

The purpose of the Oklahoma Native Plant Society is to encourage the study, protection, propagation, appreciation and use of Oklahoma's native plants.

> Volume 27, Number 1 Spring 2012

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15 May 2012

Gaillardia

The Oklahoma Native Plant Society Newsletter

CALENDAR

Note: the events dated below are followed by either a page number for further descriptions or the contact person.

March 5: NE Chapter Meeting with presentation by Jay Pruett, Page 7

March 24: Pat Folley presents Oklahoma Wildflowers at the Tulsa Garden Center. Page 10

March 26: Central Chapter Meeting with Nick Plata reporting on the state of the Wichita Mountains Wildlife Refuge. Page 9

April 13: Plants, People & Beyond: Annual OSU Library-Botany Lecture Series. Dr. Sarah Hayden Reichard, University of Washington, Seattle, will present Conscientious Gardening. Co-hosted by the Crosstimbers Chapter, Page 8

April 13: Cross-Timbers Chapter Potluck; Dr. Sarah Hayden Reichard will speak on *Citizen Science*, Page 8

April 21: NE & C-T Chapters Field Trip to Nickel Preserve in search of the yellow lady's slipper orchid, Page 6

May 19: NE & C-T Chapters Field Trip to Horsethief Canyon in search of Jack-in-the-Pulpit, Page 6

Fabulous Wildflower Fridays, the 3rd Friday of each month, Page 7

Note: all members are invited to all meetings, including board meetings, and are encouraged to bring guests.

ONPS THANKS THESE DONORS

General Fund

Mary W. Rader Dale and Sue Amstutz Memory of James Kemm Honor of Mary Korthase

Harriet G. Barclay Fund Mary D. Price

Anne W. Long Fund Mary D. Price

Paul Buck Fund Silent Auction



IMPORTANT GENERAL NOTICES

Note: The new website for ONPS as indicated on front page is www.oknativeplants.org. I will close out the old website at projects.usao.edu/~onps on the end of February.



BOTANIST'S CORNER MORE THAN MONARCH FOOD!

Mark Fishbein

Some ecological stories are so good they make one wonder why anyone would want to be anything but an ecologist. Take for example the relationship between the monarch butterfly and milkweed. Many caterpillars have restricted diets and survive by eating only one or a few plant species. Monarchs are one of these, and their required sustenance comes only from milkweed. While I have a great appreciation for monarchs, it's the milkweeds that I really love.



Before waxing more or less eloquent about the joy of milkweeds, though, I want to relate the details of the milkweed-monarch story. Monarchs have a large buffet of milkweeds to choose from: there are over 120 species of milkweed (Asclepias, now placed in the plant family Apocynaceae) spread across most of North America, and a handful found only in South America or the Caribbean. Monarchs have been found to feed on over onethird of these species, but many milkweeds are very poorly studied, and it is likely that they can eat all milkweeds. The thing that strikes me about monarchs is that anything eats milkweed at all! The plants deploy a number of defenses against insect feeding, including hairs, waxes, gooey latex, and a variety of toxic chemicals.

Foremost among the chemical weapons are cardenolides, chemicals that stop animals cold, right at the cellular level, where they knock out the mechanism for moving salt ions into and out of the cell. This has a wide variety of dastardly effects; for mammals, it means affecting the function of cardiac muscle cells. Normally a bad thing, these toxins can be used as important medicines to regulate the heartbeat, such as the digitoxin obtained from foxglove.



Similarly, cardenolides are deadly toxic to almost all insects. However, monarchs and a few other species have harnessed cardenolides for their own benefit. Remarkably, in consuming milkweed leaves monarch caterpillars sort out the cardenolides from the nutrients and, rather than expel them or destroy them, caterpillars store them during their development! When the caterpillars metamorphose into butterflies, the cardenolides are still in storage and still deadly. Birds, major predators of butterflies, quickly learn that monarchs are poisonous, or they suffer Darwinian consequences. The protection against birds is so effective that another butterfly, the viceroy (despite the similarly regal moniker, this species is unrelated to the monarch), has evolved as a dead ringer for the monarch, and also avoids bird predation although it is perfectly edible.

Monarchs represent an extraordinary example of the evolution of extreme specialization in the relationship between an animal and a plant. What

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do milkweeds get out of this close relationship? Well, not much, it seems. Although monarchs are commonly found sipping nectar from milkweed flowers, my research, and that of my colleagues, show that monarchs are not very good pollinators of milkweeds, especially compared to bumblebees, honeybees, and their kin. Monarchs could pay for the benefits they gain from eating milkweed by aiding in milkweed pollination, but this doesn't seem to be the case. On balance, it seems that monarchs are milkweed freeloaders, if not foes.



Milkweeds have much more going for them than serving as monarch fodder. Their intricate flowers have diversified into a myriad of forms and colors, and which make them real "aha!" plants to field botanists and native plant gardeners. Only a few milkweeds, such as orange-flowered butterflyweed (*Asclepias tuberosa*) and the aptly named green milkweed (*Asclepias viridis*), with its hidden purple jewels



inside its otherwise mundane green flowers, are well known to Oklahomans. However, Oklahoma is a hotbed of milkweed diversity, with 24 species

native to the state! In the past couple of years, I've enjoyed seeking out the most rare of Oklahoma's milkweeds. One can find purple milkweed (Asclepias purpurascens) reaching the



very southwest edge of its range in northeast Oklahoma, a species much more common in the Appalachians. I've not yet sought out pineland milkweed (Asclepias obovata), a native of sandy



habitats in the southeastern U. S. that occurs in southeastern Oklahoma, primarily in our narrow sliver of coastal plain. My wife, Lane, and I have searched diligently and fruitlessly for what is undoubtedly the most rare of Oklahoma's milkweeds, the dainty, elusive, and, I daresay frustrating wheel milkweed (*Asclepias uncialis*). This species is known to occur in the state only because it was collected by legendary OSU plant

ecologist James K. McPherson on Black Mesa. Lane and I scoured the mesa for this very rarely seen inhabitant of shortgrass prairie. I think Lane may feel that we gave it the good fight, but I'm determined to find these "mini-milkweeds", growing just a couple of inches high on Black Mesa. Any takers?

Well, I could go on and on about Oklahoma's milkweeds. Perhaps I've made you just a little more curious about which milkweed that monarch you are watching is going to land on and eat.

CONSERVATION CORNER

Chad Cox

I would like your help on my work on invasive plants. Initially, this will be a concentrated effort on just two plants. They are callery pear (think Bradford pear), Pyrus calleryana and ravennagrass, Saccharum ravennae. Bruce Hoagland in his ranking of the invasive plants has listed these two as to be watched and from my own observations, given time, I think P. calleryana may be as bad as red cedar and they will sucker as long as the roots are not removed which red cedar does not. S. ravennae has certainly populated many riparian areas around central Oklahoma that I have visited so could be a major problem like tamarisk. And it does spread out more into the surrounded area than does tamarisk

Tom Elmore, Colorado University, has a program that predicts where plants will move given where they are now and where they are not. He mostly works from GPS coordinates. So that is what I need to have him tell me where these plants are likely to infect here in the near future. However, even if you cannot supply coordinates, I can probably determine those if given precise instructions to a location. So what I am asking for is when you visit a likely site, note whether the species is present or not. Callery pears will grow in any area that supports grass, even if is a small area among established trees. Ravennagrass prefers riparian and wet areas. Email your findings to chadwick.cox@att.net.

Both these plants should be easy to identify. We all know what Bradford pears look like. Ravennagrass is a common landscape plant, like pampas grass with the large clump of basil leaves and plumes on stalks above, except ravennagrass

has very tall stalks and the plumes narrowly cylindrical are tan not white. The write ups below should help identify the species and the website addresses at the end of the write up will take you to a page with several pictures of the plants.

Callery pear, Pyrus calleryana, is an ornamental, deciduous tree that can grow up to 40 ft. (12.2 m) in height. Short branches can end in points. The leaves are alternate, simple, and slightly-toothed margins. The overall shape of the tree is often described as a tear-drop that often spreads out with age. Flowering occurs early in the spring (April to May) before the leaves emerge. The flowers are 1 in. (2.5 cm) wide, showy, malodorous and white. Fruits are round, 0.5 in. (1.3 cm) in diameter and green turning brown in color. The "Bradford" variety of pear, which produced sterile fruits and were not armed, has been widely planted throughout the United States since the early 1900s, but recent cultivars, bred to reduce the tendency of the tree to split in snow or high winds, have produced viable seeds and escaped to invade disturbed areas. www.invasiveplantatlas.org/subject.html?sub=10957

Ravennagrass, Saccharum ravennae. The clump of basal leaves can grow to 4 ft wide and tall. Stems are densely tufted, generally 2–4 m and well above the basal clump. The leaf has a thin ligule less than 1 mm and the leaf blade is less than 12 mm wide, generally densely hairy near ligule, and strongly serrate. Inflorescence is plume-like and 25–60 cm long. Spikelets are 3.5–7 mm but usually shorter; stalked floret deciduous; glumes lanceolate, base densely silky-hairy; cylindrical lemma. The native giant plumegrass has awns that are 12-15 mm and spikelets of 6-7 mm.

Ravennagrass is a riparian plant that does well on ditch banks and in marshes. It is native to Eurasia and is extensively use in landscaping and once established, can do well in drier areas. www.invasiveplantatlas.org/subject.html?sub=12271

BOOK REVIEW: The World is Blue by Sylvia A. Earle

Pat Folley

Sylvia Earle, National Geographic Explorer-in Residence and holder of almost every title in existence for undersea exploration, has published a new book on the ongoing crisis in ocean management. The subtitle, *How our fate and the ocean's are one*, reveals the context.

Using anecdotes about her life under water as illustration, she builds a powerful argument for the need for all people, everywhere, and not just those using the oceans in person, to become involved in a conservation agenda that involves saving our way of life: even our lives themselves.

An ardent ocean explorer, she has spent the last fifty years, using every device available, to gain access to the sea floor. She was one of the first users of the one-person submersibles as they were developed, and is only disappointed in not having seen more. What she saw was widespread destruction of the "gardens of the sea" by bottom-dredging fishing practices, wiping out whole breeding populations of fish, whether marketable or not.

The book could be a horror-story, but it is not. It is a description, almost poetic, of the under-sea world that most of us cannot ever see for ourselves. It is also a telling account of the science behind the efforts to save what is left of the marine environment. She claims that more than 90% of the big fish in the sea have been "harvested" during the fifty years of her tenure there, and that we who eat or profit from ocean products are already being impacted by the wastefulness of this practice.

I borrowed the book I am reviewing from the Norman Public Library, but I'm going to order my own copy today, so I can underline, stickynote, and otherwise render accessible the parts I cannot bear to lose. In short, this is a book that every thinking person will want to experience.

COLOR OKLAHOMA

Sow Some Wild Seeds

Pearl Garrison and Dr. Ronald J. Tyrl.

- In 2011 wildflower seeds were sown on:
 - nine acres along the Muskogee Turnpike at Muskogee*
 - o nine acres along the Cimarron Turnpike at Stillwater*
 - one acre along the Oklahoma River in Oklahoma City, and
 - o one acre on the edge of Cameron University at Lawton.
- Seeds for the Snodgrass Award winner were sown at Norman.

- Packets of 1/4 pound of seeds were mailed to 40 Oklahoma garden clubs in appreciation for their efforts to make the state more beautiful.
- 315 Color Oklahoma license plates were purchased or renewed, generating \$6,300 in income.
- Committee members are Pearl Garrison, chair; Ron Tyrl, vice chair; Mary Korthase, treasurer, and Laurie Effinger, Alicia Nelson, Joanne Orr, Marilyn Stewart and Craig Williams.

*The plantings doubled the acreage planted at those sites last year.

Conscientious Gardening & Citizen Science Plants, People & Beyond: Annual OSU Library-Botany Lecture Series

Ron Tyrl

In his 1949 A Sand County Almanac, Aldo Leopold proposed a new ecological ethic to guide our stewardship of the planet. On Friday, April 13, Dr. Sarah Hayden Reichard will discuss, in a lecture titled Conscientious Gardening, how we can bring Leopold's vision to our gardens to make them more sustainable, lively, and healthy places, while at the same time, avoid damaging the environment by depleting resources in our own soils and mining amendments elsewhere or using water and pesticides in ways that can pollute lakes and rivers. Drawing from her research on urban horticulture, she will explore the benefits of sustainable gardening.

Currently Director of the Botanic Gardens and Professor and Orin & Althea Soest Chair at the University of Washington, Seattle, Dr. Hayden Reichard is perhaps best known for her work on invasive plants. She is the author of *The* Conscientious Gardener: Creating a Garden Ethic, published in 2011, and Invasive Species in the Pacific Northwest, published in 2006. She also has authored or coauthored more than 75 book chapters, journal articles, technical reports, and miscellaneous publications, as well as serving on numerous national and international advisory councils. In addition to presenting her research at national and international meetings, sometimes as the keynote speaker, she has organized a variety of symposia and conferences. She earned her

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bachelor's, master's, and doctoral degrees from the University of Washington.

You are invited to attend Dr. Hayden Reichard's lecture and a reception afterwards, beginning at 3:30 pm in the Peggy V. Helmerich Browsing Room of the Edmond Low Library on the Stillwater campus of Oklahoma State University. Visitor parking is available in the Student Union Parking Garage, just a short walk from the library.

Dr. Hayden Reichard's lecture is being hosted by the Cross-Timbers Chapter, the OSU Department of Botany, the OSU Botanical Society, and the OSU Edmon Low Library. Her presentation will be the fourth in the Plants, People & Beyond: Annual OSU Library-Botany Lecture Series. Botanical illustrator Bellamy Parks Jansen, ethnobotanist/author Judy Jordan, and Myaamia cultural anthropologist/linguist Daryl Baldwin were our first three speakers.

In the evening, members of the chapter and OSUBS are hosting a pot-luck dinner beginning at 6:00 pm. We invite out-of-town ONPS members attending Dr. Hayden Reichard's talk to join us. Out-of-towners don't need to bring a dish; we'll have enough food for all. We will also supply utensils, plates, and beverages. The dinner will be held in Room 110 of the Life Sciences East Building, immediately adjacent to the library.

Following dinner, Dr. Hayden Reichard will present a lecture titled Citizen Science, in which she will discuss how using citizens to collect data is increasingly employed to simultaneously gain scientific information and engage the public on scientific issues. She will describe an awardwinning program of the University of Washington's Botanic Gardens that has more than 100 active volunteers across Washington State collecting data on the status of rare plant populations. The collected information is used by land managers to prioritize needs and by state agencies to track changes among populations and species. Other citizen science programs at the Gardens, such as BioBlitz—a rapid biological inventory that led to the discovery of a new species of spider found on the grounds—will also be described.

Please join us for Dr. Hayden Reichard's lectures, good food, and good fellowship on Friday, April 13th. Questions? Contact Ron Tyrl (405-744-

9558), Elaine Lynch msnelynch@yahoo.com or Mark Fishbein mark.fishbein@okstate.edu.

IN SEARCH OF THE YELLOW LADY'S SLIPPER ORCHID AND JACK-IN-THE-PULPIT

Joint Field Trips of the Northeast and Cross-Timbers Chapters

Alicia Nelson & Ron Tyrl

On Saturday, April 21, the Northeast and Cross-Timbers chapters are hosting a field trip to The Nature Conservancy's J.T. Nickel Family Nature and Wildlife Preserve northeast of Tahlequah in Cherokee County. Comprising approximately 17,000 acres in the Cookson Hills, the preserve has a rugged topography of wide and narrow ridgetops, steep slopes, and narrow valleys oriented in all directions that provide a variety of habitats for plants.



Our goal is to see *Cypripedium kentuckiense* (yellow lady's slipper orchid) plus other early spring flowering species characteristic of the eastern deciduous forest and Ozark Plateau.

- We will assemble at the preserve headquarters at 10:00 am to begin botanizing.
- The headquarters are located approximately 6 miles east of OK Hwy 10 on well maintained and signed gravel roads (Road 690). Travel time from the center of Tahlequah to the intersection of OK Hwy 10 and Road 690 is 15–20 minutes.

- The intersection is on the immediate north-side of Eagle Bluff Resort & Floats.
- Travel time from the intersection to the headquarters is 15-20 minutes.
- Bring a sack lunch and bottled water or soda.
- Toilets are available in the headquarters buildings.
- Wear appropriate clothing and shoes for moving through a variety of habitats.
- Bring insect repellant to ward off ticks.
- We will drive about the preserve to reach different habitats.
- Botanizing will likely end about 3:00 or 4:00 pm
- For those wanting to stay in Tahlequah
 Friday night, there are numerous motels
 at a variety of prices. Google "Tahlequah
 motels" or go to:
 http://www.tourtahlequah.com and click
 on the "Stay" tab.

An enlargement of the map can be obtained at http://www.nature.org/ourinitiatives/regions/nort hamerica/unitedstates/oklahoma/placesweprotect/nickelpreserve-website-20110707.pdf

On Saturday, May 19th, the two chapters are hosting a field trip to legendary Horsethief Canyon near Perkins in Logan County. Cut by a tributary of the Cimarron River, the canyon extends for about 400 feet into the red sandstone and shale of the south bank of the river and is the home to a number of species characteristic of the eastern deciduous forest. Our goal is to see *Arisaema triphyllum* (Jack-in-the-Pulpit) at the western edge of its geographical range as well as other spring flowering species.

- We will assemble in parking lot between Life Sciences East and Physical Sciences building on the OSU campus at 9:30 am to carpool and caravan to the canyon; about a 30-minute drive.
- Wear appropriate clothing and shoes for walking a steep trail into and out of the canyon.
- Bring insect repellant to ward off ticks.
- Botanizing will likely end about 12:30 or 1:00 pm.
- Picnic tables are available; feel free to bring a sack lunch and bottled water or soda.
- Outhouses are available.

• For those wanting to stay in Stillwater Friday night, there are several motels at a variety of prices. Google "Stillwater motels" or go to http://www.stillwaterchamber.org/general.asp?id =569

Please join us! In order to have an estimate of the number of individuals attending, please let Alicia Nelson (918-599-0085; aknisn@att.net) or Ron Tyrl (405-744-9558; rj.tyrl@okstate.edu) know that you are coming.



CHAPTER ACTIVITIES

Northeast Chapter Alicia Nelson

Thank you Northeast Chapter members for your support! As your chairman, I want to encourage all our members to become involved in some aspect with our group. Many of us, enjoy our meetings and the educational component. Some of you, enjoy meeting the public through community events. And quite possibly, there are a few of you with the adventurous spirit that love hiking in search of the Oklahoma wildflowers. Whatever your interest may be, come and join us for a great year.

The first chapter meeting for the year will be March 5th at the Tulsa Garden Center at 7:00. Our informal get together begins at 6:30, please bring an appetizer or dessert to share. We have an outstanding guest speaker for the evening, Mr. Jay Pruett, Director of Conservation for the Nature Conservancy of Oklahoma. He has a broad career in environmental management on the national and international level. A \$5.4M rainforest project in Brazil and a 4-million- acre rainforest project in Bolivia are direct results of his leadership and have achieved prestigious awards. He will share his expertise about new conservation initiatives for The Nature Conservancy and its preserves. Come and enjoy his presentation!

Put on your sneakers, here are the scheduled activities for our chapter.

- Feb. 18th Indoor Fair at the Tulsa Garden Center
- March 24th "Oklahoma Wildflowers" by Patricia Folley at the Tulsa Garden Center. Described in article above.

- March 31st...Echofest at Tulsa Community College
- April 21st Field Trip to J. T. Nickel Preserve in Talequah. Jeremy Tubbs, Preserve Director, The Nature Conservancy will be our guide. Described above.
- May 19th Field trip to Horsethief Canyon near Perkins. Described above.

Additional field trips are under construction! Look for the details soon.

Please email me at aknlsn@att.net or call 918/599-0085 for further information.

"Fabulous Wildflower Friday's" are held every third Friday of each month at Panera Bread on 41st and Hudson in Tulsa. We meet at 5:30 for a fun social time, sometimes

Cross-Timbers Chapter Ron Tyrl

Ever since our dessert potluck in November, members of the chapter have impatiently awaited the appearance of the first spring wildflowers and the opportunity to again get into the field. In anticipation, the chapter has scheduled three spring activities.

On Friday, April 13th, the chapter is co-hosting a lecture by Dr. Sarah Hayden Reichard, Professor and Orin & Althea Soest Chair in the School of Forest Resources and Director of the Botanic Gardens at the University of Washington. The title of her presentation is *Conscientious Gardening*. Details of her talk are described elsewhere in this issue. This will be the fourth presentation of the Plants, People & Beyond: Annual OSU Library-Botany Lecture Series.

This same evening, the chapter will hold our traditional spring potluck beginning at 6:00 pm in Room 110 of the Life Sciences Building immediately adjacent to the Edmon Low Library. We invite out-of-town ONPS members attending Dr. Reichard's talk to join us. Out-of-towners don't have to bring a dish; we will have enough food for all. Dr. Reichard has graciously volunteered to give a second talk titled *Citizen Science*. She will describe employing the public to collect a variety of botanical data, e.g., when flowers bloom to document climate change, the status of rare plant populations, and rapid

biological inventories (bioblitzes) of interesting sites.

Two field trips, co-hosted with the Northeast Chapter, are scheduled. On Saturday, April 21st, we will be visiting The Nature Conservancy's J.T. Nickel Family Nature and Wildlife Preserve north of Tahlequah. Our goal is to see *Cypripedium kentuckiense* (yellow lady's slipper orchid) plus other early spring flowering species characteristic of the eastern deciduous forest and Ozark Plateau. On Saturday, May 19th, we will be exploring Horsethief Canyon near Perkins in search of flowering *Arisaema triphyllum* (Jack-inthe-Pulpit) and other species.

Organizational details of both trips are described elsewhere in this issue. Please join us!

FIELD TRIP RULES

- Participation is at your own risk.
- Preregistration is required for all field trips.
- Field trip announcements will contain the name, address, and telephone number of the leader. If you have doubts about the terrain, difficulty, etc., ask.
- Collecting any plant parts or other materials at the site must be approved by the field trip leader.
- Field trips take place rain or shine. Hiking boots, long pants and a hat are essential.
- Bring water and lunch or a snack. Sunscreen and insect repellent are always in demand.
 Field guides, a camera and binoculars are nice.
- All ONPS field trips are open to the public at no charge, unless charges per-member are specified in the announcement. Visitors and newcomers are always welcome.
- Children old enough to keep up are welcome.
 Pets are not.

Central Chapter Joe Roberts

The Central Chapter hosted the annual ONPS Indoor Outing on February 4th at Oklahoma City University. Over 90 people attended, and several new members were signed up as well! Attendees were treated to great presentations by Bruce Hoagland of the Oklahoma Biological Survey, Al

Sutherland of the Oklahoma Mesonet, Karen Hickman of OSU, and a lunchtime presentation by Pat Folley about her new book "The Guide to Oklahoma Wildflowers." After a nice lunch, we had practical breakout sessions to encourage people to "Know Your Composites" with Adam Ryburn, "Know Your Lichens" with Sheila Strawn, and "Know Your Ferns" with Bruce Smith. All of this was capped off with a silent auction to benefit the new Paul Buck Award, and beautiful photos from past and present ONPS photo contest entries. Thanks to everyone who worked to make this Indoor Outing a success, and that means all those who attended, too.

The Central Chapter will resume regular meetings on February 27, 7pm at OSU-OKC with a presentation by Jona Tucker of the Nature Conservancy. The title of Ms. Tucker's presentation is "The Nature Conservancy's Newest Preserve: The Blue River Project."

Then on March 26th, 7pm at OSU-OKC we will meet to hear Nick Plata, Environmental Education Specialist with the Wichita Mountains

Wildlife Refuge, give a presentation on the state of the refuge.

Both of these meetings will be held as usual in room 193 of the Agricultural Resource Center of OSU-OKC. A campus map can be seen at www.osuokc.edu/map/ .

Later in the year, we hope to follow up both of these presentations with field trips to the respective areas, so be sure to attend to get your appetite whetted. We have several other activities planned for the year, so keep an eye out for email announcements. All welcome!

WELCOME THESE NEW MEMBERS

John F. Fisher, Tulsa Lori Hutson, Barnsdall Todd Lasseigne, Tulsa Dean Simmons, Norman Kalvin Simon, Wichita, KS Brad Watkins, OK

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OKLAHOMA WILDFLOWERS

For the first time in 25 years, a guide for Oklahoma wildflowers has been published!

On Saturday, March 24, 2012, plan to attend as
Patricia Folley presents
"OKLAHOMA WILDFLOWERS" at the
Tulsa Garden Center, 2435 S. Peoria Ave., Tulsa, OK
Free Admission!
4:30 p.m. Doors Open, 6:00 p.m. Presentation

"The Guide to Oklahoma Wildflowers", will be for sale (\$30 tax included), which may be signed by the author, Patricia Folley.

Native Plants will be available for purchase from Grogg's Green Barn, Pine Ridge Gardens and Wild Things Nursery

Obtain information from Color Oklahoma, Nature Conservancy,
Oklahoma Centennial Botanical Garden,
Oklahoma Native Plant Society, Oxley Nature Center,
Tulsa Audubon Society and Tulsa Perennial Club.

Special Membership Offer!

2012 Oklahoma Native Plant Society individual membership

AND "The Guide to Oklahoma Wildflowers", for \$40.

Desserts and a drawing for Raffle Prizes after the presentation.

www.tulsagardencenter.com
Seating is limited. Come early to receive your free admission ticket.

Congratulations to all authors past and present who have contributed to the *Oklahoma Native Plant Record* and THANK YOU to all who have subscribed and supported the journal of the Journal of the Oklahoma Native Plant Society. It has been certified for inclusion in the Directory of Open Access Journals. DOAJ is a global online directory of research journals housed in The Hague, Netherlands. It is a part of SPARC Europe which also includes works housed in 19 European Research Libraries. SPARC provides 5 million digitized products and DOAJ serves 6 million search requests a month. DOAJ includes 1355 journals from the US and *The Record* is one of only 80 botanical journals in this worldwide directory. These open access journals are free to the public. No memberships or fees are required. Researchers from all over the globe can search all the journals in the directory.

If you know of any authors who have been holding back, thinking that the *Oklahoma Native Plant Record* is too small and unknown to make it worth their while to submit their articles, let them know about this. We've published eleven years of quality research, and it's now ALL available globally to any researcher with an internet connection.

You can check it out for yourself: www.doaj.org

If you haven't ordered your copy of Volume 11 by now, don't delay. We have limited the number of print copies of the journal to reduce expenses. Back copies are still on sale for \$5.00.

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The Gaillardia

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Historian Jeannie Coley

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Alicia Nelson Northeast
Joe Roberts Central
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Steve Marek Mycology

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