



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

Volume 20, Number 4
Winter 2005

LOOK INSIDE FOR

PRESIDENT'S PARAGRAPH	2
IMPORTANT NOTICES	2
BOTANY BAY	2
BOOK REVIEW	4
COLOR OKLAHOMA	4
CONSERVATION CORNER	5
SCOTTISH FLOWER TRIP	6
PHOTO CONTEST POSTER	6
ANNUAL MEETING	7
SILENT AUCTION	8
CHAPTER ACTIVITIES	8
WELCOME NEW MEMBERS	10
ONPR ORDER FORM	10
MEMBERSHIP FORM.....	11

ONPS website: <http://www.usao.edu/~onps/>

Email: chadwick.cox@cox.net

Printed on recycled paper

**COPY AND ART DEADLINE
FOR NEXT ISSUE IS
15 February 2005**

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.

- Dec 3: Board Meeting. UCO, 10 AM. Contact Connie Murray cmurray@tulsa.cc.ok.us.
 Dec 5: NE Chapter Happy Hour. Page 9
 Dec 16: NE Chapter Meeting. Page 9
 Jan 21: Crosstimbers Chapter Field trip to "Fern Valley". Page 9.
 Jan 31: Central Chapter Meeting, OSU/OKC, Deborah Dalton will speak. Page 10
 Feb 11: Indoor Outing will be held at UCO. See President paragraph.
 Mar 24: Crosstimbers Chapter Meeting. Ron Tyrl will speak. Page 10
 Mar 28: Central Chapter Meeting, OSU/OKC, Dave McNeely will speak. Page 10

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

ONPS THANKS THESE DONORS

General Fund

Mary Korthase

Color Oklahoma Fund

American Electric Power

Mrs. Gerald G. Stamper

Oklahoma Native Plant Record

Richard Bradley

I hope you had an opportunity to attend the Annual Meeting at Quartz Mountain in October. The weather was beautiful, the field trips interesting and informative, set in arid rosy granite hills. The facilities were comfortable and charming, the food delicious – if a bit slow in arriving sometimes. And the Silent Auction was great fun – thanks to Kim Shannon and all our thoughtful and creative donors. Let's plan to have another next year – we raised nearly \$400. If you didn't attend the Annual Meeting, and especially if you often do but didn't this year, please drop me a line to let me know if there was a reason – that I can correct for next year. We are moving to the northeastern part of the state next year. The 2006 Annual Meeting is tentatively scheduled to be October 6, 7, 8 at Western Hills Lodge at Sequoyah State Park, near Wagoner.

I have just collected all the pots of plants that festoon my porches in the warm months and brought them into the garage for the winter. Today it was 70°F and sunny but tomorrow night is scheduled to be 28°F, windy and rainy. I delight in the luxurious ferns, the airy elegance and sense of cool they give the porches in summer and so appreciate that they will grow in the shade. But, every year when I move the ferns, I reflect about our hearty native Oklahoma plants. They endure the whims of our weather, no pots, no watering can, no garage, no greenhouse. Imagine being out in the elements, with Oklahoma's fluctuating temperatures, floods and droughts, and prairie winds day after day, year after year! These Oklahoma natives have my respect and admiration, for their flexibility, tenacity and resilience. These reflections on diversity of species bring me to the Indoor Outing.

The Indoor Outing will be February 11, 2006. Our topic this year is Charles Darwin and his *On the Origin of Species*, and insights into species diversity, in honor of his 196th birthday. Anticipate a Darwin Trivia Quiz. Clark Ovrebo has made arrangements for us to meet in the morning at UCO (University of Central Oklahoma – old Central State College) in Edmond. In the afternoon, we will tour the Crystal Bridge, for

examples of more species diversity, in downtown Oklahoma City. Lunch is 'on your own'. It should be easy to accommodate all in Brick Town, a few blocks from the Crystal Bridge. See the registration form included in this newsletter.

Oklahoma is lovely in the winter. It is a great time to go into the forests and brush up on winter botany. Hope to see you out in the woods – or at least at one of your chapter meetings.

Connie Murray

ಅನುಬಂಧ ೧

IMPORTANT GENERAL NOTICES

Remember the new volume of the Oklahoma Native Plant Record is available. The price is \$9 for both the hard copy and the CD versions. See page 10.

Remember the 2006 Dues will be \$15 for individuals and \$20 for families. See form, page 11

అనుచును అనుచును అనుచును అనుచును అనుచును

BOTANY BAY

Paul Buck

How Does Water Get to the Tops of Tall Trees

I've tried to communicate to Botany Bay readers there is an endless supply of botanical questions to ask. The interesting thing about these questions is we may not find answers but we will learn more about plants and the world in which we live. Continue questioning and seeking answers. When you are no longer curious and raise questions you are probably brain dead and should seek help from your friendly undertaker.

Today's question is, How Does Water Get to the Tops of Tall Trees? That raises a related question, How Tall do Trees Get? Here one would probably say 'Not very tall in western Oklahoma, anywhere from fifty to ninety feet in the eastern part of the state, taller along the East Coast and taller yet in some areas of the Pacific Coast' Rereading the last two sentences brings to mind an interesting article that appeared in the Saturday Evening Post many years ago in which the author related some of the questions asked of National Park Rangers by tourists it was reported that during a guided tour of Carlsbad Caverns one tourist asked 'Mr

Ranger, how many undiscovered caves are there in the United States?

Evidence indicates the tallest trees on earth are restricted to North America. The Mendocino Tree, a coastal redwood of northern California was measured as 367 feet tall. It has been suggested there may have been taller trees. However, it was also speculated that due to their size and value they were among the first to fall victim to the ax. I find no evidence for the contention there are 425 foot trees in Australia. If they existed they too may have been felled in the lumbering rush of the 1880s. Today the tallest living trees on earth are apparently restricted to western North America. That geographic distribution is probably related to the abundant moisture along the western coast of our continent. But back to the original question.

Think about the question for a moment. How would you answer? Obviously there is no pump to move fluids through the organism. Press your ear against a tree and listen. There is no 'lubb-dub' sound as found in the human. At the same time there are no evident veins and arteries to carry fluids - but trees do have open cells through which fluids can freely move.

No doubt many will come up with explanations similar to those proposed by students. I recall one suggesting that since there are no trees on mountain tops (the low growing vegetational association is called tundra) and water seeks its own level, rain and snow melt flow down to lower elevations and up into tall trees. I hope YOU quickly rule out that explanation for a variety of reasons. It has also been suggested that since atmospheric pressure drops with an increase in elevation it is that change in pressure that lifts water in tall trees. There is little reason to discuss this in depth but let me say an absolute vacuum will force water up only about 34 feet, much too little for tall trees. For a detailed explanation of this phenomenon refer to a basic physics text.

First, an elementary review of the physical structure of a tree to help develop a concept of the water path through the organism. Each root tip (there are thousands) bears hundreds of tiny, fragile root hairs which pick up water by osmosis. A few terms you may recall from an earlier Science course:

OSMOSIS: The movement of water from an area of high to low concentration through a differentially permeable membrane. What happens when you pour salt on a slug? Why?

TRANSPIRATION: The loss of water from a plant as it evaporates from inner leaf cells and is lost to the atmosphere through pores (stomates) in the leaf.

COHESION: The attractive force between like molecules. This force holds water molecules in a drop clinging to your finger.

CAPILLARITY: Spontaneous movement of water up or down a tube or capillary. Unbalanced molecular attraction at a boundary between a liquid and a solid, e.g. water meniscus.

The osmotic flow of fresh water into the roots results in a stream of water to the tiny open cells. The water then climbs higher by capillarity and cohesion, each water molecule attached to the one below forming a continuous chain up the trunk, to branches, to twigs, to individual leaves where a small amount is used in photosynthesis (the food manufacturing process requiring light energy, carbon dioxide and water). Most of the water is lost in evaporation in the inner leaf and ultimately out leaf pores (stomates) in transpiration.

As each molecule of water is utilized, or lost in evaporation, it pulls up the next in a long cohesive chain down to the roots. It is estimated that in tall trees it requires about 24 days for a water molecule to make the journey from root to leaf.

Many wonder how strong the cohesive chain of water can be? How high can it lift that column of water molecules? Physicists tell us the force can lift water much higher than necessary for any of the known tall trees.

It seems the difficulty getting water so far up into the sky is what ultimately limits the growth of some trees in height. Researchers have climbed to the tops of these trees and measured the tension of the water column and found it increases with height. They also discovered the tension varies with temperature and humidity. At dawn when the humidity is high, little water is lost from the leaves with the loss increasing as the day progresses.

The rate of photosynthesis decreases with height and may even cease with loss of soil water. The cessation of photosynthesis and loss of water may result in a break in the water column often resulting in death of upper tissues. Researchers have found evidence upper portions of trees have been killed back repeatedly through the years, perhaps due to drought increasing tension to the point the water column breaks.

There it is, a very basic introduction to the currently accepted explanation for water reaching the tops of tall trees, There are many bits of research that support the hypothesis but at the same time many unanswered questions are raised. If you can come up with a better hypothesis, please do.

ತುಳುಕು ತುಳುಕು ತುಳುಕು ತುಳುಕು ತುಳುಕು ತುಳುಕು ತುಳುಕು

BOOK REVIEW

Chad Cox

James L. Castner
Photographic Atlas of Botany and Guide to Plant Identification

That is, sort of a book review. The book is spiral clad book of 310 pages full of excellent photos. The first 58 pages covers terminology and plant anatomical features, all illustrated by photos, even including microscopic pictures. The rest of the book is a photographic taxonomy from ferns and fern allies through flowering plants, all down to family level. Each family is represented by photos of anatomic features with genera and habit descriptions.

While I have no trouble appreciating the photography and the benefit of having the anatomical features depicted by photos instead of line drawings, I can not speak to the author's accomplishing his stated goal. That goal was to provide a guide for General Biology. He states that other photographic guides are available, they lack thoroughness and are inconsistent in photo quality. His photos are consistently good. The author is a professor in the Department of Biology at Pittsburg State University in Kansas. He has published previously a photo guide for entomology that led other professors to suggest the current guide for botany.

The book deserves a worthy review with respect to whether it meets the goal of being a truly good guide for General Biology. So one of you Botanists that would like to do this review get in touch.

ஒருநொடி ஒருநொடி ஒருநொடி ஒருநொடி ஒருநொடி

COLOR OKLAHOMA UPDATE

Kim Shannon

The Color Oklahoma committee has been busy with two main items since this summer. The fall planting season went well this year. Four sites were planted with a variety of native seeds from the specialty tag sales funds, a donation from AEP/PSO and from many individuals. PSO donated \$1,000.00 for Purple coneflower, tickseed, and Indian blanket seeds that were planted just south of Bartlesville. ONPS and Color Oklahoma received nearly \$6,000.00 from our first year of tag sales, of which, only a portion was spent. Approximately \$3,000.00 was spent to plant 2 acres of Indian blanket and Black-eyed susan in midtown Tulsa and 3 acres of Purple coneflower, Tickseed, Mexican hat, Black-eyed susan, Claspig coneflower, Indian blanket and Lemon mint at both a site along I-40 near Sallisaw and at the OK/AR state line. Now all we need is some rain!

Beginning in 2006, Color Oklahoma will establish a grant program to better disperse and maximize seed funds from tag sales. Forms, details and logistics for the grant program are in the planning stages but by next spring we hope to have applications available for our new matching grant program. We will encourage cities, civic groups, clubs, churches, conservation organizations and individuals who wish to plant on a highway near their community to apply for a matching grant for next year's fall planting season. Funds will be matched 50:50 so we can maximize our planting efforts across the state. The grant program will fund the planting of native seeds only. If non-native seeds are requested, applicants will be referred directly to the Oklahoma Department of Transportation's beautification office.

ತುಂಬಿ ತುಂಬಿ ತುಂಬಿ ತುಂಬಿ ತುಂಬಿ ತುಂಬಿ ತುಂಬಿ

PROJECT FOR THE NE CHAPTER

Kim Shannon

The Color Oklahoma project was approached by the City of Jenks for assistance and input in the planning and eventual planting of their new Veteran's Park. While Color Oklahoma hopes to work in public parks in the near future, currently it is restricted to planting along highways. Meanwhile, the City of Jenks would still like input from ONPS. They would like us to help them with plantings on a sloped bank at the south side of the pond to begin with. While I have made some initial contacts to various ONPS members for their expertise, I would like to rally the troops in the Northeast chapter (and others who are interested) to assist with the planning and eventual planting of native plants at this park. The planning stage would include putting together a plant list with costs. A large pond dominates the park and current site plans call for a small arboretum, fishing docks, a Veteran's memorial, and a gazebo. The City of Jenks will maintain the park but their limited staff would appreciate our input regarding native plants for the site. Interested in helping? Contact Kim Shannon at either www.okpenstemon@yahoo.com or 918.425.0075 and watch the Gaillardia for more details!

စာနာရန် စာနာရန် စာနာရန် စာနာရန် စာနာရန် စာနာရန်

CONSERVATION CORNER

Chad Cox

At the Federal level, the USA has failed to act on reducing the causes of global warming. The best that was done was that Senators Pete Domenici and Jeff Bingaman drafted a non-binding resolution for a global warming agreement. However, California, lead by Gov. Schwarzenegger, has essentially signed onto the Kyoto Agreement. Additionally, Mayor Greg Nichols of Seattle started a city program to lower global warming emissions. To date, over 400 cities worldwide have signed on, including Norman. Has your city agreed?

Other new developments give hope that a shift has occurred. Arizona, Montana, New Mexico, and Wyoming have elected Governors that have run for election based on environmental issues as opposed to their pro business challengers. Voters also elected Ken Salazar who ran for a US Senate seat on the slogan "Protecting Colorado's land, water and people". Coloradans approved ballot initiatives for mass transportation and renewable energy.



Used with permission of Bob Thaves

Polls show that in the Rocky Mountain area voters are very environmentally oriented. They are a combination of hunters, fishermen, and traditional conservationists. The statement by Alan Lackey, a New Mexican hunter and rancher, about extractive processes for "a few quick bucks, is like burning down the house to stay warm for one night" sums up the general view.

The faith community, including evangelicals, are promoting environmental concerns more often now. This is referred to as the "God message" which essentially says God created this and we have a moral obligation to protect it. This is a thought that divides the faith community between those that adhere to this and those that do not. As

more religious leaders are adopting this attitude, more of the faith community are joining the fight for the environment.

Although this promising trend exists, not all is rosy on the environmental front. The U.S. House of Representatives recently passed Pombo's HR3824, the Threatened and Endangered Species Recovery Act, which would gut the Endangered Species Act. The Senate is due to consider this question in the near future. The National Aquatic Invasive Species Act did not pass Congress and the Senate considered S 363, a weaker bill that addressed only the bilge water route of entry and even there would delay enforcing the more effective methods of eliminating invasive species. Fortunately, National

part the meeting started with the dinner meal and that as well as all the food at the lodge was good. Later the park naturalist, Sue Hokanson gave us a taste of the geology of the area and then a picture show of some of the wildflowers of the area.



Sue Hokanson leading our field trip.

The next morning was a field trip lead by Sue and Kim Shannon to an area that had been deeded to the park by a climbers society. They had purchased the area that contained a granite hill with a sheer face that is a challenging climb.



Climber's face at Quartz Mountain

One of the interesting aspects of the box canyon was the many mesquite trees that were brought into the area by the cattle that were kept in the canyon on drives to the railroad yards. The afternoon field trip was a self guided walk along the dike in front of the nature center.

The evening presentation by Kathy Wilson, Recreational Director for the lodge, covered the history of Altus Lake including the expansion by a second dam that provided sufficient water to

irrigate many acres of farmland. This presentation split our business meeting into.

Essentially our slate of officers remained the same with the exception that Sharon McCain is the new Historian and Ron Tyrl and Lynn Michael are new Directors at Large. The by-laws change that removed the term limit of the Treasurer was approved as was the dues increases. Carol Eames, a garden activist in the Tulsa area, took the Anne Long Award and Joanne Orr was awarded the Service Award. Kim Shannon had put together a silent auction that was successful and fun.

At the Board Meeting the next morning we found that the by-laws need some revisions and a committee will be formed. Kim Shannon reported on the growing pains of Color Oklahoma. All the Chapters reported their activities and they were certainly active.

ಅನುರೂಪ ಅನುರೂಪ ಅನುರೂಪ ಅನುರೂಪ ಅನುರೂಪ

SILENT AUCTION WAS A HIT

Kim Shannon

The first silent auction held during the Annual Meeting at Quartz Mountain went very well! We received 19 items for auction and we raised nearly \$400.00 for the general ONPS fund. Auction items included several books with many of them signed by their authors, workshop registrations, an original watercolor and a print from an oil painting, handmade glass bead jewelry, a personalized counted cross stitch piece, a Gaillardia pillow, a walking stick, a basket of organic foods, a baby blanket, embroidery, a seasonal garden sign, and many more things. Your fellow ONPS members donated most of the items but we also received donated items from Oxley Nature Center (Tulsa) and Wild Oats Market (Tulsa). A huge THANK YOU to all the members who both donated and purchased items! I plan on coordinating an auction for the 2006 annual meeting so keep your eyes open for that special something you might like to donate next year.

ಅನುರೂಪ ಅನುರೂಪ ಅನುರೂಪ ಅನುರೂಪ ಅನುರೂಪ

CHAPTER ACTIVITIES

Northeast Chapter
Sue Amstutz

The Northeast Chapter has had three field trips this fall. The first, On September 24, found us exploring trails and open areas of Sequoyah State Park on Lake Fort Gibson. These included a portion of the Choctaw area woodland trail; a "meadow" and "beach" area adjacent to a primitive picnic area; and openings paralleling an abandoned airstrip which is in reality a disturbed area but since it had not been mowed this fall, provided an amazing collection of autumn blooming plants. Twenty-six different wildflowers, several fungi, a variety of berry-producing plants, and a number of grasses were observed.

Our second fall field excursion was to Lake Oologah on October 22. Plans to hike and explore the Skull Hollow Nature Trail had to be scrapped. The Skull Hollow trail was closed due to hunting season. Fortunately, a shorter trail which connects a public use area to the Skull Hollow trail was still open, so we botanized along it, making a loop back to our starting point by following the campground road which intersects the trail access road. We noted several varieties of late-blooming wildflowers, several vines including passionflower bearing fruit, many varieties of trees, grasses and shrubs, notable of which was rough leaf dogwood in fruit. Seven participants took advantage of a perfect autumn day in the field.



The Asa Gray "Birthday Party"

Our third trip, on November 12, at the time of this writing, is yet to occur. We plan to hike the Elliott section of the Pryor Creek Nature Trail at Pryor to take advantage of the remaining fall foliage and whatever else we can find. This trail which parallels Pryor Creek was included in one of our Northeast Chapter field trips last June, but this time we will be walking a different section of the trail so everything will be new to us.

The Chapter continues its monthly Happy Hour

events at Panera Bread Company on East 41st Street in Tulsa. A special "feature" of the upcoming November 18 Happy Hour will be the observance of the birthday of Asa Gray (who is called the Father of Botany). Asa Gray was born on November 18, 1810. The final Happy Hour of 2005 is scheduled for Friday, December 16. Our next meeting will take place on Monday, December 5. We will begin as always with a Potluck supper, followed by a short business meeting. The evening program will be a slide presentation, "The Four Seasons at Lyle Lake, Colorado" with Dale and Sue Amstutz as presenters. The Amstutzes hike each year to Lyle Lake, a subalpine jewel nestled at 11,300 foot elevation just west of the Continental Divide in Central Colorado.

Crosstimbers Chapter Elaine Lynch

Chapter members and guests enjoyed a delicious potluck dinner on November 11th, on the OSU campus. Two dishes deserving special mention were a salad with a winged sumac-flavored dressing and a wild persimmon pudding. At our business meeting following the dinner we held our officer election for 2006. The current officers were re-elected: Paul Richardson - chair, Olen Thomas - vice-chair, and Elaine Lynch - secretary/treasurer. We also discussed future programs. Pearl Garrison spoke at the potluck. Her topic was "The Future Oklahoma Centennial Botanical Garden." Ms. Garrison is a Master Gardener and volunteer at the Oklahoma Centennial Botanical Garden/Education and Research Center which is under development northwest of downtown Tulsa, near the Gilcrease Museum. It will be a comprehensive botanical garden with areas devoted to different themes. A few of the gardens planned are an Oklahoma wildflower garden, a children's garden, watercolor gardens after Monet and Van Gogh, and an America the Beautiful garden. There will also be a visitors' center, amphitheater, orangery, and chapel. A significant part of the botanical garden's 300 acres will be left in a natural state, showcasing the vegetation of the Cross-timbers area where the garden is located. Ms. Garrison highlighted her presentation with pictures of the site plan and other gardens that illustrate the different gardens planned.

The Crosstimbers chapter plans a field trip to 'Fern Valley', near Lake Carl Blackwell, on January 21, 2006. Our spring potluck will be March 24th. Ron Tyrl will present "Old Friends in New Places: A Taxonomist Visits Australia". We also plan a return trip to Dr. Ownby's garden in May or June to view his spring wildflowers. Arrangements for all of these are still being finalized.

For information about chapter activities, contact Paul Richardson, chair (405-377-4831), Olen Thomas, vice-chair (405-743-3613), or Elaine Lynch, secretary-treasurer (405-624-1461).

Central Chapter
Marilyn Stewart

September 17th: We met at the home of Dan and Jeannie Coley, southwest of Norman. What a beautiful spot! We had 25 members who took the tour of their acreage filled with native trees and shrubs and a sunny area with a pond. There were quite a few butterflies, too. Jeannie handed out a list of plants we saw, and indicated if they were native, introduced, or introduced natives.

October 29th; We had a great turnout for the field trip to Pontotoc Ridge. The Nature Conservancy's Jim Erwin had a campfire going for us when we arrived, it was a perfect day to be out wandering through the fields and woods. Rusty Blackhaw,

bittersweet, Indian Cherry and rose hips were just a few of the fruiting plants we saw. The grasses and seed heads were impressive, too.

November 28th: 7:30 OSU/OKC Melynda Hickman will be speaking to us about the Wildscape Program offered by the OK Wildlife Department.

January 31st OSU/OKC 7:30 Dr. Deborah Dalton of O.U. will speak on some of the great native perennials we have in Oklahoma.

March 28th OSU/OKC 7:30 Dr. Dave McNeely, Professor of Biology at Langston will be our guest speaker. Plant Exchange

WELCOME THESE NEW MEMBERS

Blair Baker, Bristow
Priscilla Crawford, Norman
Marie Dawson, Seminole
Beverly S. McGready, Tulsa
Allen D. Richardson, Monroe, NC
Steven Thompson, Alva

Oklahoma Native Plant Society

Announces the forthcoming publication of its fifth annual journal

Oklahoma Native Plant Record

Volume 5 Number 1, December 1, 2005

The 2005 issue is being offered to members, non-members, libraries, colleges, and universities at a subscription rate of \$9.00. It is also available in electronic format (CD) at \$9.00. Rates include shipping and handling. If you would like to receive the journal please return the next section of this notice with your payment. Journal will be shipped in December 2005.

Oklahoma Native Plant Record order form

Name _____

Institution _____

Mailing address _____

State and Zip code _____

of Print Volume 1 (free to members & libraries) _____

of Print Volume 2 NO LONGER AVAILABLE

of Print Volume 3 @ \$8.50 _____

of Print Volume 4 @ \$9.00 _____

of Print Volume 5 @ \$9.00 _____

of CD Volumes 1-5 @ \$9.00 _____

Total enclosed \$ _____

Enclose order form with your check (let us know if you need an invoice) and mail to:

Oklahoma Native Plant Society

c/o Tulsa Garden Center

2435 South Peoria

Tulsa, OK 74114

FOR JOINING OR RENEWING USE THIS FORM

Fill out this form or supply the same information. Make checks payable to Oklahoma Native Plant Society and mail to Oklahoma Native Plant Society, 2435 South Peoria, Tulsa, OK 74114.

Membership is for Jan. 1 - Dec. 31 of current year and dues include subscription to *Gaillardia*.

Name: _____

Affiliation: (School, Business, or Avocation) _____

Address: _____

Home Phone: _____ Office Phone: _____ Please do not list my phone _____

E mail: _____

Renewal ___ or New Member ___

Dues are tax deductible.

Annual Membership Choice: \$15 Individual ___ or \$20 Family ___, or \$5 Student ___

Life Membership Choice: \$250 Individual ___ or \$350 Family ___

Add \$5.00 ___ to cover cost of copying and mailing a complete ONPS directory if desired.

The Gaillardia

Published quarterly by the
Oklahoma Native Plant Society
2435 S. Peoria, Tulsa OK 74114

President Connie Murray
Vice-president Kim Shannon
Secretaries Lou Duke & Tina Julich
Treasurer Mary Korthase
Historian Sharon McCain

Directors at Large:
2006: Monka Macklin and Stan Rice
2007: Paul Buck and Elfriede Miller
2008: Ron Tyrl and Lynn Michael

Chapter Chairs:
Sue Amstutz Northeast
Marilyn Stewart Central
Paul Richardson Crosstimbers
Clark Ovrebo Mycology

Gaillardia articles, except those reprinted here with permission from other sources, may be reprinted at will. Please acknowledge source and author.

Send all mail except contributions to the *Gaillardia* to:
Oklahoma Native Plant Society
c/o Tulsa Garden Center
2435 South Peoria
Tulsa, OK 74114

For *Gaillardia* material only, use the editor's address:
Chad Cox
2241 Ravenwood
Norman, OK 73071-7427
(405)-329-8860
Email: chadwick.cox@cox.net

- All material accepted is with the understanding that it can be freely copied.
- Submit as txt, rtf or word files by disc or email.
- If submitted by hard copy, use Times New Roman or other standard font types for OCR.

Members who wish to receive information by email from ONPS may send their on-line address to chadwick.cox@cox.net

Oklahoma Native Plant Society
c/o Tulsa Garden Center
2435 South Peoria
Tulsa, Oklahoma 74114

Non-Profit
U. S. Postage Paid
Tulsa, Oklahoma
Permit No. 357

**IF YOU HAVE NOT PAID YOUR
2006 DUES PLEASE DO BEFORE
WE SEND YOU A REMINDER**

OKLAHOMA NATIVE PLANT SOCIETY

Indoor Outing

February 11, 2006

University of Central Oklahoma
Edmond, Oklahoma

The 2006 Indoor Outing will be Saturday, February 11th. The morning program will be at the University of Central Oklahoma's Howell Hall in Edmond. The afternoon program will be at Crystal Bridge in downtown Oklahoma City. Lunch will be 'on your own', which should be easy to find either in Edmond near UCO or in Bricktown (downtown OKC), just east of the Crystal Bridge.

The admission fee to the Crystal Bridge is covered in your registration. Below is a tentative schedule. On the back of this form are directions to UCO and the Crystal Bridge of the Myriad Gardens.

The theme this year is Natural Selection and Plant Diversity, suggested by Kim Shannon and inspired by the Dover School Board and Charles Darwin's 196th Birthday, which is February 12th.

Tentative Agenda

Morning

8:30	Registration & ONPS Shopping Time
9:15	Welcome - Constance Murray
9:30	Charles Darwin - My Life and Travels
10:15	Gloria Caddell - TBA
11:00	Carol Eames - Tour of the Galapagos
11:30	Lunch (on your own)

Afternoon

1:00	Crystal Bridge, Downtown OKC
------	------------------------------

If you have questions contact Constance Murray at 918.664.2896 or cmurray@tulsacc.edu

Make checks payable to: ONPS
Tear below dotted lines and Mail to:

ONPS Indoor Outing
c/o Constance Murray
6815 East 47th Street
Tulsa, Oklahoma 74145

Indoor Outing 2006 Registration

Registration fee

\$10.00

x _____
=====

TOTAL Amount Paid: \$ _____

Name(s): _____

Address: _____

City, State & zip _____

Phone: _____

e-mail: _____

- Directions to UCO - Howell Hall -

**Howell Hall Atrium
University of Central Oklahoma**

From either I-35 or the Broadway Extension (I-235), turn on to 2nd Street (Edmond Road).
Proceed east from Broadway Extension or west from I-35.
Turn north onto University Dr., which is at the west edge of campus.
Go to the first stoplight and turn right (east).
Howell Hall is straight ahead and the parking lot is on the right.

- Directions to Crystal Bridge (from UCO) -

**Myriad Botanical Gardens and Crystal Bridge Tropical Conservatory
100 Myriad Gardens, OKC, OK 73102**

- 1: Start out going SOUTH on N UNIVERSITY DR toward E MAIN ST. 0.2 miles
- 2: Turn RIGHT onto E 2ND ST / US-77. 0.3 miles
- 3: Turn LEFT onto S BROADWAY / US-77 S. Continue to follow US-77 S. 13.6 miles
- 4: Merge onto I-40 W / US-270 W via EXIT 1B toward AMARILLO. 0.7 miles
- 5: Take the ROBINSON AVE exit- EXIT 150C- toward DOWNTOWN. 0.3 miles
- 6: Take the SOUTH ROBINSON AVE / S.W. 2ND ST ramp. <0.1 miles
- 7: Stay STRAIGHT to go onto SW 2ND ST. <0.1 miles
- 8: Turn RIGHT onto S HARVEY AVE. <0.1 miles
- 9: End at Myriad Gardens

Total Est. Time: 21 minutes Total Est. Distance: 15.56 miles