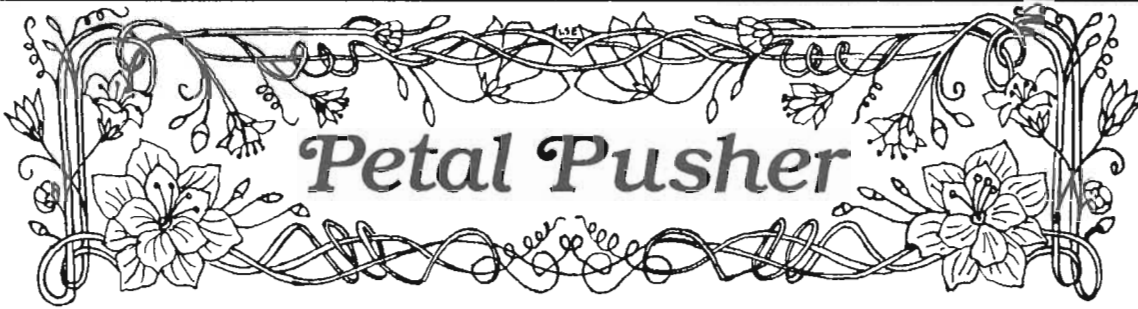

Missouri Native Plant Society



Volume I Number 6 1986

UPCOMING EVENTS

Thursday, December 4, 7 pm. Organizational meeting of a Kirksville Chapter. See inside for details.

Saturday, December 6, 10 am - 4 pm. Quarterly board meeting in Jefferson City.

Tuesday, Jan 6, 7:30 pm. Monthly meeting of the Jefferson City Chapter at the Missouri Department of Conservation Headquarters.

Thursday, January 29, 7:30 pm. Organizational meeting of a southwest Missouri Chapter in Springfield. See inside for details.

MOVING AROUND

By Ginny Wallace

One of the fascinating things about plants is how their seeds are dispersed. Some are dispersed by wind (i.e. milkweeds and dandelions), others by water or by becoming attached to passersby. In some cases seeds are actually launched from the plant as in the case of touch-me-not. Recently I learned the dispersal mechanism of another plant.

I had been collecting seeds of prairie plants for a propagation project, and I happened to have a sack of New Jersey Tea seeds sitting in my office that I had collected in August. Several days ago I noticed a popping sound (akin to the snap, crackle, pop of a bowl of rice crispies) coming from somewhere in my office. I finally realized the sound was coming from the bag of New Jersey tea seeds, and decided to conduct a little experiment. I took a branch filled with fruits from the bag and stuck it in an inverted styrafoam coffee cup on my work table. I placed a large piece of paper under the cup so that when the seeds fell I would be able to find them easily. I waited about 30 minutes and then checked to see if any seeds had fallen. The paper was empty, so I waited another 30 minutes or so. This time I was sure I'd heard popping noises so I expected to find some seeds, but again found nothing. Then I saw one pop. It literally exploded from the stem in a high arc, landing nearly three feet from the table.

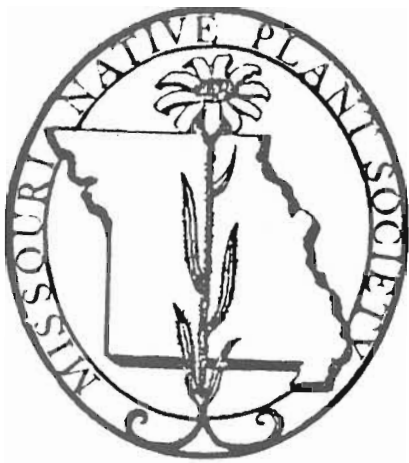
This type of dispersal makes sense for a prairie plant. New Jersey tea is a fairly low-growing prairie plant and is hidden in the tall grasses at the time the fruits ripen in late August. By being launched up and over the surrounding grasses, the seeds are effectively distributed far from the parent plant.

INTERESTED IN BECOMING MORE INVOLVED BUT DON'T KNOW HOW?

The nominating committee will be meeting soon to choose a slate of officers to begin serving two year terms in June of 1987. They will be choosing a President, Vice-president, Secretary and Treasurer, plus two board positions will be filled. If you are interested in serving the Society in one of these capacities please let us know. We know you're out there but we don't know who you are. Drop a postcard in the mail to the Jefferson City MoNPS address.

DUES ARE DUE

SEE PAGE 7



MoNPS BOARD MEETING

Saturday, December 6

10 am - 4 pm

Jefferson Landing State Historic Site

*Lohman Building Meeting Room
(2nd floor)

Agenda items include:

Ed Stegner - MoNPS participation in the Conservation Federation

Program: "Natural Wonders of Missouri" presented by Paul Nelson

Flora Committee Update

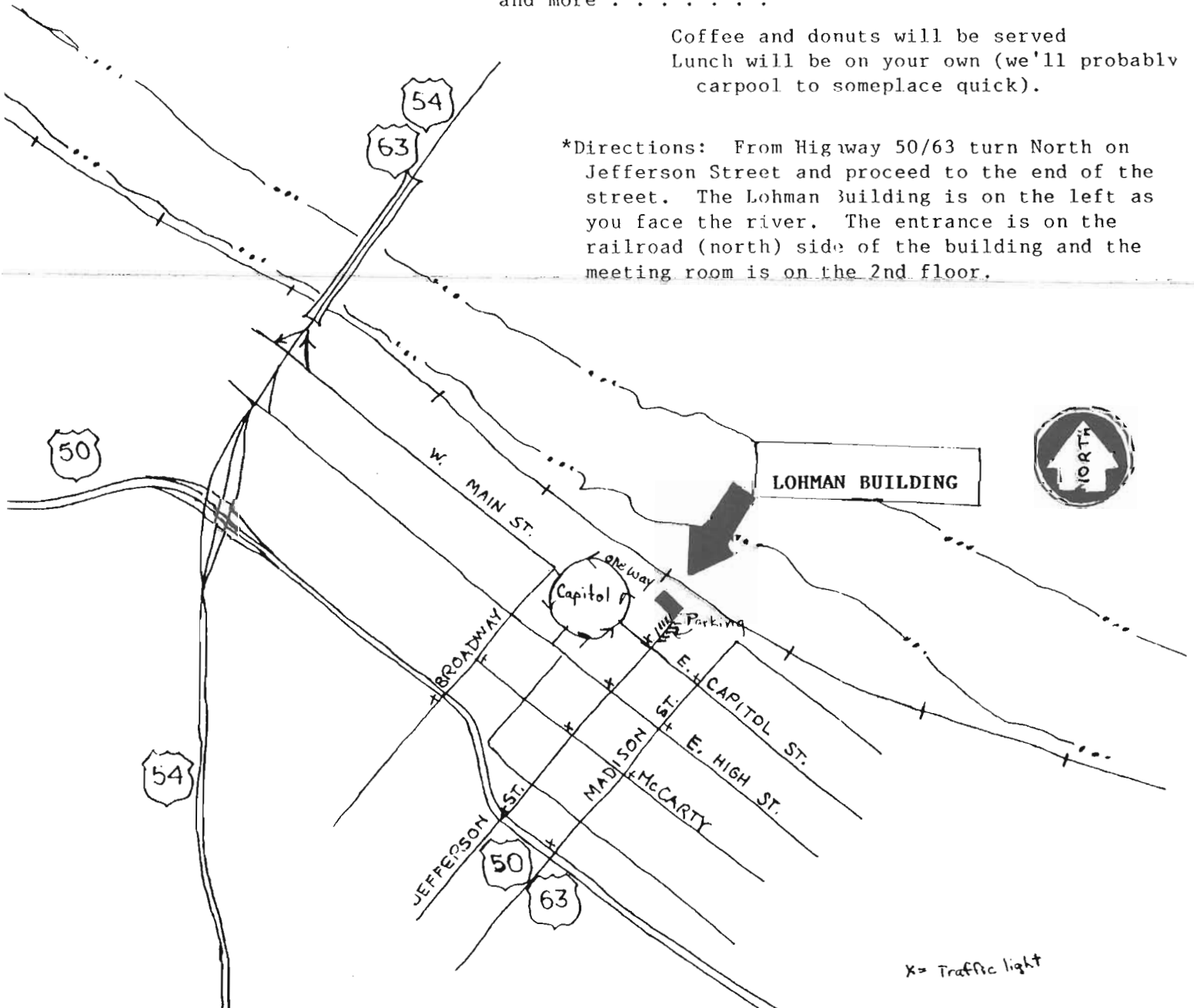
Chapters/bylaws Committee Report

Chapter Reports

and more

Coffee and donuts will be served
Lunch will be on your own (we'll probably carpool to someplace quick).

*Directions: From Highway 50/63 turn North on Jefferson Street and proceed to the end of the street. The Lohman Building is on the left as you face the river. The entrance is on the railroad (north) side of the building and the meeting room is on the 2nd floor.



ANNOUNCING NEW CHAPTERS!

Springfield: January 29, 1987, Thursday at 7:30 pm. In room 228 Temple Hall on the Southwest Missouri State University campus.

Kirksville: December 4, Thursday, at 7 pm. In room 274 Science Hall on the Northeast Missouri State University campus.

All MoNPS members, guests and friends are invited and encouraged to attend.

According to the state MoNPS bylaws all it takes to form a chapter is a group of five or more people that pay dues to the state organization, and hold at least four times a year. It sounds easy doesn't it? Well, it is.

Why form a local chapter? I can think of lots of reasons. The Missouri Native Plant Society was organized in June of 1979. Since that time our membership has grown, and more and more activities have been offered. But it is difficult to offer field trips in all nooks and crannies of the state on a regular basis, and it is difficult to schedule regular programs that are accessible to all members. That is where local chapters come in. Local MoNPS chapters allow Missourians an opportunity to share information about wildflowers and other native plants by holding monthly meetings with programs on a variety of topics from photography, to propagation, to wild edibles. And of course regular field trips are possible on a local level. The flexibility of a local groups allows the Society to meet more of the needs of a wider variety of its members. It also has the potential to increase public awareness: local chapters can serve as a resource to boy and girl scouts, 4-H clubs and other community organizations. Local plant salvages are also much more feasible.

As you can see there are all kinds of reasons to form local MoNPS chapters. If reading this has sparked your interest in getting a group started in your area, just write to Ginny Wallace, Membership Chairman, c/o MoNPS, P.O. Box 6612, Jefferson City, MO 65102.

NEW TREE FOUND

Member Tom Heineke, a botanist with the U.S. Army Corps of Engineers in Memphis, TN. has discovered cedar elm, *Ulmus crassifolia* in Missouri. Cedar elm is a medium sized tree with stiff corky or scaly branches. It is found in the southeastern United States and occurs in northern Arkansas. Tom found the tree while investigating wetland habitat in Dunklin County. He also found Nuttall's Oak at the site. Tom will be reporting this in more detail at a later date.

LETTERS

Dear Sirs,

I am an ethnobotany student at Smith College seeking seeds for a research project on native American medicinal and food plants. I'm having some difficulty locating seeds of the following species and would appreciate your advising me if you know of a source:

- Angelica hendersonii
- Astragalus calycosus
- A. caryocarpus
- A. Haydenianus
- A. Kentrophyta
- A. striatus
- A. humistratus
- A. impensus
- A. allochrous
- A. menziesii
- Campanula parryi
- Dioscorea villosa
- Glycyrrhiza lepidota
- Lycium torreyi
- Scutellaria epilobifolia
- Oplopanax horridus

Thank you for your kind assistance.

Sincerely,
Hart Brent-Collins
Buckland Road
P.O. Box 146
Ashfield, MA 01330
(413) 628-4422

KANSAS CITY NEWS

We met at Ernie Miller Natural Area in Olathe, Kansas, in October. Despite cold weather, the hardy souls who showed were given a tour of native prairie and a wealth of information on growth habits and seeds of prairie species by Linda Ellis.

In November, we met at the Westport Library. Linda Ellis showed slides taken on various field trips over the state. Sylvia Hein showed slides taken at her place in Macon County and invited us all to visit. We can hardly wait for spring to take her up. We decided not to meet in December.

Sue Hollis

USDA PLANS PLANT PERFORMANCE GUIDE

Most, if not all, of our readers are familiar with the USDA Hardiness Zone Map, and have used it extensively in planning their gardens. Nurserymen, too, rely on the map as a guideline for their catalogue descriptions of plant hardiness and suitability.

Although the USDA map had been widely used since its publication in 1952, its limitations have become apparent through the years. The plant hardiness map, as it is known, is based quite simply on 10-degree differences in the average low temperature of particular regions. The map divides the United States and southern Canada into 10 hardiness zones, based on these average lows. Because it became apparent that many more factors than average low temperature must be considered for assessing the adaptability of landscape plants to a region, the USDA has decided to provide an updated and expanded version of the plant hardiness map - to be known as the Plant Performance Guide - which would include more detailed information useful to gardeners, landscapers and nurserymen. Through the use of the Plant Performance Guide, agriculturists, nurserymen, environmentalists and home gardeners will have an increased ability to predict when a newly acquired species or cultivar can successfully be grown in a particular area.

As most gardeners and scientists know, plant health is dependent on daylength, radiation, temperature, frost, wind, rainfall and soil pH. In addition to these factors, some new considerations to be addressed in the Plant Performance Guide Project concern changes in our environment, our method of gardening and landscaping, and the scope of the map itself. Specifically, changes to the environment include the effects of pollution such as acid rain and toxic wastes, and the effects of variations in climate such as the wider ranges in temperature, moisture and wind that have been recorded for North America. Changes in gardening and landscaping methods include the use of new forms of traditional plants that are adapted to a wider range of environments; the utilization of new techniques of planting, transplanting, watering, fertilization and supplying pest control measures; and the use of plants in "alien" environments such as expressways, malls and elevated decks, where plant roots are usually exposed and miss the warming influences of deeper soils. Change in scope of the map involves an increased awareness that we share more than a common border with our neighbors to the north and south; we also share many plants that are indigenous throughout North America. Additionally, we share many introduced plants that may be grown successfully in some parts of the continent. The scope of the new map will encompass the entire region from the Isthmus of Pan-

ama to the North Pole. The above considerations will be reflected in the plant Performance Guide, which will be compiled from data gathered by the USDA.

For example, the USDA is analyzing weather records up to the present, and will make this information available as part of the guide. Additionally, through the guidance of Dr. Henry M. Cathey, Director of the U. S. National Arboretum, a list of approximately 2,000 species and cultivars has been prepared and entered into the Germplasm Resource Information Network (GRIN), a computerized seed/plant catalogue housed within the Agricultural Research Service of the USDA. Dr. Cathey has requested that the Society and its members, as well as other horticultural and plant organizations, lend their support and expertise during the compilation of data concerning these plants, and for the completion of the project. Qualified horticulturists, botanists and field naturalists are asked to participate by providing information on which of these 2,000 plants are flourishing in the participants region. Information on location (latitude, longitude and altitude) should be recorded and sent to the USDA to be entered in the GRIN program.

To receive your copy of the list of 2,000 plants and instructions for participation in data gathering, write Plant Performance Guide, U.S. National Arboretum, 3501 New York Avenue, NE, Washington, DC 20002, or call (202) 475-4829. If you provide the program with information, you can expect to receive a personal copy of the Plant Performance Guide. The guide will tentatively include standardized botanical and common names for all plants, standardized computer code names of plants for the landscaping industry, and plant maps and weather data. This data base may be updated and expanded to address new areas of interest and concern in the future.

We at AHS are very excited about this project and we would like to encourage as many as possible to participate in it. Approximately 10,000 observations are needed to complete the plant research portion of the project. With your help, the Plant Performance Guide could be available in 1987. We encourage you to write or call the USDA today, to receive your copy of the plant list and project instructions.

(Taken from the American Horticulturist Society News Edition, Nov. 1986)

HAWN STATE PARK

The Missouri Native Plant Society fall meeting, which consisted of field trips only, with no business meeting, was held Saturday, September 20, in Ste. Genevieve County. One group, led by park naturalist Ron Millikin, stayed in Hawn State Park for the entire day. The other members, led by Jim Key and Paul Redfearn, went both to Hawn and to Pickle Spring.

When Ron Millikin started up the Whispering Pine Trail, his plucky group plunged ahead up the steep hill, although they were soon mopping brows and gasping for breath because of the high temperature and humidity. We were soon distracted from the unseasonable weather by eagle-eyed orchid expert, Bill Summers, who spotted numerous basal leaves of *Liparis lilifolia*, the large twayblade. As we continued through the pine woods, Bill found several other orchid species: *Corallorhiza odontorhiza* (late coral root) and *Spiranthes cernua* (common ladies' tresses) both in flower, and *Spiranthes lacera* (slender ladies' tresses) and *Malaxis unifolia* (green adder's mouth), both in fruit.

Along the Pickle Creek Trail, we saw striking shut-ins, igneous glades, and exposures of the ancient Lamotte sandstone with impressive displays of cross-bedding. Other interesting plants seen during the day included *Selaginella rupestris* (spikemoss), *Monotropa uniflora* (Indian pipe), *Trichostema dichotomum* (blue curls) and *Asplenium pinnatifidum* (lobed spleenwort). A particularly lovely sight was a small side creek with both banks lined with dense mosses of brilliant green sphagnum moss.

Near the conclusion of the trip, our able leader showed us the Botkins Pine Woods Natural Area, a mature, mixed pine-oak forest. Hawn has two other designated natural areas as well, Pickle Creek and Orchid Valley, and it is certainly one of our largest and most beautiful state parks.

Joanna Turner

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- Inventory: Jay Raveill
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GROWING NATIVES - Research Opportunities
by Mervin Wallace

When you begin propagating Missouri's native plants, it soon becomes evident that there are several species that need further research. Quite often there is no available information on what treatment is needed to overcome seed dormancy. The time required to perform the necessary tests and get results on most species would fit comfortably within the duration of one college semester. The subject would surely fit in one of several course titles besides special problems, a good catchall.

While a college is a likely place to do such research, any interested MONPS member could perform most of the tests in their home with about the same degree of accuracy. A refrigerator, sand, sand paper, plastic bags, water-boiling and cold, room temperature, and light are among the basic materials needed to perform the most common seed treatment tests to overcome dormancy. Pencil and paper will be needed to record and report your results in either the Petal Pusher or Missouriensis.

I am not deep into the business of doing research so I seldom keep accurate written records of my germination tests and procedures (granted, I should). I tend to find a treatment that works for me and continue to use it over and over. I suspect that this represents the degree of accuracy of some of the references I use - based on what works rather than scientific experiments. If a grower gives all his seeds a three month cold, damp treatment or plants them all outdoors in the fall, he never knows what the seeds specifically required.

Listed below are six species that I feel are good candidates for more research. My limited research on each is also summarized.

Missouri primrose (Oenothera macrocarpa). I have two references which state that Missouri primrose seeds need no treatment to initiate germination. With seeds that have been dry at room temp or refrigerator temperature, I have never gotten more than about 5% germination. I got about 66% germination when the seeds were kept cold and moist for about 4 to 6 weeks. The 66% germination was from seed produced in my garden. Seed collected from the wild and given the same cold damp treatment had a much lower germination rate. Does Missouri primrose vary in its germination requirements within its range or am I doing something wrong when trying to germinate the seed with no treatment? Are the references truly incorrect in saying no treatment is necessary?

Bush's poppy mallow (Callirhoe papaver var. bushii) and fringed poppy mallow (Callirhoe digitata Nutt. var. digitata). I have found no reference books that say anything about the germination requirements of either of the above species. Two years ago I put seeds of both species in a flat at room temperature in early spring and later moved the flat outdoors keeping it moist until winter. A few seeds of both species germinated about one month after being put in the flat. Several more germinated in the fall about three months later. Could there be a chemical that needs to be leached out of the seeds before germination will occur?

Purple beard-tongue (Penstemon cobaea var. purpureus). Seeds placed in boiling water and immediately allowed to cool to room temperature did not germinate. Seeds given a cold damp stratification for about 3 months did germinate. After about 1 and 2 months cold damp stratification, germination did not occur. I have found a method that works for me, but much more could be learned about purple beard-tongue. Exactly how many days cold damp treatment are needed? Will a chemical like gibberellic acid overcome the dormancy in place of the cold moist stratification.

Royal catchfly (Silene regia). I know that a cold damp stratification for about 6 weeks will work, but I don't know for sure that the stratification is required. I have found no references on the germination of royal catchfly.

If you know more than I do about one of the above, I would appreciate hearing from you. If you should get inspired to test one of the above species, I would be glad to discuss it with you and furnish some seed if I have them.



Silene regia

MEMBERSHIP APPLICATION

MISSOURI NATIVE PLANT SOCIETY

DEDICATED TO THE PRESERVATION OF MISSOURI NATIVE FLORA



Name: _____

Address: _____

City/State: _____ Zip: _____

Telephone Number: (___) _____

STATE MEMBERSHIP CATEGORIES

- ____ Student.....\$ 2.50
- ____ Regular (Individual, Family).\$ 5.00
- ____ Contributing.....\$ 15.00
- ____ Sponsoring.....\$ 50.00
- ____ Sustaining.....\$ 100.00
- ____ Group.....\$ 25.00



I also wish to be affiliated with the Chapter indicated below. (Please note - a chapter will not be eligible for a portion of your dues unless you indicate your choice. Membership is not limited to one chapter, but state and chapter dues must be paid to the treasurer of each chapter. Those requesting a chapter affiliation will receive the local newsletter, regardless of whether they live in the area or not; however, members not receiving the local newsletter are still welcome to participate in chapter activities and meetings).

CHAPTER	LOCAL DUES	CHAPTER TREASURER AND ADDRESS
____ St. Louis	\$3.00	Katherine P. Chambers, 7024 Forsyth St. Louis, Mo. 63105
____ Columbia	\$5.00	Karen Shippen, #3 Blue Acres, Columbia, Mo. 65201
____ Kansas City	\$5.00	Bill Trefz, 709 W Truman # B-3 Independence, Mo. 64050
____ Jefferson City	\$5.00	John Logan, RR #1 Meta, Mo. 65058

Springfield and Kirksville chapters pending elections.

In addition to my dues, I wish to inclose a gift of \$___ to support ___ State; ___ Chapter MONPS activities for the preservation of Missouri Native Plants.

I wish to give a gift membership to the following persons: ___ (Please include a mailing address list for gifts).

Non-chapter applicants mail dues to: Missouri Native Plant Society, P.O. Box 6612, Jefferson City, MO 65102.

TOTAL ENCLOSED: _____