the Illinois prairie.

Ten of the species are listed by the U.S. Fish and Wildlife Service as plants possibly in danger of extinction throughout their range.(See note at end of Table 2) The others, while endangered or threatened with extirpation from Illinois, apparently have healthy populations in other states. Fifteen of the plants have no known extant populations in Illinois at present, but because of the presence of suitable habitat, are presumed still to occur in the state.

Sixty-five(79%) of the plants are herbaceous perennials, 11 are annuals and 6 are shrubs. Eleven of the herbaceous perennials are orchids. All but 2 of the annuals are plants of sandy or rocky habitats, which doubtless facilitates their reproduction.

Conservation efforts by the Department of Conservation will emphasize protection and management of species endangered throughout their entire range. Special attention will also be given to annuals which may require habitat manipulation for survival.

Anyone who has information on recent discoveries, destruction or other status changes of listed species is requested to advise the author. Anyone establishing populations of listed plants in prairie restoration or reconstruction projects or transplanting them in the wild is requested to collect voucher specimens from the established population for deposition in a local herbarium, with a duplicate for the State Museum. Such specimens should be clearly marked "from a population established by man".

TABLE 2. ENDANGERED AND THREATENED VASCULAR PLANTS OF ILLINOIS PRAIRIES

SPECIES	HABIT	EXTANT	STATUS
LOAM PRAIRIES			
Tradescantia bracteata	PH	*	E
Carex crawei	PH	*	E
Agropyron subsecundum	PH	*	E
Beckmannia syzigachne	PH	*	E
Juncus vaseyi	PH	0	E
Camassia augusta	PH	*	E
Cypripedium candidum	PH	*	E*
Cypripedium reginae	PH	*	E
Habenaria leucophaea	PH	*	E*
Spiranthes vernalis	PH	0	E
Asclepias meadii	PH	*	E*
Silene regia	PH	*	E
Lactuca ludoviciana	PH	0	E
Sabatia campestris	A	*	E
Physostegia intermedia	PH	0	E
Trifolium reflexum	PH	*	E
Potentilla millegrana	PH	0	E
Sanguisorba canadensis	PH	*	E
Ptilimnium nuttallii	PH	0	E
Trillium viride	PH	*	T
Calopogon tuberosus	PH	*	T
SAND PRAIRIES			
Lycopodium dendroideum	PH	*	E
Botrychium simplex	PH	*	E
Thismia americana	PH	0	E*
Carex aurea	PH	0	E
Sisyrinchium atlanticum	PH	*	E
Sisyrinchium montanum	PH	0	E
Juncus alpinus	PH	*	E
Cypripedium calceolus var. parviflorum	PH	*	E

SPECIES	HABIT	EXTANT	STATUS
Habenaria ciliaris	PH	*	E
Habenaria clavellata	PH	*	E
Habenaria psycodes	PH	*	E
Asclepias ovalifolia	PH	O	E
Betula populifolia	S	*	E
Hudsonia tomentosa	S	*	E
Lesquerella ludoviciana	PH	*	E
Arctostaphylos uva-ursi	S	*	E
Hypericum kalmianum	S	*	E
Comptonia peregrina	S	*	E
Oenothera perennis	PH	*	E
Orobanche fasciculata	A	*	E
Orobanche ludoviciana	A	*	E
Polygala incarnata	A	*	E
Polygonum careyi	A	*	E
Rumex hastatulus	PH	O	E
Ceanothus ovatus	S	*	E
Castilleja sessiliflora	PH	*	E
Penstemon grandiflorus	PH	*	E
Viola primulifolia	PH	*	E
Habenaria flava var. herbiola	PH	*	T*
Polanisia jamesii	A	*	T
Stylisma pickeringii	PH	*	T
Filipendula rubra	PH	*	T
GRAVEL AND DOLOMITE PRAIRIES			
Asclepias lanuginosa	PH	*	E
Hymenoxys acaulis	PH	O	E*
Astragalus tennesseensis	PH	*	E*
Lespedeza leptostachya	PH	*	E*
Petalostemum foliosum	PH	*	E*
Sphaeralcea augusta	A	*	E
Viola viarum	PH	O	E
Arenaria patula	A	*	T
Ranunculus rhomboideus	PH	*	T
LIMESTONE GLADES			
Hexalectris spicata	PH	*	E
Heliotropium tenellum	A	*	E
Onosmodium molle	PH	O	E*
Rudbeckia missouriensis	PH	*	E
Salvia azurea	PH	*	T
Galium virgatum	A	*	E

SPECIES	HABIT	EXTANT	STATUS
LOESS HILL PRAIRIE			
Microseris cuspidata	PH	*	E
Phacelia gilioides	A	0	E
Asclepias stenophylla	PH	*	T
Artemisia dracunculus	PH	*	T

Habit
PH - perennial herb
A - annual
S - shrub

Extant
* - extant populations known
0 - no extant populations known

Status
E - endangered
T - threatened
* - concern at the federal level

CONTRIBUTORS: PLEASE MIND YOUR MARGINS!

ENDANGERED AND RARE PLANTS OF MISSOURI PRAIRIES AND GLADES

Gary A. Reese
Missouri Department of Conservation,
Nevada, 64772

Missouri's rare or endangered(R/E) vascular flora presently includes 265 taxa, 172 of which are listed as rare, 67 as endangered, and 6 as possibly extirpated.These listings are periodically revised by specialists and are published in "Rare and Endangered Species of Missouri", available through the Missouri Department of Conservation.Taxa which are listed as endangered are those "whose propensities for survival within the state are in immediate jeopardy." Species listed as rare are those "present in Middouri in small numbers" which may become endangered if the habitat deteriorates.This designation is not necessarily synonymous with "threatened" as used, for example, in Illinois. A listing of "status undetermined" means that not enough information is available to determine if a proposed species merits a listing as rare or endangered.

Work on gathering biological data on rare or endangered species in Missouri is still incomplete. This is in contrast to Illinois, where many known sites of threatened or endangered(T/E) species have been evaluated. "Rare and Endangered Species of Missouri" summarizes our existing knowledge, and has been used as the source for this paper.

A listing of the R/E species for Missouri's prairies, glades, and loess hill prairies is given in Table 1. Of the total R/E species in Missouri, 12%(33) occur on prairies and 10%(27) on glades. Of the prairie species 30%(10) are restricted to the loess hills of northwestern Missouri. Three of the listed species are endemic to Missouri: Lesquerella filiformis, Rubus missouricus, and Amorpha brachcarpa.

In his article on "Endangered and Threatened Plants of the Illinois Prairies", which appears in this issue, Schwegman gives a list of the T/E species of Illinois. It is interesting to note that all the Illinois loam prairie species listed occur in Missouri. Only three of these, Asclepias meadii, Habenaria leucophaea(Platanthera leucophaea) and Lactuca ludoviciana are rare or endangered in Missouri. The remainder are found in numbers large enough so as not to be threatened. Habenaria leucophaea has not been seen in Missouri since 1980, but is believed to be in dormancy in its only known location. Asclepias meadii has recently been noted to have the same intermittent reproductive behavior. In its 8 known locations it does not always appear every year. The fact that it presently occurs only on rotationally hayed, burned and hayed, or lightly grazed prairies might suggest that soil fertility is a factor. Burning is believed also to be a factor in breaking dormancy of Habenaria leucophaea. The exact factors responsible are not yet known for either species.

Only 1/3 of Missouri's prairie R/E species are listed as endangered, in contrast to 87% of those in Illinois. Additionally, only 7 of Missouri's 23 true prairie R/E species are found in Illinois. This reflects the differences in the amount of remaining prairie habitat in the 2 states.

A relatively large acreage of natural quality prairie still exists in Missouri (approximately 65,000 acres) as opposed to Illinois (2350 acres). Missouri is presently conducting inventories on the biological diversity of 1/4 of this remaining acreage. It is expected that numerous new stations for R/E prairie species will be found.

A wide variety of glade habitats are found within Missouri (see Missouriensis 3(3):5-9 for an overview of these). Limestone glades are the richest in R/E flora, with 14 listed species. Only one of these, Mirabilis linearis, is found in Illinois where it is known from 3 counties and is not presently threatened. Five of Illinois' 6 limestone glade T/E species are found in Missouri and all are unthreatened. Lesquerella filiformis is the only native Lesquerella in Missouri and is endemic to Missouri limestone glades. It is extant in only 4 sites in 2 counties.

Combinations of other glade types (sandstone, igneous, chert, or shale) account for another 14 R/E species in Missouri. Asclepias meadii, reported on a chert-limestone glade only once in 1936, is the only Missouri and Illinois listed species. Penstemon cobaea var. cobaea, an endangered beardtongue found in 2 Missouri locations is not listed in Illinois despite its single county of occurrence. Perhaps the most interesting glade species in Missouri is the annual plant Geocarpon minimum, found only on sandstone substrates. Except for 1 extant location in Arkansas, it is known from only 6 sites in Missouri. Like Asclepias meadii and Habenaria leucophaea, which are perennials, it is known not to flower every year. Strict moisture requirements and its short growing season are thought to be responsible for this characteristic. Since many annuals behave in this manner, it is no wonder that the bulk of the annual species on Missouri's R/E list occur on environmentally stressed glade sites.

The loess hill prairies in Holt and Atchison Counties are 1 of the most important refugia for R/E species in Missouri. Except for Penstemon grandiflorus, these 10 R/E species are found in sufficient numbers to warrant only rare status. Three of these, Castilleja sessiliflora, Lactuca ludoviciana, and Penstemon grandiflorus are listed in Illinois, but are known only from prairies. Conversely, Anemone cylindrica is widespread in Illinois, but is rare in Missouri loess hill prairies and associated open woods. The remaining R/E species are eastern most extensions of the typically dry Great Plains flora.

The Missouri Department of Conservation is interested in receiving information on new discoveries or changes in the status of plants listed in "Rare and Endangered Species of Missouri." Reports should be sent to: Endangered Species Coordinator, Natural History Section, Missouri Department of Conservation, Jefferson City, MO 65101. Please use the utmost of care in observing any rare or endangered species. Let us not imperil the plants we are attempting to protect!

TABLE 1. ENDANGERED AND RARE VASCULAR PLANTS OF MISSOURI PRAIRIES AND GLADES

SPECIES	HABIT *	STATUS *
PRAIRIES		
Agoseris cuspidata	PH	R
Asclepias meadii	PH	E
Aster paludosus subsp. hemisphericus	PH	R
Callirhoe triangulata	PH	R
Carex conoidea	PH	E
Dracopis amplexicaulis	A	R
Echinacea angustifolia	PH	E
Elymus interruptus	PH	R
Euphorbia geyeri	A	E
Gerardia heterophylla	A	E

SPECIES	HABIT	STATUS
Habenaria flava var.flava	PH	E
Habeneria leucophaea	PH	R
Manisuris cylindrica	PH	R
Mirabilis linearis	PH	R
Monarda punctata var. occidentalis	PH	R
Oenothera tetragona var. hybrida	PH	U*
Rhus toxicodendron	S	R
Rubus missouricus	S	E
Sida elliottii	PH	E
Specularia holzingeri	A	R
Thelesperma trifidum	A	U*
Valerianella stenocarpa var. parviflora	A	R
Xyris torta	PH	R
LIMESTONE GLADES		
Amorpha brachycarpa	S	R
Amsonia ciliata var. filifolia	PH	R
Centaurium texense	A	R
Eriogonum longifolium	PH	E
Lesquerella filiformis	A	E
Liatris mucronata	PH	R
Mirabilis linearis	PH	R
Phyllanthus polygonoides	PH	U
Portulaca retusa	A	R
Rhus toxicodendron	S	R
Sporobolus neglectus var. ozarkanus	A	R
Stenosiphon linifolius	B	E
Thelesperma trifidum	A	U*
Yucca glauca var. mollis	PH	R
SANDSTONE GLADES		
Callirhoe triangulata	PH	R
Geocarpon minimum	A	E
Rhychospora harveyi	PH	R
Valerianella stenocarpa var. parviflora	A	R
GLADES (Other or undifferentiated)		
Agoseris cuspidata	PH	R
Asclepias meadii	PH	E
Calamagrostis insperata	PH	E
Callirhoe papaver var. bushii	PH	R
Cynosciadium pinnatum	A	R

SPECIES	HABIT*	STATUS*
Lathyrus pusillus	A	R
Penstemon cobaea var. cobaea	PH	E
Portulaca retusa	A	R
Vaccinium stamineum var. melanocarpum	S	E
Vaccinium vacillans var. missouriense	S	R
LOESS HILL PRAIRIES		
Anemone cylindrica	PH	R
Astragalus lotiflorous	PH	R
Castilleja sessiliflora	PH	R
Dalea enneandra	PH	R
Lactuca ludoviciana	PH	E
Lactuca pulchella	PH	R
Lygodesmia juncea	PH	R
Oxytropis lambertii	PH	R
Penstemon grandiflorus	PH	E
Yucca glauca var. glauca	PH	R

*Habit PH - perennial herb
B - biennial
A - annual
S - shrub

Status E - endangered
R - rare
U - status undetermined
U* - status undetermined (unlisted, but should qualify for listing based on county distibution records)

PLANT IMMIGRANTS

John E. Wylie
Missouri Department of Conservation

A few years ago my wife and I were camping on the upper peninsula of Michigan, birding and botanizing as we traveled. We had seen several roadside wildflowers and then one morning on a long back slope of a highway skirting Lake Superior we saw such a spectacular display that we had to stop and take pictures. There were hawkweeds, primroses, daisies and several other species. That night in camp we got our Michigan flower books and keyed them down. There wasn't a native in the bunch.

We shouldn't have been so surprised. Look at Missouri's roadsides: Queen Anne's Lace, Ox-Eye Daisy, Chicory, Yarrow, and Black Mustard, to name a few, plants so common that most of us think that they have always been here.

Plants have their own ways of immigrating and they have done this for centuries. But man unquestionably has helped them along both accidentally and deliberately. Bluegrass apparently hitch-hiked its way through immigration first in English hay used to pack and cushion such breakables as mirrors and glass, then later man deliberately cultured it.

Did the Dandelion move in the same way or did the trade winds propel its balloon-like seeds? I have no doubt that the seeds have the capacity to stay airborne long enough to span the Atlantic if the right atmospheric conditions existed. If it came in "naturally", is it a native?

Really two conditions must be met for a plant to become naturalized: the seed (or roots) have to get here and second they have to find a favorable site to grow. With our lawn mowing and short cropped pastures maybe we just provided the site for some of these immigrants to prosper and nature provided the locomotion.

There is not much doubt about some plants. The lovely Blackberry Lily, which is neither a blackberry or a lily, (it's in the Iris family) was cultivated for its beauty and it found our woods to its liking. I'm kind of glad it's here. And I've moved it from the wild back into my garden.

Then there are those confusing plants like Water Cress. Is it or isn't it a native? Most books say it's foreign but even St. Julian, the patron saint of Missouri botanists, has his doubts. To paraphrase Julian (a whole lot I might say), that sucker is everywhere, even way back up in the hollow in the smallest of Ozark's springs. (We have even found it in a spring in Clark County miles from Julian's hollows and off his range map,) If it's not a native how did it get in all these remote spots? One thing about it, if Julian has his doubts, you can bet that I do too. He is my guru.

To add to the confusion are plants like the exotic and lovely Passion Flower or Maypops. It is just so different that you know it has to be introduced. Not so. It's as native as Sitting Bull.

In the case of the mulberries the immigrant White or Russian Mulberry has become more common than the native Red Mulberry. The White Mulberry would qualify for the D.A.R. since it was introduced in colonial times and cultured as silkworm fodder and for its fruit. It's funny how things work out. Silkworms were a flop, and hardly anyone eats mulberries these days; however, the native birds sure loved it and have done their best to plant White Mulberries from coast to coast.

Man, or rather woman, sure did her bit in scattering the seed of two other plants. In 20 years or less Goat's Beard (Tragopogon species) and Teasel have come from relative obscurity to commonness largely because their seed's heads made attractive dry bouquets. When they were tossed out they took off. About 10 years ago I saw a woman in West Virginia with a station wagon full of Teasel. She had driven down from New Jersey to gather the seed heads, and she planned to sell them in her flower shop back home.

We also have another class of non-native natives (for want of a better term). Black Locust, Catalpa, and Osage Orange are examples. Osage Orange is so ubiquitous today in Missouri that I sort of feel about it as Steyermark does about Water Cress. However, all dendrologists say that its original range was a small area in the common corner area of Texas, Oklahoma, and Arkansas. If it flourishes so well up here today why did it stay down there so long? We know the Osages prized it as bow wood. Why didn't they transplant it?

Black Locust is pretty well everywhere today and Jessie Benton Fremont was high in her praise of the species when it was widely planted as an ornamental in the St. Louis of her day. Yet as a forester, I have only seen Robinia pseudoacacia growing in two places where I thought it was truly native. One of these spots is in Barry County and the other in Scott County.

Catalpa, while not quite as abundant, is also an ornamental and fence post tree widely planted by man. And only once along the Osage in Vernon County did I see a tree that I thought was in its original habitat and not just an escapee from plantings.

So we have a bunch of wetback plants. Some we might characterize as legal immigrants - those that were deliberately brought in by man. The illegal immigrants might be the ones which snuck in in hay, seed shipments, or on the muddy boots of man. Perhaps there is a small group which might be called Divine immigrants, those which the Creator helped over by wind, wave, or bird. And finally we have the displaced natives.

One thing about it, if you look in my yard (or yours) most of the plants you will see will be immigrants. Of course, if you look in my house you'll see the same thing. Other than the American Indian we are all immigrants. And it might be argued that even the Indians immigrated someplace between 10 and 35 thousand years ago. It is only a matter of time.

Does it really matter anymore? The fact is that introduced plants, animals, and man are apparently here to stay. Time marches forward not backwards. Whether or not a plant is native matters only now to the philosopher, historian, and perhaps the collector. We have a whole new ballgame ecologically. These plant communities are here now and how they interact is what is important. Immigrants do make their contributions of beauty, utility, and function.

PLEASE READ THE RULES FOR SUBMISSION OF MANUSCRIPTS BEFORE TYPING THEM!

WONDER DRUG FROM A COMMON MISSOURI WEED

Warren L. Wagner
Missouri Botanical Garden
P.O. Box 299
St. Louis, MO 63166

The idea that a common roadside weed might contain an essential nutrient absent from our rich and varied modern-day diet seems, at first, unlikely. The idea that a deficiency or excess of this one nutrient might be implicated in a wide range of serious illnesses, including heart disease and schizophrenia, is amazing. Yet research that has been directed at the oil-rich seeds of common evening primroses (Oenothera biennis and several other closely related species) seems to confirm these ideas, and offers new hope in the treatment of a number of previously poorly understood diseases. It has only been in the last 10 years that intensive commercial medical research began on this group of interesting and attractive wildflowers in several European countries and in Canada. This research has centered on a few closely related weedy species that have been widely naturalized in Europe. This group includes Oenothera biennis and O. villosa which are native in Missouri.

The seeds of this group were found to be rich in oil that contains a vitamin-like fatty acid, essential to the human body, as explained below; but this substance, known as gamma linoleic acid or GLA, is

known to exist elsewhere only in human milk! There are, indeed, similarities between GLA and the polyunsaturated fats from other plant sources, such as sunflower and safflower oils, but in these are found only the precursor of GLA, linoleic acid, which must be converted to gamma linoleic acid within the body. All such source materials are found only in plants, and they are described as essential for the following reasons. Essential fatty acids are important because they form part of the membranes that surround the cells of the body and are essential for proper functioning of the membranes. They are also precursors of prostaglandins, hormone-like substances that are produced in virtually every cell of the body. They are important in a wide variety of metabolic functions, and the list grows longer as they are studied further. In a wide variety of diseases prostaglandins are present in below normal or in excessive amounts. What seems to be emerging from much of the new research on prostaglandins is the importance in maintaining them in proper balance..

Research indicates not only that some people are genetically deficient in the enzyme which produces GLA from the simpler linoleic acid, but also, more significantly, that the enzyme is easily inhibited by substances common in most people's diets. The inhibitors include saturated fats, certain unsaturated fats that have been highly processed (as in many processed vegetable oils and margarine), and alcohol. Because GLA is rare in most diets, and inhibited in many others, the discovery of large quantities in oil of the seeds of Evening Primrose (up to 7-8% of seed weight in certain strains of O. biennis) is very exciting news indeed. Research currently underway suggests that this oil may be of use in the treatment of heart disease, arthritis, exzema, multiple sclerosis, schizophrenia, hyperactivity, alcoholism, and obesity. It is even being studied as an effective cure for hangovers. It is for these reasons that the oil of Evening Primroses, rich in GLA, will hopefully be found to be extremely helpful.

. . .

Who knows which of the species in this genus may provide the richest source of GLA? To date only a few closely related species of Oenothera, including O. biennis and O. villosa, have been tested for their concentrations of GLA or other useful chemical constituents. This genus contains another 120 species native to North and South America, none of which have been tested. Among these species are six species listed as threatened or endangered in the Federal Register list of threatened and endangered plants of the United States. As our actions promote the extinction of organisms worldwide, we lose species that, like evening primroses, might have proved later to have been of very great importance to us. The systematics and evolution of the genus of evening primrose is being actively studied at the Missouri Botanical Garden by Dr. Peter Raven, the director, who has studied the group for 25 years. I became actively involved in intensive study of the genus

as a Ph.D. student and now as a research associate of the Garden. Much of the current research is done in collaboration with the research at the University of Düsseldorf under the direction of Professor Dr. Wilfried Stubbe and Dr. Werner Dietrich. This work has interested both clinical researchers anxious to learn more about the promising therapeutic effects of this plant, and those attempting to breed new strains of these wild plants for the commercial production of the oil they contain.

The discovery of what is potentially a new wonder drup in a common weed demonstrates not only the potential benefits we can gain from studying even inconspicuous plants, but also how seemingly "academic" research often yields unexpected and momentous results.

Missouriensis WILL REACH READERS MORE PRMPTLY IF MATERIAL IS PROPERLY PREPARED.

SOUTHERN ILLINOIS NATIVE PLANT SOCIETY CHAPTER NEWSLETTER

CHAPTER NEWS

The six months since the formation of the Southern Illinois Native Plant Society, Chapter of the Missouri Native Plant Society have been exciting, busy, and fruitful. The Chapter has grown and currently the membership numbers 27 individuals. Non-members have joined us during many of the activities. The interest in the Society is attributed to a schedule of timely, enjoyable, and interesting programs and field trips.

Late in March the SINPS Chapter participated in a public information and membership drive at the University Mall, Carbondale, and again on the SIU campus. Films from Missouri and Illinois and a wildflower slide show helped kindle interest in the Society and the Society activities.

All day and part day field trips this spring included such places as Ferne Clyffe State Park, the diverse La Rue Pine Hills Ecological Area, Giant City State Park, Cave Creek Hill Prairie, and Heron Pond, a cypress swamp. Knowledgeable leaders provided commentary during each excursion.

Evening programs have been provided on the Illinois Nature Preserves by Dr. Robert Mohlenbrock* (SIU), on Arizona Wildflowers by Mark Mohlenbrock, and on Missouri Natural Areas and Wild Areas by Wanda Oskins.

The SINPS Chapter is currently involved in several projects. A special committee is establishing a wildflower garden as a part of the SIU Botanic Garden on the campus. The Society will be responsible for its upkeep.

The Chapter has been asked to curate a special herbarium collection housing Illinois rare plants and Nature Preserve voucher specimens. The necessary arrangements have already been made and the project initiated. A library is also being developed.

In agreements made with the Southern Illinois University Press and the Illinois Department of Conservation the Society acts as agents and promotes the sale of wildflower books and publications. (For a complete list of these publications and their prices write to the Southern Illinois Native Plant Society, Department of Botany, Southern Illinois University, Carbondale,IL,62901.)

Several ambitious members are busy bringing Illinois's plant inventory up to date ("Dotting the Dotbook") and are also assisting in the Missouri inventory effort.

Members of the Chapter hosted a workshop on plant collecting and inventory at the MONPS annual meeting. The information from this workshop is being compiled and will represent a large portion of the premiere issue of ERIGENIA - Journal of the Southern Illinois Native Plant Society. The SINPS will publish issues of the journal occasionally, with one additional issue scheduled for 1982. The Chapter will provide its members with each issue of ERIGENIA as part of the membership fee. Non-members of SINPS are welcome to purchase copies of ERIGENIA at $1.75 each (including postage). Each issue of the journal will deal with a single topic and will include one or more articles relating to that topic. Contributions for ERIGENIA are needed for all topics, some of which are: Ferns of So. Ill., Natural Divisions of So. Ill., Rare and Local Plants of So. Ill., Unique and Noteworthy Natural Areas of So. Ill., Growing Wildflowers, and A Botanical History of So. Ill.

*Dr.Mohlenbrock has been a member of the Board of Directors of the Missouri Native Plant Society since its inception.

As a result of the efforts of the publications and publicity committees, ERIGENIA and a quarterly newsletter are being published. Beginning with the Fall 1982 issue, the newsletter will be called THE HARBINGER. Short notes from or concerning the membership are actively sought for THE HARBINGER. A calendar of upcoming events is included in the newsletter.

If you would like to become involved with any of these projects or become a member of the SINPS Chapter call 618-536-2331 ext. 27 or write:

Southern Illinois Native Plant Society
Department of Botany
Southern Illinois University
Carbondale, Illinois 62901

Regular and family membership is $7.50/year and $5.00/year for students. These dues also INCLUDE membership to MONPS and members not only receive THE HARBINGER and ERIGENIA, but also the quarterly journal of the Missouri Native Plant Society, MISSOURIENSIS. If you currently belong to MONPS and would like to join SINPS dues are $2.50/year.

FOR YOUR INFORMATION.....
(Members are encouraged to contribute short notes and announcements to this part of the newsletter.)

The plant found on the SINPS logo is French's Shooting Star (Dodecatheon frenchii) an Illinois endangered species which is confined to southern Illinois and a few other out-of-state localities. It was discovered in 1870 by, and subsequently named for, George Hazen French, first botanist at what is now Southern Illinois University.

ERIGENIA was decided on as the name of our journal because it is a spring wildflower found throughout southern Illinois. It is considered to be one of the first spring wildflowers to bloom. Likewise, the SINPS is the first chapter of the MONPS and is also the first native plant society in Illinois.

Erigenia is known commonly as the "Harbinger-of-Spring" and our newsletter, THE HARBINGER, was given the same name since both "presage or foreshadow what is to come", spring and upcoming Society activities respectively.

HELP!!!

Editing our journal is made much more difficult than it need be when contributors do not conform to our rules for submitting manuscripts

SINPS SUMMER CALENDAR

Saturday, June 26 - Field trip to Devil's Den and Pomona Natural Bridge. All day trip, bring sack lunch. Leave from Unity Point School (see map) at 8:30 a.m.

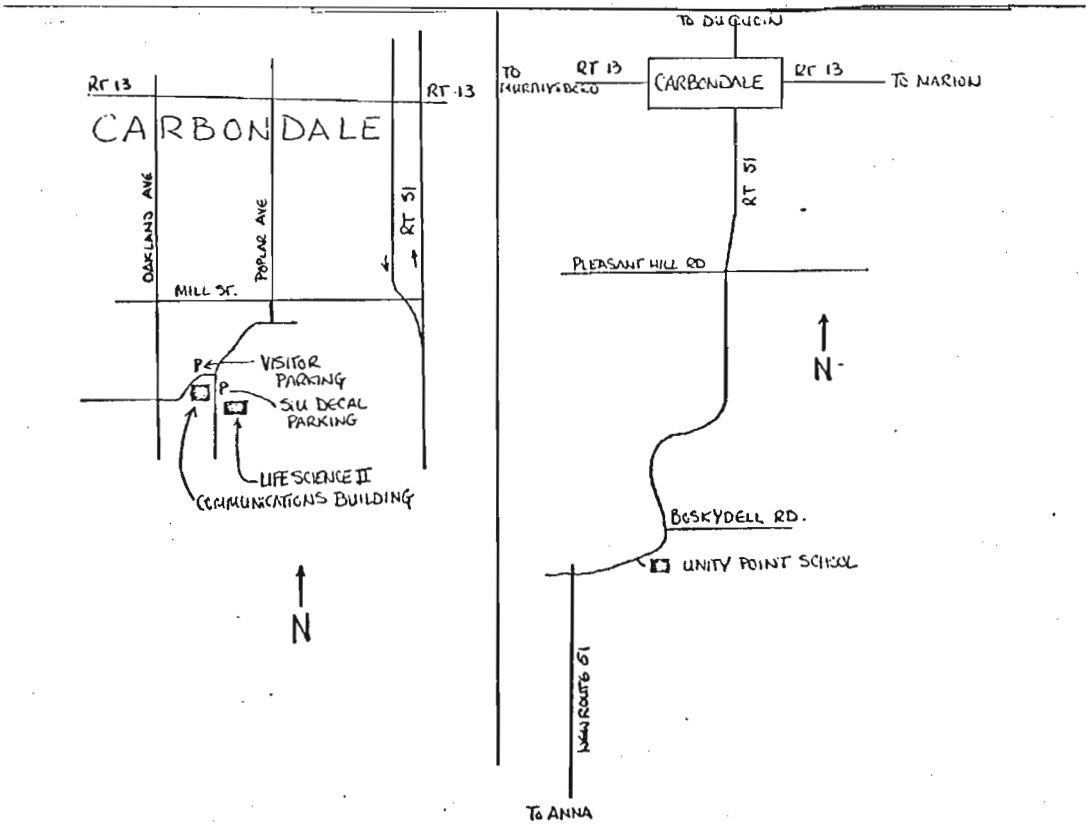
July - NO meeting or field trip planned.

Friday, Aug. 27 - Meeting 7:00 p.m. in Room 404, Life Science II, SIU. Program will be on prairie wildflowers. Persons without an SIU parking decal may park in the visitor's lot just north of the Communications Building (see map).

Saturday, Aug. 28 - Field trip to Fults Hill Prairie. All day trip, bring sack lunch. Leave from Unity Point School.

Friday, Sept. 17 - Meeting 7:00 p.m. in Room 404, Life Science II, SIU. Program will be an introduction to the Society including slides of past activities.

Saturday, Sept. 18 - Field trip to Garden of the Gods. All day trip, bring sack lunch. Leave from Unity Point School at 8:30 a.m.



MENYANTHES TRIFOLIATA IN MISSOURI

Steve L.Orzell
2236 Willow Ridge Lane
Chesterfield,MO 63017

While conducting a comprehensive inventory of calcareous wet meadows(CWM) in southeastern Missouri I have attempted to relocate former Steyermark CWM sites. One highly sought CWM site was the only Missouri station for Menyanthes trifoliata L. minor Raf.Steyermark (1963) had collected specimens on numerous occasions from this reynolds County station(along north prong of Bee Fork, 5 mi.east of Bunker,T32N, R2W,sec.23,August 5,1936, Steyermark 12564; same locality, May 26,1938,Steyermark 5480; same locality,May 29,1951,Steyermark 71308; same locality, April 26, 1952,Steyermark 73111). Steyermark (1938) described the site as a marly bog fed by a small, permanent spring and harboring Rhynchospora capillacea, Carex suberecta, Galium tinctorium, Fuirena simplex and Parnassia glauca. In an unpublished mimeograph Steyermark noted the property was owned by Mr.Joe Goforth.

After two unsuccessful searches for Menyanthes on May 3,1981 and April 26,1982 in a remnant CWM(sec.23, T32N,R2W along the east boundary of a lily farm,Bunker 7.5 Quad.) coupled with previous failures of WGNS botany members at this same locality,I began to lose hope.

Then, in mid-June of this year, while talking with Mr. E.H.Weibel, a life-time resident along Bee Fork, I learned that Mr.F.Hill now owns the Goforth ground.

On June 13,I traveled up the gravel road leading to the Hill residence, where, fortunately, Mr.Hill greeted me at the door. He told me that he had acquired the property from Junior Martin,Goforth's son-in-law, who received the tract from Joe Goforth.When I asked about swampy ground on the property Mr.Hill began telling a short story.

In the SEQ of the NWQ of sec.23(Bunker Quad.), just southeast of the Hill residence, he pointed to a pasture where there once was a $\frac{1}{2}$ acre swampy meadow, within which were placed 2 sticks of dynamite. With a puzzled look on his face, Mr.Hill recalled that no one heard a sound when the dynamite detonated. After that, the site was ditched and allowed to drain. Interestingly, he told me that in late April and early May the meadow which was visible from the road harbored such an abundance of flowers that travelers would stop to admire its beauty. Ironically, the only flowering collection in Missouri is the one cited for April 26, 1952, by Steyermark (1963). When I inspected the area for possible swampy remnants, none were found.

At present it seems reasonable to suspect that Menyanthes has been extirpated from Missouri. Upon completion of this inventory more than

150 potential CWM sites will have been field-checked, including some 19 specific locations along the Bee Fork drainage. To date, I have been unable to locate any extant Menyanthes populations; however,some 53 sites remain to be checked. Let's hope it is not too late to save this relic plant from extinction in Missouri.

Literature Cited

Steyermark,J.A.,1938.Plants new to Missouri. Rhodora 40:249-255
Steyermark,J.A.,1963. Flora of Missouri.Iowa State University Press,
Steyermark,J.A.,undated mimeograph: Missouri Areas in Need of Protection

FAILED FORAY

Announced as an upcoming event, in our last issue, the foray in search of the Small White Lady Slipper(Cypripedium candidum) was undertaken by several dauntless members of our Society, over the week-end of May 12-14. Don Kurz organized three teams(at least one member of each of which had actually seen this orchid...but in Iowa!), and these, in turn, investigated fifteen sites that seemed likely habitats for the elusive plant, as they had been identified by the Soil Conservation Service as having the sort of seepage conditions that it favors..... just the sort of habitat in which Julian Steyermark reported having seen a colony of fifteen plants on May 18,1947. But alas, none of the fifteen sites yielded even a single Small White Lady Slipper, so Steyermark's date remains the last time it was found in Missouri. Undoubtedly the searchers(besides Kurz, Ginny and Melvin Wallace from Jefferson City, Bill Summers from St.Louis and Patrick DeLozier from Kansas City) were sorely disappointed. However, they saw quite a number of both large and small-flowered Yellow Lady Slippers(two varieties of Cypripedium calceolus) so the foray was not in vain, even though they surely hope for better luck next time!