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## Dues are Due: See paragraph on page 8. Envelope included.

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### Missouri Native Plant Society Meeting Minutes

Submitted by Ann Schuette, Secretary

#### Quarterly Board Meeting 1 December 2012, University of MO Herbarium, Columbia MO

President Paul McKenzie(PM) called the meeting to order at 10:06am. A quorum was present. The agenda was approved with the addition of a Nominating committee report. John Oliver(JO) volunteered to serve as the recorder.

The minutes from the September 2012 meeting were approved.

Treasurer's Report – Bob Siemer reviewed the calendar year financial report. He noted that expenditures exceed income by over \$2000 primarily due to the publishing of two issues of *Missouriensis* as well as the publication of new brochures. He also noted that there is enough money in the account for the next \$1000 Hudson Fund award. George Yatskievych(GY) asked that \$1300 be budgeted in 2013 for *Missouriensis* since it will be a larger volume. Bob asked that if there were any other budget concerns to let him know.

Donations to MONPS – Hudson Scholarship Fund – PM said that additional donations would probably be made to the fund before the end of the year.

#### PUBLICATIONS & MEDIA

- Distribution Chairman – Bill Knight announced that he may send the next *Missouriensis* out with a Petal Pusher in order to save postage.
- Publicity Chairman – Kevin was not able to attend the meeting but it was noted that he is actively involved with Facebook and interested in advancing MONPS through social media.
- MONPS Website Update – Brian Edmond(BE) brought an information sheet on the website. He and JO are now the administrators of the site and can update it in its current format. They could change the format, but have chosen to focus on other social media and wait until the contract with the current ISP is out before thinking about changing. A question was posed and discussion held on whether social media should funnel to the website or if social media and the website are complete on their own. Brian will determine when the payment for the current web domain will come due again and report at the next meeting. He and JO will prepare a report with recommendations to the board when action on the website needs to be taken. A discussion took place concerning putting the Petal Pusher on the website. Steve Buback motioned, GY amended, and Bob Siemer seconded a proposal to add it for the next year and keep tabs on the hits.
- *MISSOURIENSIS* – GY noted that there is an issue in the review phase which is larger than average and will hopefully come out in 2013.

#### COMMITTEES & TASK FORCES

- Membership – Ann Earley reported that we have four new members since the September meeting for a total of 348(57 life members). Updated rosters have been sent to the Chapter Representatives. 74 members still have not renewed and will be purged before the next Petal Pusher if they do not. PM will remind individual board members, committee members and officers whose membership has lapsed of their status. Bob Siemer had “dues” checks for the chapters.
- Archives – Jack Harris was not present and no report was given.
- Hudson Fund Award – JO will put the Hudson Fund announcement on the MONPS website. An announcement will be sent to colleges and universities. Applications will be due February 15<sup>th</sup>. A committee is needed to evaluate the entries. If interested, let GY know. GY will contact Allison Vaughn and include her in the review of the applications.
- Awards Committee – Carl Darigo's award still has not been presented but the St Louis Chapter will see that it is delivered to his widow. Malissa Underwood and Emily Horner volunteered to serve on the committee with Jack Harris.
- Social Media Committee – A discussion was held about the current use of social media by different chapters and individuals within MONPS as well as the future use. BE will prepare an e-mail to all Chapter Representatives with a tutorial on using social media and posting pictures to the website with a copy going to the board members.

#### SOCIETY BUSINESS

- Petal Pusher – PM introduced Becky Erickson(BE) as the new editor of the Petal Pusher. She was thanked by all. Becky will send out guidelines for submissions as well as posting them in the next issue. Because of the wish to include 2013 quarterly meeting/field trip dates in the next issue, Becky agreed to postpone the due date for submissions until December 3<sup>rd</sup>. Rex Hill will send the meeting/field trip dates and locations by that date.

- Brochures – The brochures have been updated and are available to the Chapter Representatives.
- MONPS tote sacks and new orchid T-shirts – No update but it was noted that they would make great Christmas gifts.
- Status of possible new Chapter in St Joe – There was nothing new to report.
- Comments on Grassland Management Strategic Plan – The draft is out. They did receive the comments we sent which were in line with most of those received.
- MONPS sponsored workshops – Bob Siemer noted that he had heard Richard Abbott was doing something in the spring at Meramec. There was a discussion about whether PM/GY might do a fall sedge workshop somewhere in the state.
- Wildflower Poster Project with MODOT – Emily Horner has posted the photographs she received. She has contacted the committee to vote and requested anyone else wanting to vote contact her. She and BE will design the poster over the winter and hope to have it published in the spring. The panels should be written soon.

CHAPTER REPORTS: The written reports are available in the Petal Pusher.

#### MEETING/FIELD TRIP LOCATIONS FOR 2013

- Discussion was held on possible locations for the 2013 quarterly board meetings and field trips. The following were planned for 2013. The spring trip is scheduled for April 12-14 in Pineville which is in McDonald County. Possible field trips will be to Big Sugar Creek State Park, Huckleberry Ridge Conservation Area, and the Buffalo Hills Natural Area. The summer trip is scheduled for June 14-16 in Ellington which is in Reynolds County. Possible field trips will be to Kay Branch Fen on private property and Grasshopper Hollow Natural Area. The fall trip is scheduled for September 20-22 in Kirksville which is in Adair County. Possible field trips will be to Morris Prairie and Union Ridge Conservation Area.
- JO will make a new field trip form and include a mention of permission to photograph for the coming year.

#### MISCELLANEOUS ANNOUNCEMENTS

- A nominating committee is needed to nominate individuals for the two board positions and officers for the coming year. Rex Hill volunteered to chair the committee and will contact two other non-board members to serve as members.
- Becky Erickson announced the Hawthorn chapter has a project table for sale. Anyone interested should contact her.
- GY announced that Justin and Dana Thomas will be hosting a MO botanical symposium in Rolla in February/March. Stay tuned for details.
- PM noted he had attended a retreat in Pershing State Park and that the manipulation of the hydrology in the area was causing some of the plants in the bottomlands to be adversely affected.
- JO reviewed the assignments.

The meeting was adjourned at 2:05pm.

Those in attendance were:

Michele Bowe	Paul McKenzie
Steve Buback	John Oliver
Casey Burks	Elizabeth Olson
Theresa Cline	Ann Schuette
Ann Earley	Bruce Schuette
Brian Edmond	Bob Siemer
Becky Erickson	Malissa Underwood
Martha Hill	Allison Vaughn
Rex Hill	Merv Wallace
Emily Horner	John White
Robin Kennedy	George Yatskievych
Bill Knight	

#### 2013 Installation of Officers and Board members

*Rex Hill – Nominating Committee Chairman*

No further nominations have been received from the general membership and the Nominating Committee is pleased to announce that their proposed slate will be installed at the 2013 Board meeting to be held on Saturday, June 15, 2013. Paul and John are extending their previous two years of service in those offices and Bob Siemer has been serving as Treasurer since 2003. We warmly welcome Casey Burks as the “new kid on the block”. Michelle and Bruce are repeating their previous three-year terms. We thank them all for their very generous service to the Society.

Paul McKenzie – President

John Oliver – Vice President

Bob Siemer – Treasurer

Casey Burks – Secretary

Michelle Bowe – Board Member ('13 – '16)

Bruce Schuette – Board Member ('13 – '16)

## Hudson Award Winner Announced

*Submitted by George Yatskievych, Ph.D. Curator, Director–Flora of Missouri Project*

**The winner of the 2013 Hudson award is Ms. Sarah Unruh**, a graduate student in the lab of Dr. Chris Pires at the University of Missouri - Columbia. Ms. Unruh will use this funding to pay for field work involving several Missouri orchids. Her overall project concerns the systematics and phylogeny of orchids using cutting edge molecular tools to study variation in very large DNA sequences. Among other things, Sarah is curious how some of the Missouri species fit into the “big picture” of orchid taxonomy. She notes that the tropical islands of Hawaii have only three native orchid species, compared with Missouri's 34!

The Stanton Hudson Award honors the late H. Stanton Hudson (1921–2002), a longtime member of the Missouri Native Plant Society whose passion for the flora of Missouri and its conservation inspired his friends and family to create a small grants program in his memory. Each year the Society approves a \$1,000 award to a deserving college student (graduate or undergraduate) who is involving Missouri plants in his or her research project.

## Information on events and lodging for the MONPS meeting June 14-16, 2013

The Missouri Native Plant Society Summer Meeting and Field Trips will be held June 14-16, 2013 in and around Salem, Missouri. Our Meetings will be held in the **Bank of Salem Meeting Room** in Salem. Our Field Trips will include some of the best fen communities left in unglaciated North America.

### Directions:

From the West (Kansas City)

Take <b>I-70 E</b> toward <b>St. Louis</b>	126 mi
Take exit <b>128A</b> toward <b>US-63 S/Jefferson City</b>	27.6 mi
Merge onto <b>US-54 W/US-63 S</b> via the ramp to <b>Jefferson City</b>	1.5 mi
Take the <b>McCarty Street</b> exit	371 ft
Keep left at the fork; follow signs for <b>US-50 E/US-63 S</b>	0.2 mi
Continue toward <b>US-50 E/US-63 S/Rex M Whitton Expy</b>	0.2 mi
Continue straight onto <b>US-50 E/US-63 S/Rex M Whitton Expy</b>	
Continue to follow <b>US-50 E/US-63 S</b>	11.8 mi
Merge onto <b>US-63 S</b> via the ramp to <b>Rolla</b>	38.2 mi
Turn left onto <b>MO-68 E</b>	17.0 mi
Slight right to stay on <b>MO-68 E</b>	23.2 mi
To <b>Salem, MO</b>	

From the East (St. Louis):

Take <b>I-44 W</b> toward <b>OKC</b>	94.5 mi
Take exit <b>195</b> for <b>MO-68/MO-8</b> toward <b>St James</b>	0.1 mi
Keep left at the fork, follow signs for <b>Missouri 8/Missouri 68</b>	105 ft
Turn left onto <b>MO-68 E/MO-8 E/N Jefferson St</b>	
Continue to follow <b>MO-68 E/MO-8 E</b>	4.8 mi
Slight right onto <b>MO-68 E</b>	23.2 mi
To <b>Salem, MO</b>	

From the SW (Springfield):

Take <b>I-44 E</b> toward <b>St Louis</b>	102 mi
Take exit <b>184</b> for <b>I-44 BUS E</b> toward <b>US-63 S/Rolla</b>	0.4 mi
At the traffic circle, take the <b>2nd</b> exit onto <b>Kingshighway</b>	0.8 mi
Turn right onto <b>N Bishop Ave</b>	0.3 mi
Turn left onto <b>MO-72 E</b>	24.9 mi
Turn left onto <b>Missouri J</b>	1.3 mi
Turn right onto <b>N McArthur Ave/Missouri J</b>	459 ft
To <b>Salem, MO</b>	

### Schedule: Friday, June 14

**3:00 P.M.** Early arrivers meet at Justin Thomas' house for a guided tour of his property.

**5:00 P.M.** Justin and Dana Thomas have invited us to meet at their house (directions to follow) for a cookout before the meeting. Thank you Dana and Justin!

**7:00 P.M.** **Bank of Salem Meeting Room** is just west of The Bank of Salem on 4<sup>th</sup> Street near Main (Hwy 19).

Program: **Orientation and Introduction to Ozark Fen Communities – Justin Thomas**, of the [Institute of Botanical Training](#). Justin is one of the top botanists in the state and a long-time friend and mentor to Missouri's plant enthusiasts. We are lucky to be able to have him speak to us and join us for our Saturday field trips.

### Directions to Bank of Salem:

**The Bank of Salem** is located on the NW corner of 4<sup>th</sup> Street and Main (Hwy 19). Refer to the map above for navigation.

See also the [Google Map Page](#) for this event which is self-updating: <http://goo.gl/maps/ZiGtt>

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### Saturday, June 14

Schedule is tentative; updates will appear on the websites.

**8:30 AM** –Meet at **Holiday Inn parking lot** (or trail head parking area at **9:00 A.M.**) Caravan to **Grasshopper Hollow trail head parking area**. Directions:

Head east from Salem on <b>MO-32 E/MO-72 E</b>	36.6 mi
Turn left onto <b>Co Rd 860</b> (be alert, there is one small sign facing the road w/ "860" on it)	
Continue to <b>Grasshopper Hollow parking area</b>	approx. 0.6 mi

We will eat lunch at **Grasshopper Hollow**. Bring your lunch and carry trash out.

**1:00 PM** –Afternoon field trip – Location to be announced

**7:00 PM** – **MONPS Board Meeting** at **Bank of Salem Meeting Room** (see directions above)

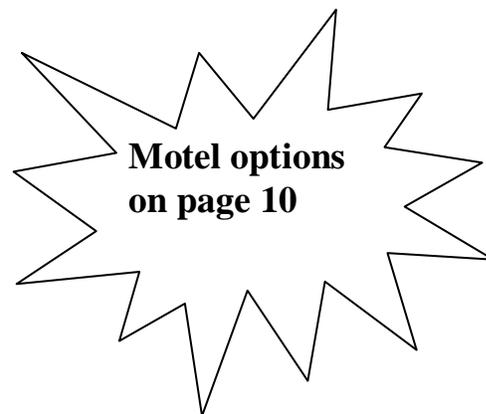
**Sunday, June 16, 8:30 A.M.** – Meet at **Holiday Inn parking lot** – Field trip location to be announced

Sorry there is not room to post maps in this issue. Maps and directions can be found on Google Maps.

For the most accurate and up-to-date details, please visit

[The Missouri Native Plant Society website](#) and our [Facebook Page](#).

(or go to [Facebook.com](#) and enter **Missouri Native Plant Society** in the search box.)



# 10 things you can do for . . . Native Plants

Submitted by Becky Erickson PP editor

I'm sure you all have seen "The Ten Things" you can do for - whatever. I was inspired to write this by the same kind of article in the March-April 2013 edition of Audubon. The ideas here are inspired by the topics therein, but not copied. When you roll your eyes in jaded attitude, please remember you are displaying apathy. We are not in this organization because we feel any apathy. If your attitude is piqued to continue reading to find out what the ten things are, GREAT!

For you who want to know if you are on track; who want to get on track; who want to stay on track, read on . . .

1 Listen to people who have a few years of experience with native plants; with where to plant species, with where to collect seed, with how to propagate or plant those seed. Ask them questions. Make sure you are putting your chosen plant in the right place - or that you have a place for your chosen plant.

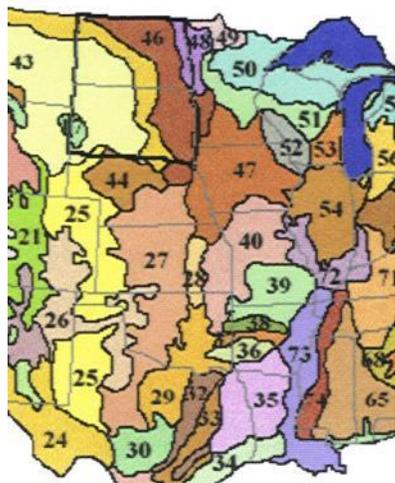
2 Change screen time to green time. Get out into WILD AREAS. Nothing can supplant practical experience. Learn about most of the habitats in Paul Nelson's Terrestrial Natural Communities of Missouri. Drive your car beyond your county boundaries. Get off the asphalt. Get off the trail. Learn to use a map and a compass until you have a good sense of direction. Not only will you find amazing encounters in nature, but you will gain a confidence in yourself.

3 Make sure the land you control is a native oasis. Manage it for all native plants. Remove aliens as you have the energy. Get into your garden. Experience what Doug Talamay explains in Bringing Nature Home = insects are very important - they evolved on and must have the native plants on this continent to survive. Without insects and native plants, we cannot have a healthy community.

4 Adopt a species: create a habitat for frogs, lizards, butterflies, bees, birds, or whatever you love. It will include native plants.

5 Re-use, Reduce, Recycle. What the \*\*\*\* does this have to do with native plants? By buying only what we really NEED, by using stuff others discard, by recycling EVERYTHING that no longer has a functional use, we are promoting a cleaner environment and a smaller carbon footprint. By using/planting only local native plants, we are better assisting our local natural environment.

Which leads to . . .



6 Ecotypes. Yes. Please buy plants and seed obtained from sources close to your home - at least within 50, maybe to 100 miles. It is so ecologically important to find plants/seed that are native from close to the land to be planted. There is about 70 years of research to support this concept. Please see the explanation on the WildOnes site: <http://www.wildones.org/land/ecotype.html> [highlight, copy, paste in search line]. The national ecozone map used to be on the EPA web site. I can't find it now. So I have inserted the map of ecozones for the prairie region derived from that EPA map.

7 Aliens: We have all 'heard' about alien plants. The lists and controls can be found on the **PCA [Plant Conservation Alliance] Alien Plant List**. Be ready to be

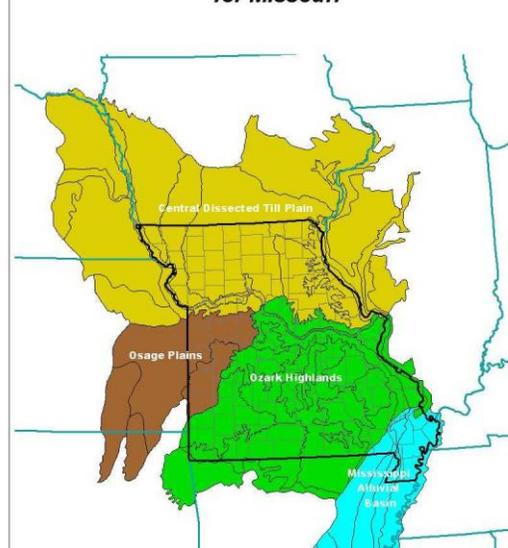
amazed even overwhelmed. Alien animals in our personal community are important to control. Dogs and cats eat the eggs of ground nesting birds and reptiles [turtles, lizards, snakes, frogs, salamanders]. They also eat or harass the adults. Oriental preying mantis eat EVERYTHING about their own size [butterflies, bees, hummingbirds, and all other insects]. Please grab them and rip the heads off. Their egg cases are nearly the size of a golf-ball. These egg cases can be found among fall plant stems. Please put them in gasoline/diesel/kerosene/alcohol and burn them. They do not burn without a carbon-volatile fluid. Otherwise, collect these cases; put them in a jar for about 2-3 months. Allow them to hatch and die in the jar.

8 Herbicides: We who have been working to restore native habitats have found it is impossible without learning how to use some chemicals. "Careful" and "judicious" are the keywords to their use. Use them with the most effective application. Use herbicides exactly on the alien and problematic plants that deserve it. Use the CORRECT herbicide at the best time of year = usually LATE in the growing season. ASK someone [NOT MFA or other chemical distributor] who has experience with tweaking season and dilution, before you spend too much money, use too much chemical to be effective.

9 Become familiar with other native plant conservation organizations. They have an amazing volume of resources. Missouri Prairie Foundation, Plant Conservation Alliance, Xerces Foundation, Lady Bird Johnson [LBJ] Gardens, Missouri Botanical Gardens [MOBOT], hundreds of other botanical gardens and native plant organizations.

10 Besides getting out on field trips with MONPS, go out with your local NPS chapter moseys; and with Missouri Prairie Foundation [MPF], your local Audubon chapter, your neighborhood Natural History group. Don't have one? Put up a notice in your library, several schools, and city hall - get one started. Being a leader/teacher is an amazing way to learn. Express your passion and a little knowledge - someone will catch on.

USFS Ecological Sections & Subsections for Missouri



## Kansas City Chapter

*Submitted by Hilary Haley, KC Chapter Representative*

At the March 5<sup>th</sup> meeting, our planned guest speaker could not attend. However, Lance Jessee, our Vice President, filled in with a very lovely presentation on prairie plants. He showed us pictures of several plants including many of the early spring species. We also



viewed pictures of several species of orchids found in Missouri including both the Eastern and Western Fringed Orchids.

One plant of particular interest that Lance showed us is the *Silphium* hybrid he discovered at Jerry Smith Park. This plant is a combination of *Silphium integrifolium* and *S. laciniatum* and is the first documented example of this hybrid to occur. [Note all leaves have sinuses but are opposite and reduced.]

Also at this meeting, Larry Rizzo with the Missouri Department of Conservation, presented Lance Jessee with the Plant Stewardship Award for 2012. This award was bestowed

upon Lance for his efforts in preserving the native flora of Missouri. Lance dedicates much of his time to the KC Wildlands Seed Team in collecting, sorting, and sowing native seeds. He also participates in the yearly Mead's Milkweed surveys in the state. Thank you, Lance, for all your hard work!

## Perennis Chapter

*Submitted by Allison Vaughn, Chapter Representative*

On the cloudy morning of March 16, Perennis members visited Big Oak Tree SP for the first time since the USACE levee breach that left several feet of sediment on the northern reaches of the park. While it was a little early for spring wildflowers in the park, the understory of cane and the distinct shrub layer allowed for a rich diversity of birds that day. Giant cane has expanded its range in the park in the few years since the devastating ice storm occurred in 2009, which allowed for significant light to reach the forest floor. We saw the vegetative *Corydalis* and the maples budding out, but little else was in flower or even sprouting.

Big Oak Lake is undergoing a transformation that began in 2006 from a year-round lake of pumped groundwater to a perennial wetland more aligned to Grassy Pond as existed in the historic records and until the 1950s when the Conservation Commission flooded the wetland to make way for a poor excuse of a recreational fishing resource. Park staff have allowed the lake to dry naturally and to flood naturally, allowing for an explosion of American lotus, *Rumex*, charismatic sedges and annual wetland plants associated with early wetland restoration efforts. The visit to the park was peaceful and quiet, and we hope to revisit the area in the summer months.

See the upcoming events for details on the invitation from Peggy Lefarth to visit her sandstone canyons in May! Please contact Allison at [allisonjv@yahoo.com](mailto:allisonjv@yahoo.com) for more information.

*"Go my Sons, burn your books. Buy yourself stout shoes. Get away to the mountains, the valleys, the shores of the seas, the deserts, and the deepest recesses of the Earth. In this way and no other will you find true knowledge of things and their properties."* Peter Severinus, a 16th Century Dane educator

## Osage Plains

*Casey Burks, Chapter Representative*

18 March, Membership Meeting. Since February's meeting was cancelled due to the weather, this was the kick-off meeting of 2013. A grand re-union for members plus we welcomed ten guests for the educational program given by President Emily Horner.

Emily inspired us to start a rain garden by locating a natural area fed from roof gutters. By digging out dirt to create a berm, and planting native plants (tall ones in the middle, short ones along the edge) surrounded by mulch, it helps to conserve and filter rainwater plus alleviate erosion. Emily also encouraged the use of rain barrels to collect water from gutters so it's there for later use. At her home, she and her husband have connected several rain barrels together, all of which quickly fill during a downpour. Emily reported it's possible to get 600 gal from a 1" rain from a downspout. Setting barrels on top of a sturdy bench allows for gravity feed and workswell for watering their garden with soaker hoses. A lucky guest won one of Emily's rain barrel made from a large sausage casings container with added spigots.

After refreshments, we updated our program and field trip schedules. We look forward to seeing prairie chickens at their booming grounds on Dr. Morton's prairie. Hopefully the weather will cooperate at sunrise on March 30th. Even though we are currently having snow and more is on the way, when the weather was warm a week ago I saw large patches of bluets and harbinger-of-spring flowers and two Mourning Cloak butterflies! Last weekend, on a hillside by Truman Lake, I saw a blooming toothwort. It was so beautiful!

## Southwest Chapter

*Submitted by Brian Edmond Chapter Rep*

Our February meeting was cancelled due to snow. As a future reminder, we will *always* cancel our meeting if Springfield Public Schools are cancelled. If schools are open but the weather still seems dicey, check your email or our Facebook page to see if we still plan to hold the meeting before you venture out.

As we originally planned for February, we held a dichotomous keying workshop, led by Michelle Bowe. Despite the abundance of snow and cold weather, she managed to find several species of both native and non-native plants to key. We used several different keys during the workshop and learned that not all keys are equal and some lead to different identifications based on the same specimen. One rule that I remember from my days as an undergraduate is to *always* read both choices in a couplet. Sometimes, one's eagerness to get through the key leads one to an erroneous identification, which can be embarrassing.

We celebrated Julian's second birthday with homemade cupcakes with two little lit candles to blow out. During this meeting, Julian discovered the water fountain down the hall and made no fewer than a dozen trips to get a drink of water while his mother was trying to speak. As usual, we're watching the weather and waiting for spring. We'll plan some field trips for spring wildflowers and some local prairies, weather permitting. Watch the Facebook Events page and your email inbox for more details!

## St Louis Chapter

*Submitted by Rex Hill, Chapter Representative*

In February, **Nels Holmberg** and **John Oliver** teamed up to give hands-on demonstrations and instructions of how the amateur botanist can identify plants, even in winter condition. John and Nels brought many specimens of twigs and dried remnants of last years stems, flowers and fruits to the meeting room for identification and discussion. We were very appreciative of the huge effort that went into preparing for this evening, especially since it was done on the same day that many of us, including Nels, had attended an all-day Botany Symposium in Rolla sponsored by Justin and Dana Thomas. One of my best memories of the day was to see Nels on Interstate 44 in the afternoon, returning to St. Louis in his unmistakable blue car, surrounded (almost smothered) by plants. Good thing the *Cannabis* patrol was not out that day. They, too, would have gotten an education in winter plant identification.

In March, **Allen Casey**, of the USDA Plant department in Elsberry, MO talked about **Pollinators and The Plants They Use**. He placed a strong emphasis on the use of native plants as especially appropriate sources of food for pollinating insects; that in general the co-evolution of insect and plant species is an important factor in the effectiveness of the pollination process. He cited research that suggests that native plants are four times more attractive to native bees than exotic plants and that bumble bees are more efficient pollinators than the European honey bee which has found favor because of its ease of transport and management as compared to many of our native, more solitary species.

Factors such as clumping of plants provides a more natural feeding environment for insect species leading to more efficient pollination, but that variety and diversity in plantings is also important to attract a greater number of pollinators. This was a joint meeting with the St. Louis Chapter of the North American Butterfly Association and was attended by close to 75 people.

As I write this report, many of us in the St. Louis Chapter are in the midst of attending classes at Meramec Community College given by **Richard Abbott** of the Missouri Botanical Garden. The subject is the group of plants in the Gentianales order that includes Missouri plants in the Apocynaceae (dogbane), Asclepidaceae (milkweed), Gentianaceae (gentian), Rubiaceae (madder or coffee), and Loganiaceae (logania) families. This is another in a series of classes sponsored by the Missouri Native Plant Society at the college in their Master Naturalist series. More than 30 classes have been given since 2001 by MONPS members and friends, the proceeds from which go to support our Hudson Fund. We greatly appreciate the time contributed by Richard and all of the others who have given their time to teach these classes over the years.

We also owe a great deal to **Nels Holmberg**, who has (and continues to) organize this effort, cajoling and encouraging us to give these classes, giving many of the classes himself, and serving as the liaison with the college. For this effort and many other tireless efforts on behalf of the community of nature lovers in the St. Louis area and around the state, **Nels will be receiving the Lifetime Achievement Award from the Webster Groves Nature Study Society (WGSSS)** at their annual banquet on May 1. Our heartfelt congratulations go out to Nels and many of us from MONPS will be attending the banquet to celebrate with him.

## Ozark Chapter

*Submitted by Liz Olson, Chapter Representative*

After a two month hiatus, the Ozark Chapter reconvened in February. It was a packed room as over forty people attended Bob Cunningham's presentation about managing privately owned forest land. Bob shared his extensive knowledge from his career spent working with and advising Missouri landowners. His overarching message was that the goal of responsible and sustainable forest management must be to provide for and ensure the future health and productivity of the land. Bob also impressed upon the group how important it is to have a clear idea of your objectives – whether you wish to improve wildlife habitat, species diversity, or timber production. A consulting forester can then assist in determining the best methods to meet those goals.

In March, our group began the meeting by sharing what signs of spring we've seen in the past few weeks as winter slowly loosens its grip – including the first tick of the year! Then we settled in for a gorgeous slideshow from our own chapter secretary Betty Queen. Last fall Betty visited the Dallas Arboretum to view the garden exhibit by renowned Seattle glass artist Dale Chihuly. From the Dallas News: "There's no mistaking the Chihuly style, with its flowing lines reminiscent of nature, bright colors and shapes that bend with the viewers' imagination." Nestled amidst the landscaping, the glass art beautifully complemented the plant life. Betty also captured the whimsical and colorful displays of gourds for the pumpkin festival.

## Hawthorn Chapter

*Submitted by Ann Wakeman Chapter Representative*

Late winter weather curtailed some activities and declined attendance for some, but spring can't be far away now with the sun at a higher angle. No February membership meeting and the luncheon was postponed a week, due to lots of snow.

At the March 11 meeting, Rhett Hartman, graduate student at MU, presented a program on his research on "10 Things you didn't know about katydids" or neo-conehead katydid communication in grassland. He studies how they communicate, what conditions they communicate to find a mate. Only the males 'sing', the females listen with ears on their front legs and approach the loudest male. He is also studying how the neurons help her distinguish how to seek out the loudest male. We got to help illustrate this by attaching cones to our heads and singing.

The March luncheon was attended by seven members who discussed logistics of April plant sales, most effective removal of alien plants and bird sightings around feeders during the latest snow.



**Please Friend us on Facebook**



And more information on our website  
[www.missourinativeplantsociety.org](http://www.missourinativeplantsociety.org)



**Perennis**

**4 May Saturday, 1pm. Sandstone Canyon Hike on Ken and Peggy LeFarth's property:** hike into their sandstone canyon to view unique flowers and bryophytes, with the Cape Girardeau Master Gardeners. To be followed by a pot luck supper. Directions From South Hwy. 67: W on Hwy. 32 in Farmington; N on Hwy. D, then W on Hwy. EE; NW several miles on EE to Wallis Drive on the left (which is 0.7 mi before Sprott Road on the right); In 0.1 mi Wallis Drive splits, take the right branch (sign posted Lefarth); The Lefarth's house is just over 1 mile down this Drive. From I-55: at Exit-157 take Hwy. Y 7 mi west to Roth Road on left; take Roth Road 0.1 mi, then turn south on Lawrenceton Cutoff Road; Lawrenceton Cutoff 2.3 mi to Hwy C.; Hwy C. east 1.3 mi to Hwy. EE.; south on EE to Wallis Drive, then as above.  
For more details, weather restrictions, rescheduling visit <http://www.semonps.org/> or contact Allison at [allisonjv@yahoo.com](mailto:allisonjv@yahoo.com)

**Kansas City**

**3-5 May, Fri-Sun– Powell Gardens Native Plant Sale:** One of our best fundraiser events. We need volunteers to help us sell plants. For information contact Sue Hollis: [ferngro@att.net](mailto:ferngro@att.net) or Dan Rice: [drice95875@aol.com](mailto:drice95875@aol.com).  
**7 May, Tuesday 7:00 PM,** MDC Discovery Center: **Chapter meeting,** activity TBD.  
**11 May Saturday – CVS Pharmacy Plant Sale:** KC Chapters' biggest fundraising event. Contact John Richter: [jack\\_0\\_lantern@hotmail.com](mailto:jack_0_lantern@hotmail.com) If you have any plants to donate, start planning now so your plant donations are in good condition to sell.  
**18 May, Saturday – Crooked River Conservation Area:** Car pool location and meeting time TBD. Contact person is John. This area in Ray County has some nice woodlands where timber harvests have relaxed some since the early 1900's.  
**1 June, Saturday – South Fork Prairie Meads Milkweed Count:** Car pool location and meeting time TBD. Contact person is David or Kathy Winn. This is the annual Meads-mw count, important population growing on their property.  
**June – Cedar Niles Property?** All info TBD at this time. This property is reported to have remnant prairie and a cave. Contact person is Lisa Richter: [lisa.richter@mdc.mo.gov](mailto:lisa.richter@mdc.mo.gov), who is researching field trip details at this time.  
**July – canoe trip?** All details TBD. Sue Hollis agreed to organize a canoe trip down the Eleven Point River if persons are interested. If you are interested in canoeing, please contact Sue Hollis: [ferngro@att.net](mailto:ferngro@att.net) to voice your interest.  
**August –** break from activities.

**Hawthorn**

For folks interested in hiking and wildflower sightings around the state, Missouri Prairie Foundation has 3 scheduled field trips in May. See the MPF website newsletter and chapter newsletter for details; also on [www.columbianativeplants.org](http://www.columbianativeplants.org) Otherwise participate in outings with other chapters.  
**4 May** hike the glades at Indian Trail Natural Area in Dent County.  
**11 May** mosey to see the sand prairies at Sand Prairie CA, close to Cape Girardeau.  
**18 May** investigate progress of restoration at MPF's Welsch Tract addition to Coyne Prairie in Dade County.  
**12-14 June** State fiend trip to Salem Area [see schedule Page 3]

**Osage Plains**

Regularly scheduled chapter meetings are held the 3<sup>rd</sup> Monday of each month, 6:30pm, at the Henry Co. Library, Clinton, except for special dinner meetings. For info, contact Emily Horner [emily.horner3@yahoo.com](mailto:emily.horner3@yahoo.com), Jim & Dorothy Harlan [jdharlan@socket.net](mailto:jdharlan@socket.net) or Casey Burks [mobugwoman@gmail.com](mailto:mobugwoman@gmail.com)  
**18 May Sat:** Field Trip to Bernie Henehan's property in Johnson Co. Meet at Henry Co. Library 9am.  
**20 May, Monday: 6:30pm** Our own MO Bugwomen, Casey Burks, presents on how to build a butterfly garden. Take home a few plants and start your own. Henry County Library Friends Room.

**Southwest**

Green Co Botanical Center, Spgfld, 4<sup>th</sup> Tuesday, 6pm  
**28 May Tue 6 pm:** Garden Maintenance. Speaker TBD.  
**25 June Tues 6 pm:** Garden Maintenance. Speaker TBD.

**St Louis**

Chapter meetings are held on the fourth Wednesday of the month at the Sunset Hills Community Center, 3915 South Lindbergh Blvd., Sunset Hills, MO 63127. See Google Map: <http://goo.gl/maps/K3PR>  
**22 May Wed 7:30 PM** MONPS members George & Layne Van Brunt visited the island of Madagascar in the fall of 2012. In this remote yet threatened landscape, he found that the economy of this desperately poor country is inextricably connected to efforts to save the unique ecosystems there. He will speak on "Madagascar: Imperiled Island of Biodiversity."  
**26 June Wed 6:00 PM –** This is the month for our annual evening wildflower walk, to be followed by dinner for those that wish to retire to a local restaurant after the walk. This year we will meet at the Glencoe parking lot near the narrow gauge railroad and walk a portion of the Al Foster Trail.

**Ozark**

The Ozark chapter meets at 6:30 pm on the third Tuesday of each month at the Missouri Department of Conservation Ozark Regional Office, 551 Joe Jones Blvd, West Plains, MO 65775.  
**4 May, Saturday, Noon to roughly 5 pm. Join Missouri Prairie Foundation** hike to see the glades of Indian Trail Natural Area (at Indian Trail CA, north of Salem). We'll tour the very impressive Big Glade and a glade or two at Plank Hollow. Highlights should include *Silene caroliniana* (wild pink) which is only known from a few counties in the central Ozarks and the yellow variant of *Castilleja coccinea* (Indian paintbrush), plus a full complement of the usual beautiful glade flora. Plank Hollow is scheduled to be burned, so it should have a great flush of new growth and color. Please register to get meeting place details. Contact Susan Farrington at [susan.farrington@mdc.mo.gov](mailto:susan.farrington@mdc.mo.gov) or (314) 402-3345  
**21 May Tuesday 6:30 pm:** A botanizing and socializing field trip to Peggy Skinner's property. Details will be provided at the April meeting, or contact Liz Olson or Susan Farrington for more information.

**The 2012 Missouri Natural Areas Newsletter**

is now available on-line at: <http://mdc.mo.gov/node/20281>  
From: Mike Leahy, Natural Areas Coordinator  
Missouri Department of Conservation



*Schizachyrium scoparium* BE photo/illustration

## Grass Morphology Workshop

**Paul McKenzie will instruct grass identification workshop held at Missouri State University- Kings Street Annex 308 and 309. on June 6-7, Th & F (8am -4:30pm each day).**

The workshop will include a presentation on grass morphology, keying exercises in teams of two and field trips to learn tips on identifying grasses in a natural setting (Max capacity: 44).

To register for the grass workshop (first come, first served), contact: Dr. Michelle Bowe: [MBowe@missouristate.edu](mailto:MBowe@missouristate.edu); 417-

836-6189. Michelle will send directions and parking information once everyone has "registered."

Places to stay: Springfield has a wide variety of hotels and motels, but the most convenient may be those at the intersection of Glenstone Ave. and I-44 (Drury Inn is one; their number is: 1-888-253-1628).



## Dues are Due

By Ann Earley, Membership Chair

Membership renewals for the July 2013-June 2014 year are due. Please check the top line of your mailing label. If it shows the date 20130630, your dues are now payable. When renewing, please remember to include your contact information including email address, and your society and chapter dues preferences.

If you have questions about your membership status, please contact me (see back page for contact information). We value our members and urge you to renew today!



### Information on joining Missouri Native Plant Society

Society Dues	Chapter Dues
Circle all that apply [Chapter dues additional]	Columbia = \$6
Student = \$5	Kansas City = 5
Regular = 10	Osage Plains = 5
Contributing = 20	Ozarks = 5
Life = 200	Perinnis = 5
	St Louis = 5
	Southwest = 5

Contribution to Hudson Grant Fund \_\$ \_\_\_\_\_

\*All contributions are tax deductible\*

Make checks payable to MO Native Plant Society

## Petal Pusher Editor Appreciates Cooperation

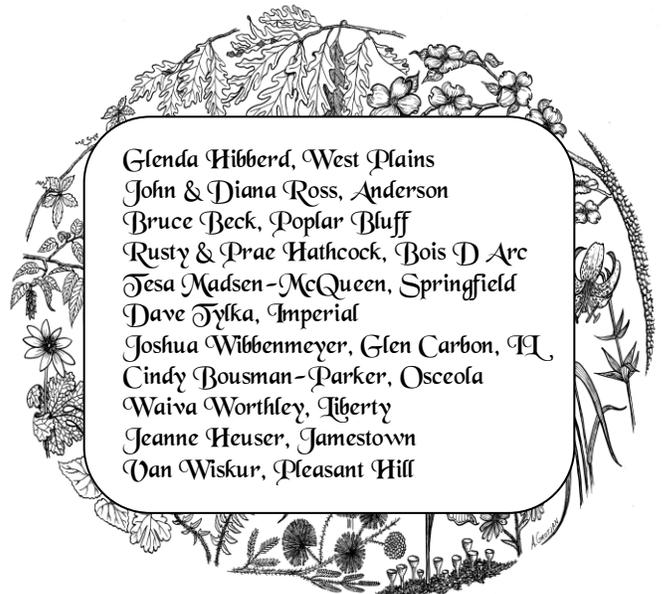
THANK YOU Most submissions came in before the due date this time. MOST were well written and submitted properly. Don't slack off. Late submissions will not be published. Send submissions when you are inspired. NOT at 11:59 before deadline.

Due dates. Just put it on your calendar now that your submissions must be finished and to me before the 27<sup>th</sup> of January, March, May, July, Sept, and two days after the December meeting. If you are writing an editorial or species account, don't wait – send it early.

Because I won't be dropping any of my work with Hawthorn, it will make everyone happier and bring you the best possible publication **if you would please follow these guidelines when sending submissions to her at [beckyerick711@centurylink.net](mailto:beckyerick711@centurylink.net) :**

**Use MS Word for documents, Single line spacing, 11 point, Times New Roman, Single space after ALL punctuation, Single space and indent paragraphs. Indent using tab [don't use space bar]. YES – too bad – you have to go to the tool bar to change line spacing, paragraph spacing and font type and size. If you find yourself touching the space bar twice – DON'T. Go back and delete one of the double spaces.**

## Welcome to New Members!



Mail to: Missouri Native Plant Society  
PO BOX 440353  
ST. Louis MO 63244-4353

Name \_\_\_\_\_  
Address \_\_\_\_\_

9-digit zip \_\_\_\_\_

Sometimes activities are changed at the last minute so we need a way to notify you.

Phone \_\_\_\_\_  
Email \_\_\_\_\_

# Budding Botanists - Year 3: The Year of the Chicken

Submitted By: Emily Horner

As you might remember the Horner family moved up to seven acres in Polo, no more city life. A nice meandering, rock bed creek slowly stole the attention of Owen and Samuel. But I had a few tricks up my sleeve to get the boys back on track with plants.

We started a reconstructed prairie last winter. The boys threw seed over the ground and rode in the back while we compacted the soil with our truck, tucking the seeds into the soil. We eagerly awaited the spring and any new blooms. I guess ragweed and some untreated fescue, thrown in with a few black-eyed Susans didn't quite make them see "prairie" yet. I, however, was thrilled. Ragweed is the first sign of a promising prairie planting. They did their best to help harvest more seed for this year's supplemental planting. Walking our gravel road with me, they gathered a few wild bergamot here, a few rose hips there.

I brought the boys to the first few meetings of the year. What is more exciting for a 2 and 4 year old then to sit quietly for an hour during a presentation. And sit through elections. Did I mention the 2 hour car ride beforehand? I guess I can't blame them for the restless leg syndrome, which turned into full on running in circles. I learned my lesson the second time, we travelled to Kathy Conrad's first to enjoy her prairie, horses, and donkeys. Paul promised to watch them for the meetings that remained. He did.

March came and I could not wait to get out in the woods for the first spring ephemerals at the Horner homestead. The boys and I took to the creek and followed the blooms into our neighbor's woodland. The wait was worth it. Spring beauty, false anemone, and Jacob's

ladder. Heading south along our patch of creek, we found larkspur and an awesome group of Jack-in-the-pulpits.

Then came the chickens and everything herbaceous seemed to come to a halt. Paul and I knew we could build a coop out of recycled



material under part of our lean-to. Accomplish this we did, after about 5 weekends worth of effort. Chicks arrived, all 45 of the wrong order; then came the 25 we ordered. So for the next few months we fed the 70 chicks and changed wood chips. Throw in days of watering a garden and newly planted native flower beds during the drought and who had time for peaceful walks with fellow native planters? And so they missed the spring and summer field trips; I made it to one.

Despite the work, we discovered blue-eyed grass in the old field they helped burn; took a drive to Dunn Ranch to visit the native plant nursery, reconstructions and bison; enjoyed countless trips to Wallace State Park and its oak woodlands; hiked across parts of Bonanza CA; fluttered with butterflies at Powell Gardens; meandered across the beauty of late fall warm season grass on grandpa's farm;

and the pinnacle... the boys plunged into the Atlantic for the first time and wandered among the sand dunes and palm trees of SC.

The year came to a close with the annual Prairie Day in Cole Camp. Despite the inclement weather Owen and Samuel saw their first ladies tresses orchid and closed gentians, and took their first wagon ride led by horses on the grand prairie owned by Doc Morton. Boomer made for an elated Samuel; and Owen was enthralled by the reading of Little House on the Prairie. And finally, the Osage Plains Chapter gathered in their vehicles and carpooled up to the Horner home in October. Owen and Samuel led the tour of the aforementioned creek, the prairie reconstruction, and the chickens; followed by a meal made from

some of the home grown vegetables the boys planted in the spring and helped can over the summer.

Owen wants to be a police officer; Samuel a crane operator.

In their free time they prefer to be Batman and Robin and construct houses made of blankets. But they are young and impressionable still.

My goals for them in 2013: hike the loess hills on the way up to NE to see family; a state meeting with camping overnight; more prescribed burn training; and plant i.d. along the creek.

The education

continues.



## BE A CITIZEN SCIENTIST

### Please sign up for Bud Burst.

Keep a calendar, or diary, or "list" of when you see plants emerging, when you see trees blooming or leaves erupting, when seeds are ripe. All the instructions are on the Bud burst web site. The site starts by asking you about common garden plants, but you can add anything you want.

If you also enjoy birds and herps and Monarchs, there are citizen scientist data reporting sites for frog calls and for bird counts all year around. Start by looking at the Cornell Ornithology website and the MDC website. Monarch Watch will give you the parameters for Monarch assistance and data reporting.

## Motels in the Salem area:

### Holiday Inn Express Salem

[1200 S Main St](#)

Phone: (573) 729-4700

Website: <http://bit.ly/16dbKBe>

GPS: 37.634048, -91.535388 or +37° 38' 2.57",  
-91° 32' 7.40"

The Holiday Inn Express is by far the nicest (and most expensive) lodging in town. They are offering MONPS a group rate of \$95 per night. (Price includes breakfast.) In order to get this rate, you must call the number above and identify yourself as part of the group. Online bookings will be charged a higher rate.

### Ranch Motel of Salem

5400 Ranch Motel Drive  
Salem, MO 65560

Phone: (573) 729-3157

GPS: 37.636699, -91.55299 or +37° 38'12.12", -91° 33' 10.76"

This is the other best option in town.  
They are offering the following rates:  
Single – \$54 per night (\$58.71 incl. tax);  
Double – \$64 per night (\$69.58 incl. tax).

### Walnut Motel

1008 South Main Street  
Salem, MO 65560

Phone: (573) 729-3121

GPS: 37.636228, -91.534983 or +37° 38'10.42", -91° 32' 5.94"

Check the websites for updated information and maps to the field trip locations.

### Education On The Prairie With Jeff Cantrell

*Reprinted from Missouri Prairie Journal Spring, Summer, Fall 2012*  
[Ed note: Since these articles were published, the monarch population survey was completed this winter in Mexico. I saw it on CBS Sunday Morning 17 March 2013. Eighteen years ago there were about 22 acres of trees covered with the butterflies. This winter there were about 2.5 acres. Please plant milkweeds! And nectar flowers! Please don't use surface or systemic pesticides. Please kill oriental mantids; they eat all butterflies, hummingbirds and other pollinators. Please talk to your friends and neighbors.]

#### Focus on Monarchs Part One

School children are taught at an early age that every living thing is connected in nature. Framed posters don some classroom walls with the famous John Muir quote, "When one tugs at a single thing in nature, he finds it attached to the rest of the world."

Regrettably, a lot of curriculum does not give students the opportunity to investigate ecology outside of textbooks, worksheets, or video footage. The best way to discover relationships in nature is to go outside. Few schools are lucky enough to be adjacent to a natural area, and field trips are a great learning opportunity, but they are not economically feasible on a regular basis. An outdoor learning station may be a steady part of the curriculum, and, if used, will prove as valuable to a school as a library, computer lab, or music room.

In a three-part series, I will discuss how to introduce children to prairie ecology via a school or home outdoor learning station. Missouri milkweed species will be the focal point: the milkweed/monarch connection is a dramatic way to help students learn about life cycles, plant/insect interactions, and international migration.

A useful outdoor learning station may be as simple as a plot of ground eight feet (one standard landscaping timber length) by three feet, or as large and elaborate as students, teachers, school staff, or parents desire. A raised bed using timbers, rocks, or pavers in a sunny locale is ideal; keeping the width narrow for easy reach and observations is preferred.

The preparation, construction, and research of a "Milkweed Connection Learning Station" are not necessarily a teacher's chore. The whole process should involve the students from the planting to research and predictions of what native pollinators will use these plants, weather effects, and predicted plant growth, but also in the budgeting, building, and maintenance phases.

Larger plots may have stepping stones or paths through the station for easy access and maintenance. For best results, start small and plan for expansion. I recommend you use "starter" plants instead of seeds. Plants can go into the ground any time of year; planting by mid-April will allow students to see the plants growing before they leave school. Recommended are several plants of purple milkweed (*Asclepias purpurascens*), butterfly milkweed (*A. tuberosa*), and marsh/swamp milkweed (*A. incarnata*). If space allows, I suggest adding one or more plants of little bluestem (*Schizachyrium scoparium*), stiff-leaved aster (*Aster linariifolius*), southern prairie aster (*Aster paludosus*), cliff goldenrod (*Solidago drummondii*), wingstem sunflower (*Verbesina helianthoides*), and rose verbena (*Gladularia canadensis*) so students can study plant/animal interactions later in the year (to be covered in Milkweed Connection Part 2). Grasses also help "fill in" spaces between wildflower plants and reduce weed competition.

A light mulch of grass and leaf clipping will help keep the station weed-free and provide moisture for the flowers. (Leave some bare dirt visible however, to help native bee species that build nests in soil.)

Starter wildflowers may be planted 12 inches apart and will look more natural if not planted in gridlayout. For more hands-on experience have the students supplement the plants with seeds—this will help them learn about the plant life cycle too. Butterfly milkweed seeds germinate easier than some other prairie plant seeds. Students will have the best success if they plant the seeds as early as late winter/early spring (mid-February through late-March) so the seeds benefit from cold weather stratification. Students should mark the crownbeard flower. The flower is in a sense bartering nectar for pollen transport. locations of the seeds for later reference.

#### Commensalism, mutualism, or parasitism?

- 1) A hackberry butterfly lapping the salty sweat on the forearm of an observing student.
- 2) A tachinid fly laying eggs on a variety of caterpillar species.
- 3) An American goldfinch dropping the milkweed seed, but using the fluff from the seed to line its nest.
- 4) A hover fly (bee mimic) in the center of a yellow

Discussions about or observations of symbiotic relationships can truly engage students who are learning ecology. Studying symbiotic relationships in turn can lead to more science studies, collection of mathematical data, creative writing, and application of the fine arts.

**Cantrel's Monarchs cont.** Student involvement will give the youth ownership in the project. A well-used outdoor learning station will provide the beginning of prairie awareness and a launching point to exploring a real native grassland.

Recommended books for setup are posted at the end of this article.

### **Focus on Monarchs Part Two**

Just like peas and carrots” the saying goes. Basic ecology is all about relationships and simply what goes together. Everywhere you look one plant or animal is relying on another living organism, and the more you examine a single plant or animal the more you realize it is connected to another, and then another ...

The very definition of ecology is the study of relations of living things to each other and to their environment. Some educators and students may think of the savannas of Africa or predators and prey in the Arctic when “ecology” comes to mind, but it can be studied in a scene as small as a raised flowerbed in a schoolyard and most certainly during a field experience to an actual prairie.

Ecologists refer to these relationships as symbiotic. A symbiotic relationship is where two species live together in an intimate association and one or both species benefit from the relationship. Symbiotic does not always mean a benefit for each species. Where they both benefit we call that mutualism.

The second type of symbiotic relationship is where one living organism clearly benefits, but the other seems to experience no positive or negative effect. We called these types commensal or commensalism.

The third is parasitism, where one organism has a benefit and the other is disadvantaged in some way.

An established plot of selected milkweed species and other prairie forbs and grasses, as discussed in part one in the spring issue of the Missouri Prairie Journal, will lend itself to an array of studies and be geared for all ages or grade levels. Upper elementary students to high school students often examine such relationships, which go far beyond one species providing food for another.

Relationships dealing with transport of seed, protection from sun or wind, watching for mutual predators, and providing suitable conditions so another may live or raise young are just a few examples. *Ask if you can distinguish these three different symbiotic relationships that could be observed from a Milkweed Connection Learning Station in a schoolyard.*

Flying in masses to the same winter roosts, often to the exact same trees, individual monarchs make the round trip from Canada or the united states to wintering grounds in Mexico only once. (some western monarchs also winter in a small part of California.)

Five generations of monarchs can live in a year, and somehow, the great-great-grandchildren of butterflies that left the previous spring find their way to the same wintering habitat in fall.

### **Monarch Facts**

Monarch Life Cycle:

•Egg: 3–4 days • Larva/Caterpillar: 10–14 days • Pupa/Chrysalis: 11–14 days • Life Span: 2–4 weeks for adult summer generations. These butterflies will mate and lay eggs, sometimes several times until late summer. • Adults emerging in late summer/early fall won't mate or lay eggs until the following spring. Instead, they prepare for migration. These adults will live up to 8 months.

➤ Behavior and life history: •Females may lay eggs directly after the first mating. •The female may lay eggs in areas well distanced apart, sometimes on different plants. •Adults remain the same body size after emerging from the chrysalis. •Compound eyes help them find the native asters and other nectar sources, and the proboscis draws it in, but it is the monarch's feet that taste the sweet nectar.

### **Focus on Monarchs Part Three**

Favoring many open and semi-open habitats, the monarch butterfly (*Danaus plexippus*) is probably America's most recognizable butterfly. Always a delight to see in the wild, monarchs are also a welcome find in the home garden or a school outdoor learning station.

An outdoor classroom landscaped with natives that provide both nectar sources attractive to monarch butterflies, as well as specific milkweed host plants for their larvae, will entice these impressive migrators. As discussed in detail in Part One, ideal nectar sources include stiff-leaved aster (*Aster linariifolius*), southern prairie aster (*A. paludosus*), conservative goldenrods, blue sage (*Salvia azurea*) and other early summer to early fall-blooming prairie plants. The caterpillars feed exclusively on milkweed species.

While children can learn much by observing monarchs that visit outdoor classrooms, the stations also help the butterflies during their migration in spring and fall. In fall, scores of adults spin off from the huge, loose flocks of often thousands of migrators heading toward only ten—now extensively logged—mountain areas of central Mexico, their winter habitat.

As native sources of nectar and host plants become scarce due to land conversion for human uses, remnant natural communities, “idle” land, and outdoor learning stations become progressively vital to the population's existence. Learning stations have the potential of making a major contribution to conservation, by serving as an example for educating the public and also directly aiding butterfly populations.

If you don't have a “milkweed connection” of your own, this fall is a great time to plan and plant. monarch butterflies have long captured people's attention with their slow flap and gliding flight, easy-to-observe life cycle, and stunning fall migration. their range spans throughout the united states and parts of Canada and Mexico. they travel much farther than all other tropical butterflies, as much as three thousand miles, and they are the only butterflies to make such a long, two-way migration every year.

#### **Recommended resources:**

Gardening with Prairie Plants: How to Create Beautiful Native Landscape by Sally Wasowski, 2002 ISBN 0-8166-3087-9

Native Landscaping for Wildlife and People by Dave Tylka, 2002 ISBN 1-887247-34-3

Restoring the Tallgrass Prairie by Shirley Shirley, 1994 ISBN 0-87745-469-8

Tried & True Missouri Native Plants for Your Yard by the Missouri Department of Conservation, 2007 ISBN 978-1887247-68-9

Educators with questions or needing advice are welcome to contact Jeff at [swampcandle1@yahoo.com](mailto:swampcandle1@yahoo.com) or 417-451-4158.

Butterflies and Moths, Peterson First Guides by Opler. ISBN 0-395-90665-2

Milkweed, Monarchs and More: A Field Guide to the Invertebrate Community in the Milkweed Patch. By Rea, Oberhauser, and Quinn ISBN 0-9657472-2-0

Nature Smart: A Family Guide to Nature by Tekiela and Shanberg ISBN 1-885061-08-0

Spiders and Their Kin, a Golden Guide. By Levi & Levi ISBN 1-58238-156-9

The Milkweed CONNECTION Advancing the Conservation Efforts of a Species with an Outdoor Classroom

The Life Cycles of Butterflies by Judy Burris & Wayne Richards ISBN 978—1-58017-617-0

Monarch Magic, Butterfly Activities & Nature Discoveries by Lynn Rosenblatt ISBN 1-885593-23-6

<http://www.learner.org/jnorth/>

<http://www.monarchlab.org/>

<http://www.monarchwatch.org/>



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**ENVIRON. AND EDUCATION**

John Oliver



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