MISSOURIENSIS

The Journal of the Missouri Native Plant Society

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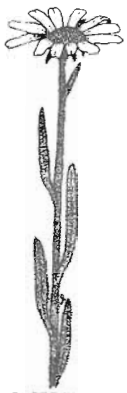

RUDBECKIA

IN THIS ISSUE...


OENOTHERA

WHAT YOU MISSED!

The third Board meeting of the Missouri Native Plant Society was held at the School of the Ozarks, in Point Lookout, where Board member Kenton Olson hospitably welcomed all but two of the other Board members, and a smattering of untitled members who added a great deal by their presence at the meeting. All of us were well rewarded for what had been a long drive by a most interesting program presented on Friday evening, "Leap Year Day", by our President and members of the Missouri Conservation Department.

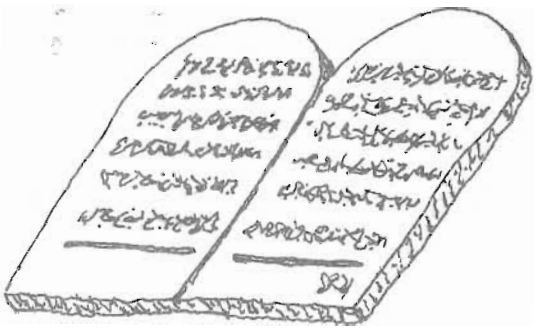
Hawker, after driving the whole way from St. Louis, with a side trip via the 20-mile long trail through Hercules Glade, demonstrated the stamina of the true naturalist by offering his presentation of a slide-talk on the chert glades. This formation was only recently recognized, largely due to Hawker's own investigation of the unusual flora and fauna of a most unusual community (For Hawker's discussion of same, see The Conservationist, (June, 1979)).

Ginny Klomps, State Botanist affiliated with the M.D.C., presented a second slide talk on "Plants and the Sun", a talk prepared by members of the Department to be circulated throughout the state; this will surely prove to be a popular asset for people interested in educating others about green plants and their fundamental importance to all other living things.

The last part of the evening program was the showing of a second "edition" of the Department's film, "More than Trees", made by Missouri wildlife experts Charles and Virginia Schwartz. Both the photography and text of the film are of top-notch quality and interest. As it demonstrates that there are "more than trees" in our native forests, the film also clearly showed that there is more than casual effort made by the M.D.C. to inform the people of our state about the vast treasure of our natural heritage.

Members of the Board convened early Saturday morning, after slogging through a couple of inches of snow that covered a treacherous coating of ice, and eliminated the promised field trips to visit a stand of native Magnolias and other local botanical phenomena. Minutes and the Treasurer's report (a happy one!) were quickly dealt with; future meeting places and dates set up (as announced elsewhere in this issue); committees to deal with various aspects of "PR" were set up, and Melvin Conrad was appointed Chairman of the Nominating Committee (we will be a whole year old at the time of our June meeting, and two new Board members will be selected). Conrad will welcome suggestions from members who would like to submit names for consideration.

The most important business of the Board, at the meeting on March 1, was to discuss and then pass a statement of MONPS policy concerning the collection and transplanting of wild plants; the statement, as printed represents a composite statement of the views of Board members, as agreed upon after considerable (but always friendly!) ventilation of same.



A CODE TO FOLLOW

ON COLLECTING...

The Missouri Native Plant Society recognizes the value of responsible plant collecting to the botanical sciences. Judicious collecting from healthy populations of common plants is not discouraged. Student collections generally should be limited to such populations. The collection of rare plants should be undertaken with extreme care. Small populations should not be unnecessarily jeopardized, nor should duplicate collections be made unnecessarily from the same population. When the documentation of a rare plant is necessary, consideration should be given to the use of a photo or the collection of a part of the plant in lieu of the entire specimen. Arrangements should be made to insure that all specimens will ultimately become the property of a public herbarium.

ON HUMAN DISPERSAL OF PLANTS...

Decisions to propagate and/or transplant native plants should be approached carefully. In general, the transplanting of rare native plants from the wild to private gardens is discouraged, although this may be prudent under special circumstances; for instance, in the case of salvaging plants from a site soon to be destroyed. Only under these circumstances would digging native plants be justified. The collecting of seeds for propagation is proper, if the collector uses care to gather a supply from several areas to assure that no local seed supply is seriously affected by seed collecting. It is recognized that propagation and transplanting to a wild habitat may be desirable if the status of some rare species is to be enhanced. When these activities are undertaken, care should be taken to preserve native local genotypes where possible. Suitable sites may be established as "genetic banks" for rare and endangered species, but these should not encroach on valuable communities where preservation as an intact entity is vital. Transplanting efforts should attempt to maintain fidelity of original species' ranges and habitat conditions as well. Complete records of all such activities should be carefully maintained. The Missouri Native Plant Society should discourage the intentional sowing of seeds or planting of specimens into habitats undisturbed. The seeding and introduction of native species could be considered for the institutional garden, greenhouse or other controlled areas.

EFFORTS TO SAVE ENDANGERED SPECIES

Sunday, January 20, 1980, New York Times News Service

Washington - The Carter administration, prodded by complaints from environmental groups, is substantially augmenting its efforts to protect endangered species of plants and animals, officials said Friday. The officials reported that President Jimmy Carter's forthcoming budget message will call for roughly doubling of the size of the Interior Department staff directly engaged in placing species on the endangered species list. In addition, the Interior Department will receive seven new agents to help enforce the endangered species law. And the Agriculture Department will be assigned 30 agents to enforce the prohibition against importing endangered plants under the president's budget proposal, the officials said.

The president's decision to add muscle to the endangered species protection effort apparently was a result of protests raised by environmentalists last year when the Interior Department was forced to drop 1,800 species from consideration for protection under the endangered species act. Last year, the department's Fish and Wildlife Service proposed and listed no new species for protection under the 1973 act. Department officials said that available personnel were required to devote much of their time to preparing new legislation called for by Congress in amendments to the act. These requirements included a close determination of the critical habitat of a species and an economic impact study before a species could be listed for protection.

However, several environmentalists have said that the Interior Department has been unnecessarily slow in listing endangered species. Friday, the environmentalists said that President Jimmy Carter himself, at the urging of Stuart E. Eizenstat, his chief domestic adviser, and Gus Speth, chairman of the Council of Economic Advisers, had decided to beef up the endangered species staff. Lewis Regenstein, executive vice president of the Fund for Animals, said that the president, "by making it clear that he wants the endangered species program expedited, may save literally thousands of imperiled species that would have remained unlisted and unprotected". These species, he added, "now have a chance of averting extinction".

Under the new budget, nine new full-time staff members, three of them economists and six biologists, would be added to the listing staff in the Interior Department's endangered species office. In addition, several department management biologists who are now in other jobs would be shifted over to listing endangered species. However, even with the augmented staff, the endangered species office could not possibly carry out the mandate of Congress, which asked that all imperiled species, domestic and foreigh, be protected, one official in the office said. He said that there is not even a systematic listing of species candidates for protection in the United States alone. To review the hundreds of thousands of species that might be eligible "would take everybody in an agency the size of the Department of Labor to deal with", the official said.

FEDERAL LEGISLATIVE PROPOSALS

PRESERVING SIGNIFICANT NATURAL AREAS - S. 1842

Habitat preservation is the key to survival of endangered species. Thus S. 1842, the National Heritage Policy Act, introduced September 28 by Senator Henry Jackson for the Administration, is of special interest. It would establish both Natural Heritage and Historic Preservation Programs in the Heritage Conservation and Recreation Service of the Department of the Interior. They would work with states to identify and preserve appropriate areas on both federal and non-federal lands. Financial help in planning and acquisition, now available for historic sites, would be extended to natural areas. Natural heritage would include (but is not limited to) terrestrial and acquatic communities, geologic features, landforms, and habitats of endangered native plant and animal species.

A packet of information on this bill is available from Interior Secretary Cecil Andrus, DOI, Washington, D.C. 20240. Ask to be kept informed about its progress.

HELP IN FUNDING EDUCATIONAL EFFORTS - HR. 5844

Widespread misunderstanding and lack of concern for preserving endangered species is evident at all levels of the current political scene. Only a more informed public seems likely to help. Another new bill, HR. 5844 (Representative Carl Pursell, Michigan), thus also merits our attention. This WILD (Wildlife Information and Learning Development) bill would channel funds through the Office of Endangered Species to educational and non-profit groups to increase public knowledge and understanding about endangered species, both animal and plant. Ask Representative Pursell (House Office Building, Washington, D.C. 20515) for a copy and ask to be kept informed so as to help in its passage.

AMERICAN ENDANGERED PLANTS

A total of 54 plants have now formally been listed as Endangered or Threatened. The Fish and Wildlife Service concentrated this year on exploited or extremely restricted ones so as to avoid declaring Critical Habitats. These require an economic analysis under rules passed by Congress in 1978 and procedures for making these are not yet determined. The listed plants follow, with their status (E or T) and state(s) where found:

Aconitum noveboracense - IA, NY, OH, WI	T
Ancistrocactus tobuschii - TX	E
Arabis macdonaldiana - CA	E
Arctomecon humilis - UT	E
Arctostaphylos hookeri ravenii - CA	E
Astragalus perianus - UT	T
Baptisia arachnifera - GA	E
Berberis sonnel - CA	E
Betula uber - VA	E
Castilleja grisea - CA	E
Cordylanthus maritimus maritimus - CA	E
Coryphantha minima - TX	E
Coryphantha ramillosa - TX (& Mexico)	E
Coryphantha sneedii leei - NM	T
Coryphantha sneedii sneedii - NM, TX	E
Delphinium kinkiense - CA	E
Dudleya traskiae - CA	E
Echineacea tennesseensis - TN	E
Echinocactus horizonthalonius nicholii - AZ	E
Echinocereus engelmannii purpureus - UT	E
Echinocereus kuenzieri - NM	E
Echinocereus lloydii - TX	E
Echinocereus reichenbachii albertii - TX	E
Echinocereus triglochidiatus arizonicus - AZ	E
Echinocereus triglochidiatus inermis - CO, UT	E
Echinocereus viridiflorus davisii - TX	E
Erysimum capitatum angustatum - CA	E
Haplostachys haplostachya angustifolia - HI	E
Harperocallis flava - FL	E
Lipochaeta venosa - HI	E
Kokia cookei - HI	E
Lotus dendroideus traskiae - CA	E
Malacothamnus clementinus - CA	E
Mirabilis macfarlanei - ID, OR	E
Neolloydia mariposensis - TX (& Mexico?)	E
Oenothera avita eurekensis - CA	E
Oenothera deltoides howellii - CA	E
Orcuttia mucronata - CA	E
Pedicularis furbishiae - ME, Canada	E

Pediocactus knowltonii - NM	E
Pediocactus peeblesianus peeblesianus - AZ	E
Phacelia argillacea - UT	E
Pogogyne abramsii - CA	E
Rhododendron chapmanii - FL	E
Sagittaria fasciculata - NC, SC	E
Sarracenia oreophila* - AL	E
Sclerocactus glaucus - CO, UT	T
Sclerocactus mesae-verdae - CO, NM	T
Sclerocactus wrightiae - UT	E
Stenogyne angustifolia angustifolia - HI	E
Swallenia alexandrae - CA	E
Trillium persistens - GA, SC	E
Vicia menziesii - HI	E
Zizania texana - TX	E

*Implementation of final rule delayed.

SPRING IS UPON US!

MONPS members will be active this spring leading a number of field trips around the state. Those we have heard about include the following (note some corrections herewith in the schedule mailed several weeks ago):

Sunday, April 13 Washington State Park Leaders: Art Christ and Edgar Denison

Washington State Park lies on Highway 21, south of Hillsboro, about 1 hour and 15 minutes drive from St. Louis. The Big River flows through with habitats varying from glades through wooded hills and fine outcroppings of rocks. There is an outstanding display of early spring flora, especially Hepatica and, a little later, of Dicentra cucullaria and D. canadensis, Erythronium, and many others. The park is also well known for its Indian petroglyphs and the surrounding barite mining areas. Meet at parking lot by the concession stand near the Big River at 10 a.m.

Sunday, April 27 Missouri Botanical Garden Arboretum Leaders: Art Christ and Edgar Denison

Missouri Botanical Garden - Arboretum - about 30 miles west of Kirkwood on I-44 (Gray Summit Exit). In addition to the beautifully laid out "Pinetum", a collection of needle trees from all over the world, there is a vast display of spring flora on the south-facing descent to the Meramec River. The wealth of flowers is outstanding in years in which the weather cooperates. There is an entrance fee of $1.00 for non-members of the Garden. Meet at the entrance at 10 a.m.

Saturday, May 10 St. Francois State Park Leader: Naturalist Ron Mulliken, DNR

Meet at 10:00 a.m. at the parking lot near the ball diamond for a botanical tour of the park.

Saturday, May 17 Greensfelder County Park Leaders: Art Christ and Edgar Denison

Greensfelder County Park is a large area which is connected with Rockwood Reservation, the latter being administered by the Conservation Department. Hiking on many miles of trails leads through gorges, over glades and extensive woods. Access from I-44 by driving north along the west side of "Six Flags" at the Allenton Exit. Meet at the Museum and Reception Center at 10 a.m.

Saturday, May 17 Cuivre River State Park Leader: Naturalist Bruce Schuette, DNR

A wildflower walk through the Pickerelweed Pond Natural Area and Northwoods Wild Area. See the delicate False Mermaid and rare Ophioglossum vulgatum var. pycnostichum. Meet Bruce at the park office at 11:00 a.m.

Sunday, May 18 Cuivre River State Park Leader: Naturalist Bruce Schuette, DNR

After the wildflower walk Saturday, stay overnight in Cuivre River State Park and visit Wolf Hollow or Logan Wildlife Area.

Saturday, May 24 Taberville Prairie Leaders: Ginny Klomps and Tom Toney, MDC

Taberville Prairie is a state natural area and a National Landmark. Its 1,680 acres include sandstone outcrops, prairie mounds, a spring-fed stream and a resident flock of Prairie Chickens. Some 376 plant species have been recorded from the area.

The group will meet at the Taberville Prairie parking lot on Highway H (see map) at 10:30 a.m. and take a three-mile trail loop through the prairie. Be sure to bring your lunch and some sturdy walking shoes. Binoculars and cameras may also come in handy.

Those of you close by in the Springfield and Kansas City areas be sure to bring all your friends. For those coming from farther out of town, accommodations are available in Eldorado Springs, located about 15 miles south of the prairie. (You can bring your friends too!)

The Prairie Chickens should still be booming and for the early risers interested in watching this fascinating display, meet at the Taberville Prairie parking lot on Highway H at daybreak Saturday morning.

Saturday, May 31 St. Francois State Park Leaders: Art Christ and Edgar Denison

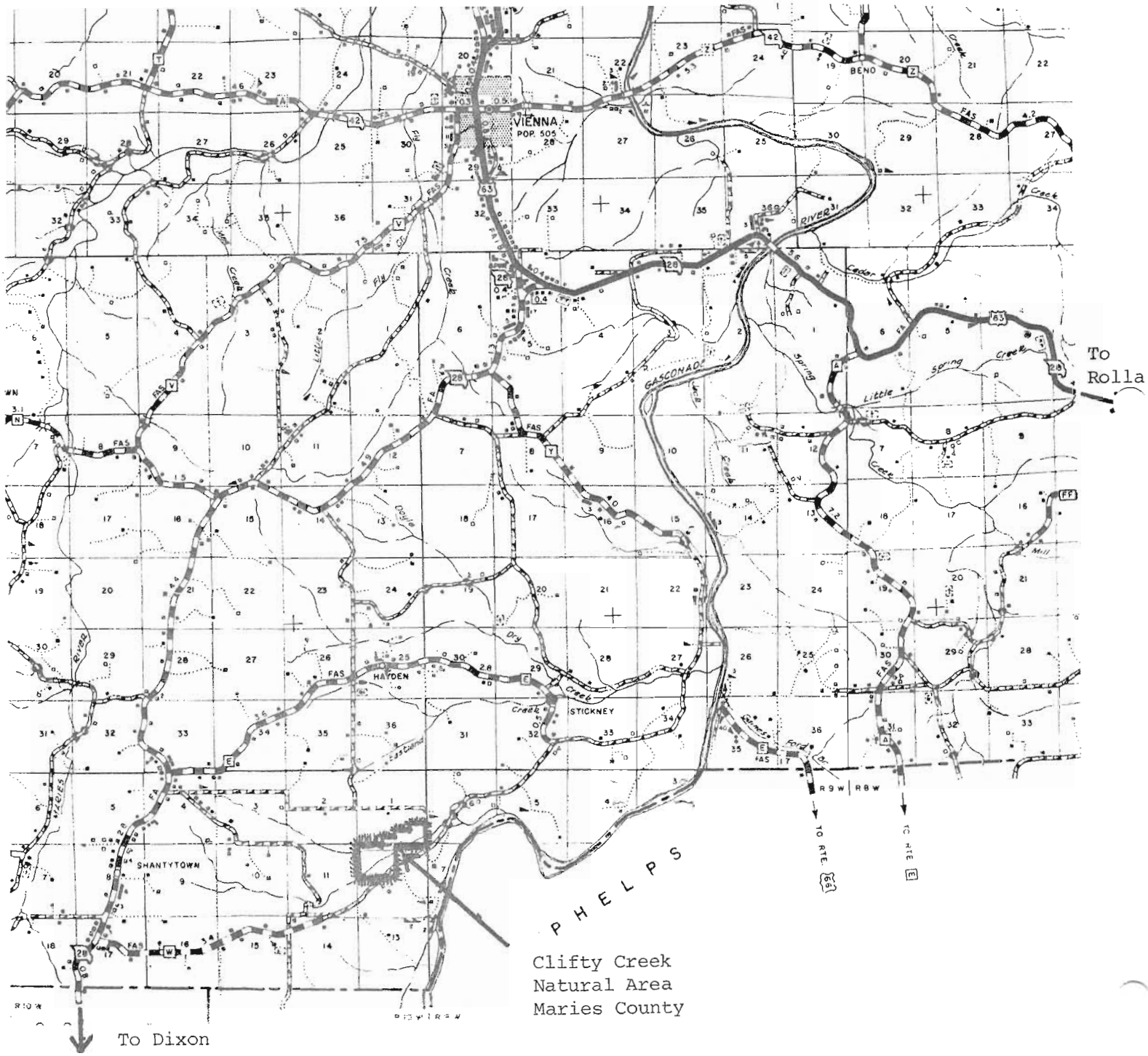
St. Francois State Park on Highway 67, about a 1 hour and 30 minute drive south of the intersection of Lindbergh and I-55. Watch for very red earth embankments on the right. When you see them, you are there. A park of extensive acreage east of 67, with many creeks, glades, and woods. It is a botanical treasure-land with many rare species. Trails have made the "hinterland" more accessible. Meet at the picnic area at the bottom of the hill at 10 a.m.

Saturday, June 7 Clifty Creek Natural Area Leader: Rick Thom, MDC

Meet at the area at 10:30 a.m. Clifty Creek can be reached by taking Highway W from Route 28 north of Dixon. Turn east on W and proceed about 5 miles. (The paved highway will turn into a gravel road.) Look for Natural Area signs and parked cars to indicate when you have reached Clifty Creek.

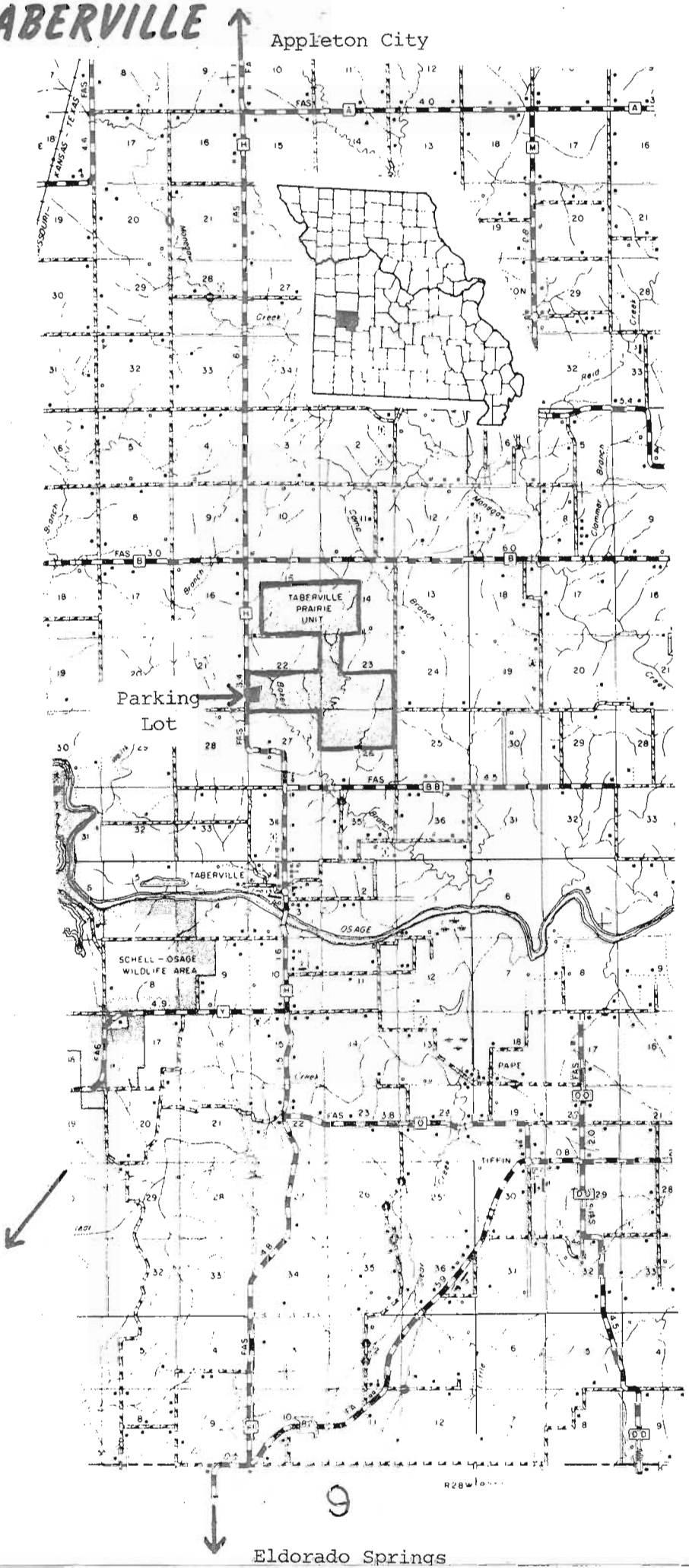
HOW TO GET TO CLIFTY CREEK

Clifty Creek is a delightful area which includes a scenic Ozark stream, a natural bridge, oak-hickory forest, limestone cliffs, and glades. Wear sturdy clothes and bring a sack lunch and drinking water. You may want to bring gym shoes so you can wade the creek. There are no bridges or developed trails. (If we have a wet spring, you can expect to get your feet wet.) We will probably walk several miles and conclude the trip by mid-afternoon. Clifty Creek should offer good botanizing and birding. For further details, contact Rick Thom, Missouri Department of Conservation, Natural History Section, P. O. Box 180, Jefferson City, MO 65102 or phone 314-751-4115.



Clifty Creek
Natural Area
Maries County

...AND TABERVILLE



Saturday and Sunday, June 7-8 Chert Glades and several Prairies Leader: Jon Hawker

Join a group of natural history enthusiasts on Saturday to tour the especially unique chert glades of the Joplin area of southwestern Missouri. Barbara's Buttons, Nuttall's Sedum and much more will be in bloom. On Sunday, the group will tour the new Prairie Park recently established by the Department of Natural Resources and the Nature Conservancy's Tzi-Sho/Hunkah Prairie in Barton County. The group will travel by bus from the Missouri Botanical Garden in St. Louis which is arranging the trip. For further details, contact the Education Department, Missouri Botanical Garden (314-772-7600) or write MBG, P. O. Box 299, St. Louis, MO 63110.

Friday, Saturday and Sunday, June 20-22 Lower Rock Creek area
Leaders: Paul Nelson and Greg Iffrig

Are you ready for this three-day trek through the wilds of Missouri? In the spirit of one of Missouri's early naturalists, Henry Rowe Schoolcraft, visit one of Missouri's finest wilderness and wildflower areas in grand tradition.

For further information contact Paul or Greg at: Division of Parks and Recreation, P. O. Box 176, Jefferson City, MO 65101

DON' T FORGET OUR SUMMER EXTRAVAGANZA!!!

A NEW SEDGE FOR MISSOURI

Art Christ
St. Louis, Missouri

Add another Carex to the 108 that Julian Steyermark has described in Flora of Missouri. I found Carex bromoides on June 14, 1979 in a swampy meadow at Wash Creek in Bollinger County. Wash Creek is 1-1/2 miles east of Marquand in the west part of section 26, T32N, R8E.

Carex bromoides is very slender and lax with culms from three to eight decimeters long and mostly exceeding the soft flat leaves that are one to two millimeters wide. The spikes are usually three to six, and are narrowly oblong and up to two centimeters long. The perigynia are lanceolate, plano-conves, and are from four to five and a half millimeters long and one to one and a third millimeters broad, and they are sharply nerved on both faces, tapering at their bases with the rough-margined beaks half to two-thirds as long as the bodies. The achines are oval to oblong, and occupy the upper parts of the perigynia-bodies. The pistillate scales are ovate-oblong, about equaling the perigynia-bodies, and are pale brown with hyaline margins, and are acute or short-cuspidate.

This species occurs from Quebec and Nova Scotia to Ontario and Wisconsin, south to Florida, Louisiana, and Mexico.

Carex bromoides was found in the same area as the rare Juncus canadensis var. canadensis, Chelone glabra, Phlox glaberrima and Solidago riddellii.

A herbarium specimen was given to the Missouri Botanical Garden, which has only about two dozen specimens of this species with about half of them having been collected before 1900 ... but none in Missouri.

GRAB YOUR BASKETS!

The morels will soon be upon us. The two most common species around here in early spring are Morchella esculenta, the Yellow Morel (Fig. 1) and Morchella semilibera, the Cow's Head Morel. The Yellow Morel actually varies from yellow through tan and into shades of gray. The Cow's Head has a dark brown cap and a whitish stalk. Like all true morels, both have a hollow stalk continuous with the cap (Fig. 3) and are highly prized for cooking.

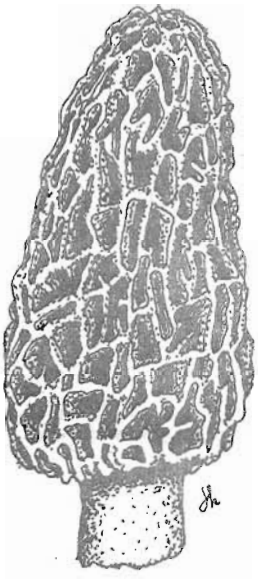


Fig. 1

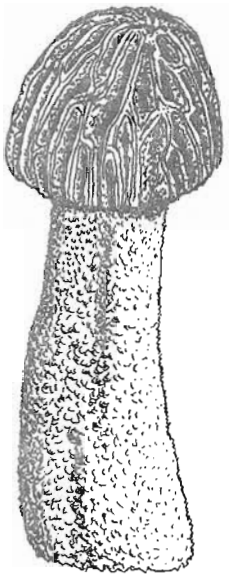


Fig. 2

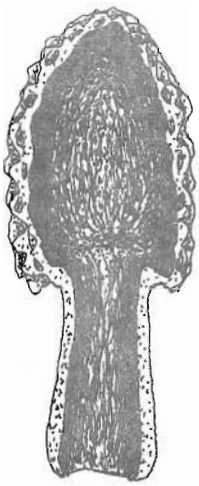


Fig. 3

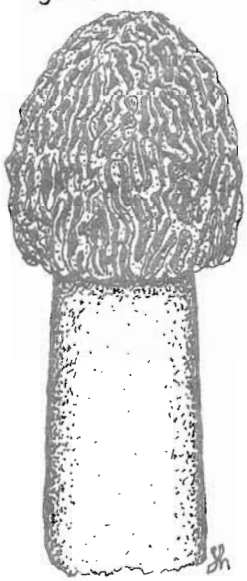


Fig. 4

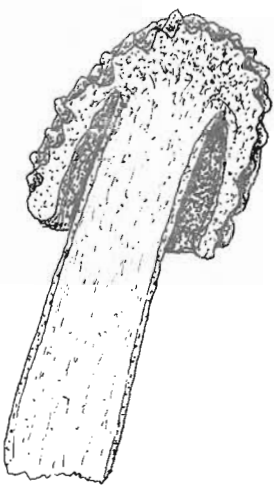


Fig. 5

False morels are solid, with the cap enveloping the stalk (Fig. 5) but may be mistaken for true morels without closer examination. Verpa bohemica, the Early Morel (Fig. 4) with a brown cap and light stalk, can cause illness if eaten in large quantities. Gyromitra brunnea, the Brown Gyromitra (Fig. 6) has caused the death of unsuspecting mushroom hunters. Gyromitra is chestnut with a light stalk.

TOWARDS MORE PICTURESQUE SPEECH

Gordon T. Maupin
Missouri Department of Conservation
Jefferson City, Missouri

Once in a while you run into a single term which sums up a situation absolutely perfectly. Usually it's a single phrase or word which brings everything together. The best of these terms will expand insight, and generally fire off those cerebral lightbulbs so often depicted in cartoons.

The summer before last, on a visit to Crabtree Nature Center in the Chicago area, I encountered just such a term. It was so appropriate for a botanist that I immediately incorporated it into my vocabularly and found myself inventing excuses to use it as often as possible.

Before revealing the exact term, let me put things into perspective. The Department of Conservation will be building some community nature centers over the next several years. In conjunction with those planning efforts, I was leading a group of conservation folks on a tour of several midwestern centers to view building architecture, trail design, exhibits, grounds management and the like. As Naturalist Coordinator, I was trying to take it all in while various specialists were focusing on specific details.

At Crabtree, I was most impressed with the quality of the landscape, so I asked one of the center's naturalists to give me a tour of the grounds and explain their various management activities. At one point along the way, we walked a forest trail while the naturalist explained the forestry practices they had used to improve the interpretive experience along the trail. Another stop was a re-established prairie where we discussed burning, mowing and planting techniques. Next, we looked at a marsh and the naturalist detailed his efforts to establish various showy aquatic plants. Following that, I was taken to a viewing tower overlooking annual food plots designed to attract song birds for observation.

The viewing tower more or less concluded the tour. Along our walk back to the center, we entered what Steyermark would have called a fallow field, weed field, disturbed area or just plain waste ground. It was populated with dozens of familiar plants such as Buckhorn, Wild Carrot, Velvet Leaf, Yarrow, Red Clover, Yellow and White Sweet Clovers, Smooth Brome, Bluegrass and Yellow Foxtail.

As we passed through the area, the naturalist began pointing out these common weeds with obvious enthusiasm and more than a little pride. Slightly taken aback and not knowing exactly how to react, I asked him what sort of management they were performing on "this ... uh ... er ... field?"

He swept his hand across the scene and proudly said: "This, my friend, is our 'Eurasian meadow'".

WHY WASTE THE WEEDS?

Bill Brush
St. Louis, Missouri

Several years ago, I planted a garden of the usual vareity. By this, I mean lettuce, radishes, cucumbers, tomatoes, nothing special or out of the ordinary. As every good gardener cares for his garden, I was no exception, as I did the watering and harvesting, but I did no weeding. No weeding, at least not in the usual sense. What I did weed, however, I used not for mulch, trash or other uses, but for food. Yes, I ate the weeds, many of which contain more vitamins and minerals than their cultivated counterparts.

One of the most delightful and tasty is Purslane (Portulaca oleracea). This native of the far East is a member of the same family as our familiar Moss Rose. It starts to show itself about the first of June and continues to grow until frost kills it off. Many greenhouses have this plant growing just about everywhere, at all seasons of the year. The plant itself looks like a prostrate Jade Plant with leaves that range in size from several millimeters to a full centimeter or more in length. One of its favorite sites is the cracks of sidewalks, although it does much better in loose, sandy soil where it reaches maximum size. This plant tastes like a mild string bean, and is used raw, cooked, pickled or marinated. It is certainly one plant you must find and use next summer.

Portulaca Oleracea

Lambsquarters, (Chenopodium album) also known as Goosefoot because of the shape of the leaves, is another of those common weeds that seems to grow anywhere. By anywhere, I mean everywhere: vacant lots, fencerows, along highways, byways, gardens and in greenhouses. It will grow anywhere it can sink its roots. I saw it growing in the high elevations of New Mexico, after the beginning of the rainy season in mid-July. The leaves are a little tough to chew raw, but cooked, they are quite tender. Just a few minutes in boiling water is all it takes for them to transform themselves from a medium green to the dark green color that we expect in spinach. By the way, it is related to our garden variety spinach, so closely that it even tastes like it when cooked, and people who are allergic to spinach (yes, there are such people) have the same problems with Lambsquarters. But for those who are not allergic to it, this plant can, quite literally, be eaten more than once! The reason: it can easily be stripped of its leaves and allowed to grow a new, fresh and tender set in a week or so, depending on the weather and water situation. This new set may also be stripped from the plant and used. I have stripped the same plant at least a half-dozen times and it still produced seed at the end of the year. Speaking of seed, it can be harvested and then separated from its chaff and used on top of homemade and home-baked breads like poppy seed.

Dock, (Rumex species) of which there are many types, is sometimes a bit tough to chew and a little bitter, but with care, you can get this perennial to produce many tender leaves throughout the growing season. Pick the leaves on a regular basis and it will continue to sprout new ones which will be light to medium green in color and tender, with little or no bitterness, when boiled for about five minutes and served with some sort of salad dressing, or with butter, salt and pepper. Docks are readily separated from plants that resemble them by their yellow roots and a mucilaginous fluid that seems to form in the center of the plant. This washes off easily, if you consider it offensive.

The vining milkweed (Cynanchum laeve) is also one of the delights of many people. Found growing on anything that will support it, including your evergreens, it is one of the best of the edible plants. Take the pods before they are larger than 3 centimeters in length and break them at the seam. Remove the seeds and the parchment-like covering of the seeds which is on the inside of the pod, and it is ready for eating. It has a mild green-pepper taste, but it does not bark back at you later on as peppers sometimes do. The only way that I do not like this plant is cooked. Added to a salad, eaten by itself, marinated, or served with a dressing, it is sure to please.

During World War II, our victory gardens most probably could have had double yields by eating the weeds that grew along with the cultivated garden plants. Try them; you will like them.

AUTUMNAL VEGETATION OF GRAND TOWER ISLAND

Robert H. Mohlenbrock
Perry County, Missouri

In the autumn, 1979, issue of Missouriensis, (Volume 1, number 2), I described the results of a field study conducted during the spring in an area known as Grand Tower Island. Although the area lies about one mile south of Grand Tower, Illinois, and on the east side of the Mississippi River, it is a part of Perry County, Missouri.

The area is surrounded on three sides by Grand Tower Chute, a horseshoe-shaped body of water occupying the old Mississippi River channel. When the Mississippi River assumed its present channel, Grand Tower Island was cut off from the Missouri mainland.

When I visited the area during the spring, I found a forest whose flora was unlike any I had ever encountered in southern Missouri or southern Illinois. Among the unusual species reported were Garlic Mustard (Allaria officinalis), Round-leaved Stinging Nettle (Urtica chamaedryoides), Small Waterleaf (Phacelia ranunculacea), and Smooth Rock Cress (Arabis glabra).

Since the spring flora was unique, I was eager to see what was present during late summer and autumn. The wooded tract where the unusual spring species occurred was relatively sparse in herbaceous vegetation. The most abundant herbs were Clearweed (Pilea pumila), Honewort (Cryptotaenia canadensis), Black Snakeroot (Sanicula canadensis), Sorrel (Oxalis stricta), White Snakeroot (Eupatorium serotinum), Three-seeded Mercury (Acalypha virginica), Touch-me-not (Impatiens biflora), and Smartweed (Polygonum virginianum). Common grasses were Wood Reed (Cinna arundinacea) and Wild Rye (Elymus virginicus). Sedges included Carex grayii and C. muskingumensis. Urtica chamaedryoides was the most dominant species and was still in flower on October 13. The leaves of Alliaria officinalis were still observable on October 13. A new find was the handsome silvery-flowered Iresine rhizomatosa of the Amaranthaceae. This usually rather uncommon species occurred in a nearly pure stand covering about thirty square feet.

The transition area between this forest and the adjacent cultivated land included an abundance of Stinging Nettle (Urtica procera), Bur Cucumber (Sicyos angulata), Peppervine (Ampelopsis arborea), and Beefsteak Plant (Perilla frutescens).

Although the main woods on Grand Tower Island shows some peripheral disturbance, it would seem to me to be a candidate for Natural Areas status because of its unusual habitat. I propose the name of "Nettle Woods" for this area because of the abundance of Urtica chamaedryoides, U. procera, Pilea pumila, Boehmeria cylindrica, and Laportea canadensis.

REINDEER MOSS IN MISSOURI GLADES

L. J. Gier
Carthage, Missouri

You ask, "How come Reindeer Moss in Missouri glades?" Maybe some of you have never seen a glade although they are fairly common in south and southwest Missouri. You have read about them in Missouriensis and in Missouri Conservationist. One of the largest areas of glades is probably that south of Ava in Douglas and Ozark counties. Smaller ones are found across the state from MacDonald and Newton counties east and northeast to Lake of the Ozarks region and to Perry county in the east. Rocky glades are found everywhere in the Ozarks where we find outcroppings of chert or of limestone in wooded areas. A glade may be recognized by a dominance of prairie and of desert plants (see pp. 9-10 in Missouriensis, vol. 1, no. 2). One of the dominants of the glade is usually not recognized because it is a lichen, a small plant that is unknown to many of those who may visit a glade. Reindeer Moss is one of these lichens and not a moss.

Most of the glade lichens are probably Reindeer Moss (Cladonia spp.), the largest of them branched spikes less than 20 mm in diameter. The majority of the glade Cladonia are small, crusty flakes, each about 1-2 mm in diameter, growing in clumps or clusters on stones or rotten wood or even on soil. All of them are more or less grey-green color, although the caps of the fruiting bodies may be a rich brown or a bright red (the "red caps" or "British Soldiers"). Characteristics of some of the common ones are shown in Fig. 1.

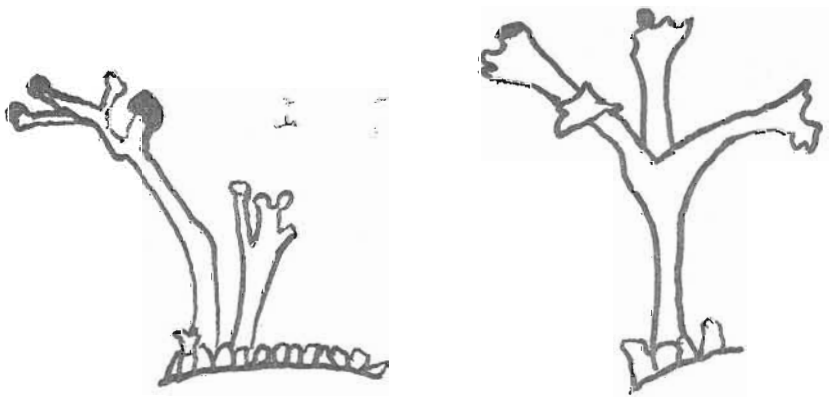


Fig. 1. Reindeer Moss: Cladonia spp.,fruiting

Lichens are a peculiarity in the plant kingdom as they are a combination of an alga and a fungus living together to form an organism that is spoken of as a mutualistic symbiotic relationship where each benefits from the union. The alga has chlorophyll and can manufacture food when light and water are available. The fungus is a cobwebby mass of mold that must get its food from some other organism. The mass is capable of holding a quantity of water. From this union, the fungus is able to get food from the algae. The algae, in turn, can manufacture food for a longer time after a rain by using the water held by the fungal part of the union.

About 300 species of lichens are recognized for Missouri according to the literature (Gier & Kendrick, 1972). Only a few of these belong to the Reindeer Moss genus, Cladonia.

The lichens which you see, and trample, in the glades are small and cover only a part of the soil or rocks in the Ozark glades, but in some places they may form solid mats, as in the tundras. There, they may furnish a large share of the food, especially in winter, for caribou and other herbivores of the tundra areas. This, of course, accounts for the common name, but the plants, being fragile and brittle when dry, are subject to much destruction from trampling by the larger animals and from "grazing activities" (pawing, feeding, and trampling) by caribou and others. Moser et al, (1979) report great lichen mat reduction along the north slopes of some of the foothills in northern Alaska where as many as 5,000 caribou overwintered prior to 1968. The same damage occurs on our glades from cattle and from human beings who visit the glades.

The next time you are in any of the Ozarks region and come to a more or less open area in the woods, with stone outcrops, take time to look for these small creatures of nature and admire their beauty.

REFERENCES CITED

Gier, L.J. and John Kenrick, 1979. Missouri lichens. Kansas Academy of Science Transactions 75(3):207-217.

Moser, Thomas T., Thomas H. Nash, and John W. Thomson, 1979. Lichens of Anaktuvuk Pass, Alaska with emphasis on the impact of grazing. The Bryologist 82(3):393-408.

CONTRIBUTIONS TO BOTANY IN MICHIGAN

We have copied the following gratefully and in full from The Michigan Botanist, Vol. 18, No. 2, 3/79.

CONTRIBUTIONS TO BOTANY BY MEMBERS OF THE MICHIGAN BOTANICAL CLUB

William S. Benninghoff
Department of Botany and Matthei Botanical Garden
University of Michigan, Ann Arbor
John H. Beaman
Department of Botany, Michigan State University
East Lansing

Speaking for a group of members, including several of us on the State Board, we urge that Club members apply themselves to efforts that will advance knowledge, as well as appreciation, of the plant life of Michigan. Increase in knowledge of our floral and vegetation cannot be left to the small number of research botanists who make their living at it; progress will be much too slow. Appreciation of wild plants and their habitats fortunately is not left just to the professional teachers. The Club has already made valuable contributions in this direction. Let us put

ourselves to the job of improving the amount and quality of information accumulating on our State flora, for cryptogams as well as phanerogams. Members of the National Audubon Society through local chapters in little more than 50 years brought knowledge of bird distributions in the United States to a level rivaling comparable information in Western Europe. Let us work in a similar direction with our State flora.

What can non-professional botanists do that will constitute valuable contributions to knowledge of our flora? Here are some suggestions:

Make a detailed species list for each parcel of stable (persistent, little-changing) vegetation you can visit regularly around the year. When you cannot extend your list further, or need assistance with identifications, invite other Club members to your study area. If there is any uncertainty about identification, make an herbarium specimen which can be shown to other members for precise identification (but be sure not to collect the only specimen of a species in the study ares). Club officers will tell you where to submit your completed list for the Club archives, and also what information is needed about location, geographic setting, soils, etc.

Make collections of seeds of native plants (and spores of ferns and mosses) for establishment of species in institutional gardens for instructional and research purposes. The Matthaei Botanical Gardens of the University of Michigan also needs clean and pest-free seeds of native plants for the Index Seminum list. Each collection of seeds should be made at a single locality (within the same plant community) and as far as possible from a single uniform population of that species.

Make observations of insect visitors and pollinators of native flowering plants. There is very little accurate (and well-documented) information on this subject. Study would probably be restricted to one species at a time, using a fairly large uniform population (as a species of Hawkweed in an old field) and extending through the entire flowering period. Many of the insects must be collected and prepared in a proper manner and identified by a qualified entomologist if they cannot be accurately identified on sight.

Make observations on the flowering and fruiting of native plants, especially the fruit production of mast-fruiting perennials such as the oaks. The object is to develop well-documented observations of one or several mature and likely-to-persist populations. There is some indication that heavy production of pollen augurs a heavy fruiting; this would be worth testing on appropriate species. The kinds and frequencies of pests (e.g. weevils) and diseases on the fruits and seeds in successive years would be helpful.

Prepare complete phenologic records of individual species with a fairly large population, possibly on an environmental gradient (moisture or shade, for example). Another approach is to make regular observations on the dozen or so most common species in a given plant community. The longer the period of years of observation, the more valuable the record. Such records will probably prove to be valuable indicators of climatic trends, just as the 1000-year record of the flowering of ornamental cherry trees in Japan.

Collect, verify, and record historical accounts of vegetation of specific areas in the past or of changes in vegetation over a given period. Sources may be surveyors' records, land titles, and other land documents, or even oral history by old persons. Of particular concern in Michigan are descriptions of vegetation found by the first or early European settlers in the State, original forests which were clear-cut for timber and fuel wood, and succession after cutting, fires, floods, and other catastrophes.

HELP WANTED

John Wylie
Missouri Department of Conservation
Jefferson City, Missouri

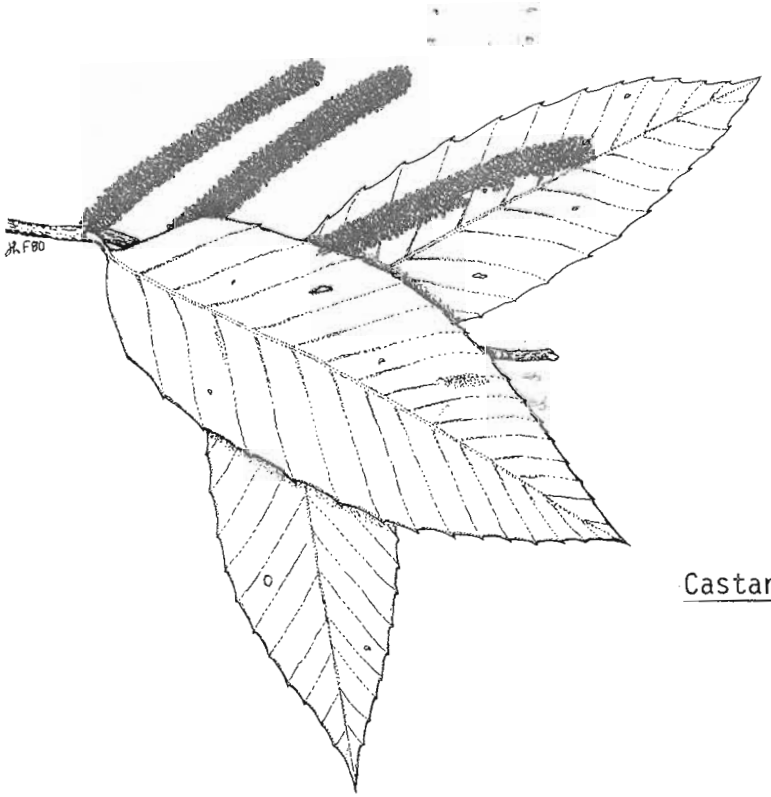
We need your help! We've recently contracted with the U.S. Fish and Wildlife Service to do status reports on 30 Missouri species of plants that are proposed for federal listing as threatened or endangered. We need some help to give each species the attention it deserves.

Following is a list of species we are investigating, and a reporting form. We would appreciate any information you can supply on these species or any you can gather (information) next summer. We have ten months to complete the project, but we would appreciate information as soon as you can send it. We need location, habitat, associates, abundance and any other information you might have. For location, a legal description would be best, but other directions will suffice. Number of plants should be an approximate figure if you have it, or relative abundance (i.e., few, many, etc.). Other information you might include, if available, are the vigor of the plants, seed dispersal, presence of young plants, and time of flowering and presence of mature fruit.

We also need photographs and line drawings of each species. If you have good photographs of any listed, please let us know. We will arrange to make duplicates for our files (with the photographer credited, of course).

We will be doing some field checking this spring and summer, and may find ourselves in need of some volunteer assistance. If you are interested and wish to be contacted should we need help, drop us a line.

Thanks for taking the effort to share your information.



Castanea Ozarkensis

SPECIES LIST
FOR
STATUS REPORT PREPARATION

ENDANGERED

Family	No.	Species
Asclepiadaceae	1	Asclepias meadii
Brassicaceae	2	Draba aprica
Brassicaceae	3	Lesquerella filiformis
Caryophyllaceae	4	Geocarpon minimum
Fagaceae	5	Castanea ozarkensis
Orchidaceae	6	Isotria medeoloides
Plataginaceae	7	Plantago cordata
Poaceae	8	Calamagrostis insperata
Saxifragaceae	9	Heuchera missouriensis

THREATENED

Asteraceae	10	Boltonia asteroides var. decurrens
Cyperaceae	11	Carex socialis
Ericaceae	12	Vaccinium vacillans var. missouriense
Fabaceae	13	Amorpha brachycarpa
Fabaceae	14	Cladrastis lutea
Lauraceae	15	Lindera melissifolium
Liliaceae	16	Trillium pusillum var. ozarkanum
Liliaceae	17	Veratrum woodii
Malvaceae	18	Callirhoe papaver var. bushii
Orchidaceae	19	Cypripedium candidum
Orchidaceae	20	Platanthera flava var. flava
Orchidaceae	21	Platanthera leucophaea
Orchidaceae	22	Platanthera peramoena
Poaceae	23	Muhlenbergia curtisetosa
Poaceae	24	Sporobolus neglectus var. ozarnanus
Rosaceae	25	Neviusia alabamensis
Rosaceae	26	Rubus missouricus
Saxifragaceae	27	Saxifraga forbesii
Saxifragaceae	28	Sullivantia renifolia
Scrophulariaceae	29	Chelone obliqua var. speciosa
Scrophulariaceae	30	Penstemon cobea var. purpureus

Penstemon Cobea var. purpureus

Reported By _____ Telephone #_____

SPECIES	LOCATION	HABITAT	POP. SIZE	DATE	OTH
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
7.					
8.					
9.					

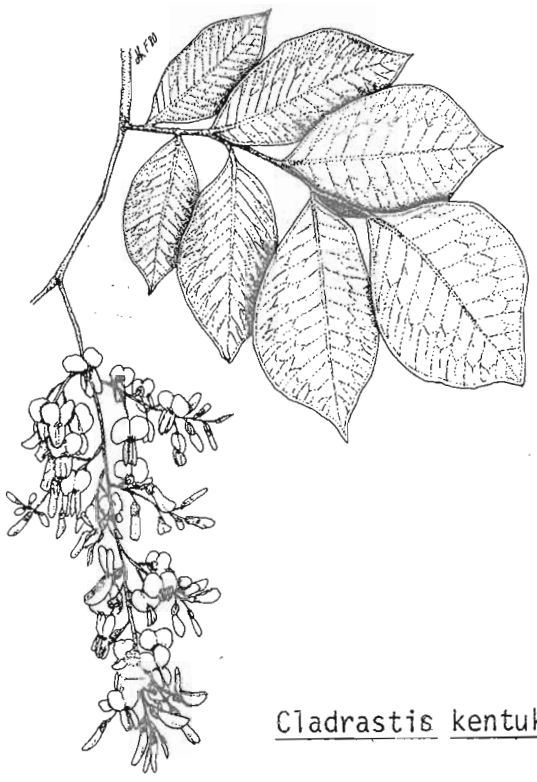
HELP OFFERED

John Wylie
Missouri Department of Conservation
Jefferson City, Missouri

A revised version of Checklist of United States Trees (Native and Naturalized) by Elbert L. Little, Jr. has been published by the U.S. Forest Service, U.S. Department of Agriculture as an Agriculture Handbook No. 541. It is available for sale from the Superintendent of Documents. No price is stated.

This authoritative book is the "Bible" in the United States on tree names. Species are listed by scientific name in alphabetical order. For each species, the currently accepted scientific and common names are listed. All previous scientific names are also listed and annotated. Derivation is given. Other common names are listed. Brief description of the range of the species is included. Principle references are listed when relevant. For the genera, the number of species within each genus is tallied from native and naturalized trees and the total number of species throughout the world is also given.

Missouriensis' readers may be interested to know that a tree is now defined as a woody plant having one erect perennial stem at least 7.5 centimeters in diameter at breast height, a definitely formed crown and a height of at least 4 meters.



Cladrastis kentukea

Appendices include a condensed checklist alphabetically arranged by scientific names and another checklist similarly arranged by common names. There are also lists of new scientific names and authors of accepted scientific names. Another list covers the commercial names for lumber. There is a section on the guiding principles for common names of United States trees, a botanical index of plant names and genera with an alphabetical list, and a summary of changed specific names.

An item of special interest to Missourians is that the name Cladrastis lutea, Yellowwood, has been changed to Cladrastis kentukea (Dum.-Cours.) Rudd. Anyone who has ever been confused (and most people have) by the genus Crataegus will be delighted to know that Little has now accepted only 35 species when formerly 153 species were listed. I won't attempt to explain why, since it takes Little four pages of text to explain this reduction in this confused and confusing genus. In the genus Quercus, all interspecific hybrids are listed, and there are a bunch of them.

WE'RE ALL INVITED!

The following announcement has been sent from Columbia, with good news of the establishment of a new floral area, planted in the spirit of Walking Buffalo and to be dedicated on Friday, April 18, at 3:30 in the afternoon. Chancellor Barbara S. Uehling will take part in the ceremonies, which all members of MONPS are invited to attend (although we suspect we'll all be too busy with field trips, making surveys as suggested by the Michiganders, helping John Wylie, or working on a logo).

> "The Great Spirit has provided you and me with an opportunity for study in nature's university, the forests, the rivers, the mountains and the animals which include us." Walking Buffalo.

The Woodland and Floral Gardens is a small but uncommon collection of native and exotic plants presently being established on the Columbia campus of the University of Missouri. Designed to reflect the character, diversity, and inherent beauty of selected natural landscapes of Missouri and the eastern woodlands, the new garden will provide a model of quality in landscape design for the benefit of students and other interested visitors.

The concept of the Woodland and Floral Gardens was conceived by U.M.C. horticulture students as a project for a planting design class. Their proposal outlined a plan for a landscaped garden to be located on the east side of the Agriculture building in a sheltered, courtyard-like space. Previously, this site had been utilized by faculty and students as an outdoor learning laboratory, centered around a colorful display of annual and perennial garden flowers. Under the auspices of James E. Smith, Jr., now retired Professor of Floriculture, the floral beds and surrounding ornamental plantings flourished. Between 1973 and 1975, numerous visitors were drawn to the popular and cheerful space.

Unfortunately, the garden's early promise proved to be short lived. In the spring of 1976, heavy rains combined forces with a drastically lowered grade and an artificially high water table to effectively seal the fate of the garden. Extensive water damage to the foundation of the Agriculture building necessitated disrupting a major portion of the garden for repair work. In the face of a lean financial budget, the area continued to decline until the fall of 1977 when three students began planning to restore the once verdant site.

Kevin Gerard, then a senior horticulture student, presented the group's ideas to the University's Capital Improvements Committee in November of 1977. Approval and subsequent funding by the committee followed in February of 1978. The Woodland and Floral Gardens was to become a reality.

Since its inception, the plan has undergone only one substantial revision in its overall design. Originally, the diverse groups of plant materials were set apart in a fairly structured manner. Missing was the flow of related plant species within a setting of more naturalized topography. If the garden was to have a central, cohesive theme, a better understanding of plant associations within diverse habitats was necessary. Revisions done in the Fall of 1978 by horticulture seniors Bill Ruppert and Kevin Karel established the naturalistic continuity of the present design.

Starting at the northwest corner in an area planned for a lush, ericaceous understory, one will progress through a perennial garden, a native Missouri woodland and an intriguing wetland ecosystem before emerging into the open glow of a colorful floral display on the edge of a glade-like rock garden.

Aesthetically, the Woodland and Floral Gardens will offer tremendous emotional and sensory stimulation by combining unique aspects of our native Missouri landscape with selected ornamental specimen plantings. Representative plant material for each of the Garden's areas include:

Halesia carolina, Tsuga canadensis, Franklinia alatamaha, Kalmia latifolia, Leucothoe fontanesiana, Rhododendron species, Comptonia peregrina and Cornus canadensis. (ERICACEOUS)

Cladrastis lutea, Nyssa sylvatica, Acer rubrum, Betula nigra, Carpinus caroliniana, Cornus florida, Rhamnus lanceolata, Ilex decidua, Hamamelis virginiana and Dirca palustris. (WOODLAND AND SWALE)

Achillea millefolium, Echinacea purpurea, Nemophylla menziesii, Digitalis purpurea, Catharanthus roseus, Salvia splendens, Dianthus deltoides, Linnaria maroccana and Hemerocallis flava. (FLORAL DISPLAY)

Cratagegus nitida, Juniperus ashei, Cotinus obovatus, Castanea ozarkensis, Berberis canadensis, Bumelia lanuginosa, Rudbeckia hirta and Liatris aspera. (ROCK GARDEN - GLADE ASSOCIATION)

The Gardens' design will encourage numerous functions and activities. Potential uses could include an outdoor laboratory for the study of plants, both native and exotic; a living model for the study of natural ecosystems and their interrelationships; an outdoor studio for drawing, photographing and observing plants and wildlife; and an area of natural beauty and harmony within which students, faculty and the general community can experience solitude and rest.

Presently, the gardens are approximately three-fourths complete with additional installation of woody and herbaceous plant material remaining to be done this fall and next spring. Already accomplished is the establishment of a basic skeletal structure including soil contouring, path construction, boulder and rock work, and placement of major tree and shrub plantings.

Those of us working on the project welcome the help and support of anyone interested in facilitating the creation of a landscape which, we feel, will ultimately prove to be an enriching and valuable asset not only to the Columbia community, but for all of Missouri as well.

Many of the native plants we would like to establish in the Garden are rare in the wild and frequently very difficult to locate through commercial sources. Contributions by individuals or organizations of specimen plants or seeds are encouraged.*

If you would be able to help or would like more information about the Woodland and Floral Gardens, please contact:

Bill Ruppert
Woodland and Floral Gardens
Department of Horticulture
I-43 Agriculture Building
University of Missouri
Columbia, Missouri 65211

(314) 882-2745

*Editor's note: See statement of MONPS policy, page

HE HAD THE COMBINATION

One hundred and sixty-one years to the month before the Department of Conservation furnished us with the gratefully received Key to Missouri Trees in Winter, Henry R. Schoolcraft made a "tour into the interior of Missouri and Arkansaw", and reported in his Journal (published in London, 1821) the trees that he saw growing in the area of the North Fork of the White River. He described in some detail our Sycamore, "rearing its lofty branches into the air, and distinguished from other forest trees by its white bark and enormous size ... the margin-tree of the most recent, moist, black, river alluvion".

And without benefit of keys, he "set down as composing the forests of the White River generally, ... the following: -"(we eliminate the binomials he included, as a number of them have been changed).

"Cotton-wood, white elm, red elm, buckeye, black walnut, white walnut, white ash, swamp ash, wite oak, red oak, sugar maple, mulberry, dogwood, sassafras, persimmon."

"To these the valleys will add spice-wood (did he mean bush?), papaw, wild cherry ..... and the bluffs and high-land, white (?) and yellow pine, mountain-ash (?), post-oak, and cedar .... and the crab-apple, red plumb (sic) and black haw, upon the plains. Many others might be added, but these are the most conspicuous on passing through a White River forest." Despite our question marks, we wonder how many of us could have done as well, in the month of January, and without benefit of a Key?

LOOKING FOR A LOGO

Can you symbolize what MONPS stands for? How we want to present ourselves to our correspondents? How we want to look when we ask for support? If you can come up with what YOU think about us, neatly packaged into an attractive graphic, send it in. THIS IS A CONTEST! The winner will get thanks, publicity (if wanted) and a year's free membership ... all for one simple logogram (see dictionary).

GATHERINGS OF INTEREST

The Missouri Department of Conservation will host the Second Annual Ginseng Conference in Jefferson City, May 19-20, 1980. A wide array of papers and topics involving growing, management, research and economics of Ginseng will be presented. Those interested in attending should contact the department, Box 180, Jefferson City, 65102; tel. 314-751-4115.

The department will be sponsoring a seminar from 8 to 4 on Monday, March 24, on Wild Animal Problems in the Urban Area to acquaint the public with management techniques for handling problem moles, gophers, squirrels, raccoons, skunks, bats, bees, wasps, hornets, birds and snakes. The seminar will be in the Community Meeting Room, Greensfelder Recreation Complex, Queeny County Park, 550 Weidmann Road, just north of Manchester Road in Manchester. There is no charge.

The Seventh Annual North American Prairie Conference will be held August 4-6, 1980, at Southwest Missouri State University in Springfield. Additional hosts include the Missouri Prairie Foundation, the Missouri Department of Conservation, the Missouri Department of Natural Resources, the Society for Range Management, the Missouri Botanical Garden and The Nature Conservancy. For further information please write:

Seventh Annual North American Prairie Conference
Department of Life Services
Southwest Missouri State University
Springfield, Missouri 65802

CATECHISM COLUMN

MORE ALLIARIA IN OUR AREA

Alice Nightingale
School of the Ozarks
Point Lookout, Missouri

In answer to the question of Mary Wiese in the Winter Missouriensis about the presence of Alliaria officinalis Andrz. in unreported areas, I would like to submit the following:

> On 4/6/76, Staria Scott, a student assistant, collected the Garlic Mustard on our school property. It was in bloom with young fruits forming and fit in every way the description in Gray's Manual (8th edition). The crushed stems smelled like garlic. It was growing at the edge of the open woods on a dirt road running along the school bluff past the president's home at a point where that road joins a dirt road to the school farm. There were no buildings with gardens within a mile of the area and no one knew anything about the plant. Staria saw only the one plant and it is now in our herbarium under the number Soto 3251. We will try to check on its possible presence again this Spring.

HELP US GROW!

MONPS

The Missouri Native Plant Society

The Missouri Native Plant Society is a Not For Profit Corporation devoted to the preservation and conservation of the wild plants and vegetation of Missouri and to the study of the wild plants and vegetation of Missouri for the purpose of aiding in the scientific education of the public.

Missouriensis is the official publication of the Missouri Native Plant Society and is published quarterly. We are happy to publish any articles concerning the wild plants and vegetation of Missouri. Please submit typewritten manuscripts and ink illustrations or black and white photographs to the editor. Articles submitted for publication may be reviewed by an editorial board. We do not copyright any article in this journal.

REMEMBER YOUR DUES BY JUNE 1!

ABOUT OUR NEXT MEETING...

Our June meeting will be the 6th, 7th and 8th, at Camp Pinoak at the Lake of the Ozarks State Park. We are tentatively planning the board meeting for Friday evening and field trips on Saturday. Potential sites include a variety of glades, sandstone outcrops, calcareous wet meadows, swale marshes and many forest types. Much recreating will occur Saturday evening. We will announce final details in May via the mails.

DON'T MISS IT

MEMBERSHIP APPLICATION

MISSOURI NATIVE PLANT SOCIETY

Name _____

Address _____

City _____ Zip _____

Enclosed is my contribution to the preservation of Missouri native plants in the amount of _____.

Membership Categories

Student	$ 2.50
Regular (Individual or Family)	5.00
Contributin-	15.00
Sponsoring	50.00
Sustaining	100.00
Group	25.00

Mail application and contribution to:

Dr. Jim Henry Wilson
Missouri Department of Conservation
Box 180
Jefferson City, Missouri 65102