



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

**Volume 25, Number 3
Autumn 2010**

LOOK INSIDE FOR

PRESIDENT'S PARAGRAPH	2
BOTANIST'S CORNER	2
CONSERVATION CORNER	4
PHYTOPLANKTON LOSS	5
COLOR OKLAHOMA	6
2010 PHOTO CONTEST	7
CHAPTER ACTIVITIES	7
FIELD TRIP RULES	9
WELCOME NEW MEMBERS	9
MEMBERSHIP FORM.....	9

INSERT – ANNUAL MEETING

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 November 2010

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.

Sept 12: Central Chapter Field Trip to Dan and Jeannie Coley's acreage. Page 8

Sept 13: NE Chapter Meeting, Judy Jordan talks on Apache ethnobotany. Page 8

Sept 18: Cross-Timbers Field trip to Restored Prairie of Sonja Hannon. Page 8

November 5: Cross-Timbers Potluck. Mark Fishbein will speak on "Five Surprising Things You Didn't Know About Milkweed". Page 8

The NE Chapter has their Fabulous Wildflower Friday on the third Friday of each month,

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

ONPS THANKS THESE DONORS

**Mrs. Gerald G. Stamper
AEP Public Service Co of OK
Mary Korthase**

ONPS – Proposed Slate of Officers 2010 – 2011

**President – No Nominee
Vice-President – Marilyn Stewart, Central Chapter
Secretary – Sandy Graue, Northeast Chapter
Treasurer – Mary Korthase, Northeast Chapter
Board Member– Brooke Bonner, Cross Timbers Chapter
Board Member– Janette Steets, Cross Timbers Chapter**

The vote on these nominees will be at the Annual Meeting

PRESIDENT'S PARAGRAPH

Lynn Michael

I hope that you were all able to attend the Douglas Tallamy lectures in Oklahoma City and Tulsa. His book "Bringing Nature Home" is chock full of tips on incorporating the natural world into our midst and has tips on neighbors, birds, insects and everything in-between. This was a great chance to spread the message of sustainable living through planting natives. After the sweltering summer that we have had, I suspect that our claim that planting natives conserves water and is more eco-friendly to the insects and animals that depend on them for food and shelter will be well documented. Marilyn Stewart was the mobilizing force behind these talks and she and her helpers deserve our gratitude.

I'm not one to water overly much and so many things in my garden must survive on their own. The hummingbirds have been buzzing at the doors and windows to let me know that they would appreciate a little refreshing drink. I don't have any trumpet vine at my house so they are getting desperate. The swamp milkweed and cardinal flowers at the lake would also be great nectar sources. Look out your window and see which of our wildflowers are there for our hungry friends.

I'm very excited about the Annual Meeting which is coming October 1-3, 2010. Registrations and more details are on a separate sheet. We will be at the Girl Scout Lodge at Camp Wah-Shah-She. Charles Parkin will give us a program as we visit Jo Allyn Lowe Park in Bartlesville. We have been discussing forging partnerships with local agencies to incorporate more natives into the local landscapes. We will see and hear how that has worked at this Bartlesville park.

That is only one small part of the great things planned for us at the Annual Meeting. Since we will be staying at the lodge, we will have all sorts of time to go looking for native plants. I have engaged the best cook in the world, my mom, to make her famous cinnamon rolls as one choice for our breakfast. You won't want to miss them. Also, after dinner we will go star gazing and hear stories from Fran Stallings. We can toast marshmallows for s'mores on a virtual or real fire as conditions warrant.

Oklahoma Native Plant Society has had a tremendous year as we continued with our plant inventories at many locations, gave programs and hosted educational booths at many events and shared our knowledge and love of native plants with our fellow members and others. Come help us recap the successes and plan for the next year. See you at the Annual Meeting!



BOTANIST'S CORNER

What's in a name and why do botanists keep changing the names of plants?

Susan C. Barber, Acting Provost and Professor of Biology, Oklahoma City University

It is often frustrating for laypersons and professionals alike to discover that their favorite plant groups no longer have the same, comfortable names by which we have always known them. I personally have two about which I like to lament—the breakup of the Scrophulariaceae and the effective loss of the genus *Psoralea* in Oklahoma. It seems pretty clear to me that I may never get over the former change. It is very hard to think of *Penstemon* as a genus in the Plantaginaceae. It just does not roll off the tongue very easily.

In my career, I have had three outstanding botanical mentors: Dr. Jack W. Stanford, who trained with Dr. U.T. Waterfall at Oklahoma State University, Dr. Ronald J. Tyrl, who spent most of his career at Oklahoma State University, and Dr. James Estes, who was my Ph.D. advisor at the University of Oklahoma. My association with these three men instilled a love for botany, especially a love for plants in Oklahoma; however, their approaches to plant taxonomy/systematics were not always the same and thirty-something years after the start of my college career, I understand that identifying and classifying plants is an ambiguous business.

My initial training in plant taxonomy was very traditional—if a plant looked different from another plant, it was different!! Alas, I was to learn that this model would not hold for the future. I also came to refer to myself as a plant

systematist rather than a plant taxonomist, the former implying a broader application of data from many different sources to make decisions about plant classification versus morphology alone. Early field guides and keys for Oklahoma were built almost entirely on morphological differences. On Flora Oklahoma committee of which I am a member, we often bemoan the fact that decisions are not as easy as they once were. But were they really so simple? If you have used a key any length of time at all, you are now familiar with the phrases "leaves usually acute," "stems more or less bristly," "plants not as above," "flowers solitary, rarely two together," or "fruits 3-5 cm long vs. fruits 5-7 cm long." All of these statements from keys point to the continuous variation in plants and the difficulty that botanists have in writing keys to be mutually exclusive. What if your plant has fruits that are 5 cm long? Which direction do you go in the key? What if there is overlap with every characteristic? How does one make sense of that variation? If you want black and white answers, identifying plants can potentially be a hazardous business for you.

Plant systematists often refer to themselves as "lumpers" or "splitters." This terminology refers to how one views variation in plants. At what level does the variation take on significance to the extent that you declare an entirely different species. "Lumpers" tend to accept a great deal of variation within the framework of defining their species, while "splitters" often use subtle variations to define their taxa. Each person has to convince the taxonomic community that his or her version of reality is the correct one. Once the taxonomic community at large has reached consensus, writers of local floras must deal with the fallout.

When Chad asked me to write this article, I immediately thought about writing about *Pyrrhopappus* because in the summer of 1975, Jim Estes and I conducted a study on two species of this genus that completely captivated my imagination and helped me start to understand the intricacies of plant variation and how they impact classification. *Pyrrhopappus* is a member of the Cichorieae tribe and has beautiful, bright yellow heads. Jim and I discussed a study that David Northington had conducted on *Pyrrhopappus* species. Delineation of the species was still not quite clear. There was (and is) a long history of describing specimens in this genus as

similar and difficult to distinguish, including discussions of interspecific hybrids. How would one ultimately determine the number of species and the relationships among species? The number of species recognized by *Pyrrhopappus* experts varies from three to six. Some name taxa as varieties, rather than species. Often species seemingly are kept intact because their distributions do not overlap and for no other reason. The only species about which authors almost wholly agree is *P. grandiflorus*, a perennial tetraploid (four sets of chromosomes) with tuberous rootstocks. It is fairly easy to recognize because it usually (note the ambiguous term) has basal rosettes. To really determine if a plant is a member of this species, one has to extract it from the ground. The other species have variously been lumped and split from each other, depending on the author's point of view. For example, Flora North America author, John L. Strother, recognizes four species of *Pyrrhopappus*, and he indicates that *P. carolinianus* is not found in Oklahoma, but the Flora Oklahoma committee and other authors disagree with that assessment.

So how does one begin to confront all of the variation and questions about various taxonomic entities? My personal viewpoint is to collect as much data as possible about the taxa in question. Usually several papers reporting significant scientific investigations will be published to build a body of evidence about a group. Often, multiple authors who disagree are involved. In the summer of 1975, Jim and I decided to study the pollinators and pollination syndromes of *Pyrrhopappus carolinianus* and *P. geiseri* (now *P. pauciflorus*). We were at the University of Oklahoma Biological Station on Lake Texoma and both species occurred in the area, i.e., they had overlapping (sympatric) distributions in central Texas and southern Oklahoma. We had also made the casual observation that each species appeared to be visited by different species of bees. We wanted to determine all of the isolating mechanisms in play to keep these two very morphologically similar species separated.

In the course of our study, we noted habitat preferences, temporal opening of heads, the species of bees, and the distributions of the plant and bee species. We also conducted some experiments in the field to determine whether the

two taxa would interbreed, and whether they self-pollinated.

We found that *Pyrrhopappus carolinianus* prefers sandy soil while *P. pauciflorus* prefers calcareous or clay soils. *Pyrrhopappus carolinianus* flowers later in the year and later in the day than *P. pauciflorus* and does not open on cloudy days, at all. The receptivity of the stigmas was different for the two species. All of these characteristics represent isolation mechanisms to keep the two species from interbreeding, but barriers are not complete. For example, in May, there is the potential for both to be in flower at the same time even though peak blooming times only narrowly overlap.

So, what other mechanisms worked to keep these two species separate? In our study, we found that *Pyrrhopappus carolinianus* is pollinated by a species of *Hemihalictus*, a solitary sweat bee that forages for pollen only. *Pyrrhopappus pauciflorus* is pollinated by a species of *Andrena*, a larger bee that forages for both pollen and nectar, both produced by *P. pauciflorus*. Because these two species have different pollen vectors, they effectively do not cross pollinate. We did crosses and the field and found reduced fertility between these two species. They have the ability to produce seeds, but at a greatly reduced rate compared to open-pollinated controls. Open controls produced 85-95% seed set, while hand-pollinated crosses produced 20-52% seed set. Genetic incompatibilities appeared to be in place, so even if pollen was carried from one species to the other, compatibility was reduced.

How does one determine if the reported level of isolation is enough to support the idea of separate species? In 1990, Kimberly Petersen, Wayne Elisens, and James Estes published a paper on allozyme variation that corroborated our conclusions that these two species are reproductively isolated. They continued to build on the body of knowledge. Additionally, chloroplast DNA studies and nuclear DNA studies have helped to shed light on the taxonomy of this group.

So what does all of this have to do with the decision of botanists to "lump" or "split" species? *Pyrrhopappus* represents one small genus about which there has been much disagreement over the

years. It has been a hodgepodge of taxonomy. In the paper that Jim and I published, we had *Pyrrhopappus geiseri* as a species. In the paper published by Petersen, et. al, they referred to the same taxon as *P. multicaulis*, and now both of those names are considered to be synonyms of *P. pauciflorus*. As more information is gathered about a group, changes are likely to occur. This is especially true with the continued development of DNA tools for analysis that allow us to better understand the relationships of taxa. Often morphology is a good predictor of relationships, but sometimes it is not. When it is not, it becomes very difficult to write keys that are useful. It also becomes difficult to explain to laypersons why their beloved plants often lose the names by which they have always known them. Long live Scrophulariaceae.

Susan C. Barber is Acting Provost and Professor of Biology, Oklahoma City University.

CONSERVATION CORNER

Chad Cox

ONPS has participated in inventories of plants in several natural areas in Oklahoma as projects and we have discussed the possibility of taking on restoration projects. Elaine Lynch in the winter issue told us that the Cross-Timber Chapter would be developing a management plan for one or more of the Natural Areas in the large parks in Stillwater. I hope we will be able to take on more projects like this. We will accomplish something worthwhile and probably enhance our exposure. I decided to start such a project in Norman, both for ONPS and our invasive plant council, but also for my on education. Little did I know how educational it is.

Norman has Sutton Urban Wilderness Area, similar to UWAs in several cities. These areas are diversified extensively, from somewhat manicured to left on their own. SUW, a quarter mile square of part of the former farming grounds of the State sanitarium, is closest to this latter category. For a dollar, Norman gain rights to this area for 99 years. Dr. Sutton, the ornithologist, convinced the city to leave the land unmanaged and he used it for research and as a lab for his students. The few houses on the property had been removed but not the plants associated with them. The property still supports garlic, irises, peaches

which are not a problem but the privet and Japanese honeysuckle are. Four other nasty plants that probably were introduced later are eastern red cedar, callery pear, johnson grass and bermudagrass. Unfortunately, many other nonnative plants are well established as well. A few years ago the city acquired an adjacent 56 acres which added to the nonnative group as discussed below.

I began some time ago trying to encourage the committee that oversees the park to attack this invasion with controlled burns. That never occurred. To start my project, I joined the oversight committee at a fortunate time, that is, when they had started to develop a management plan. The committee is progressing very slowly with our plan. On the bright side, even before my joining, the park department had begun removing some of the red cedars and I encouraged them to remove the callery pears that were in the same area. They hope to remove more red cedar and callery pears this winter.

I have more thoroughly surveyed the area and the infections of many of these very invasive plants are extensive. Fortunately, sericea is only in the annexed area and is limited in distribution and possibly can be eliminated. That is about the most rosy aspect of this restoration as the SUW restoration has risen to a major makeover.

One final comment at this time, my suggestion of controlled burns was shot down by the city manager who simply said no more burning in SUW as he had received several complaints about the smoke from the park people burning the red cedar in pits. NRCS will draw up plans for controlling invasive plants by burning or mowing. That should show the advantages of both treatments and perhaps the burns might be most effective. If so, these comparisons may lead the City Council to allow controlled burns.

I hope to keep you informed of the progress at SUW and it's a joy to see the Cross-Timber Chapter will do the same for the Natural Areas in Stillwater.

The following Spiegel Online report from the August 19 contains a disturbing announcement that does not appear to be widely discussed. I have included a slightly shortened version here, Editor

Phytoplankton's Dramatic Decline A Food Chain Crisis in the World's Oceans

By Markus Becker

It is the starting point for our oceans' food chain. But stocks of phytoplankton have decreased by 40 percent since 1950, potentially as a result of global warming. It is an astonishing collapse, say researchers, and may have dramatic consequences for both the oceans and for humans.

The forms that marine flora and fauna come in are varied and spectacular. But it is the microscopic organisms like diatoms, green algae, dinoflagellates and cyanobacteria that make it all possible. Phytoplankton is the first link in the oceanic food chain. It is eaten by zooplankton which is in turn eaten by other animals, which are then consumed by yet further sea creatures.

But it appears that humans may be in the process of destroying this fundamental link in the oceanic food chain. Temperatures on the surface of our oceans are rising because of climate change, resulting in a reduction of the stock of phytoplankton. Just how severe that reduction is, however, has long been a mystery.

Now, a frightening new study reveals the shocking degree of the die-off. Since 1899, the average global mass of phytoplankton has shrunk by 1 percent each year, an international research team reported in the latest issue of the journal Nature. Since 1950, phytoplankton has declined globally by about 40 percent.

"We had suspected this for a long time," Boris Worm, the author of the study for Dalhousie University in Halifax, Canada, told SPIEGEL ONLINE. "But these figures still surprised us." At this point, he said, one can only speculate as to what the repercussions might be. "In principal, though, we should assume that such a massive decline is already having tangible consequences," said Worm. He said that the lack of research on the food chain between phytoplankton and larger fish in the open ocean is a hindrance to knowing the extent of the damage.

'The Entire Food Chain Will Contract'

In other words, it could be that humans have not yet been affected. But Worm fears that will not remain the case for long. If the trend continues and the phytoplankton mass continues to shrink at a rate of 1 percent per year, the "entire food chain will contract," he predicts.

Worm's research has found that the problem is not merely limited to certain areas of the world's oceans. "This is global phenomenon that cannot be combatted regionally," Worm said.

The data show that the decline is happening in eight of the 10 regions studied. In one of the other two, the phytoplankton is disappearing even more quickly, while one region showed an increase. Both of the two exceptions are in the Indian Ocean. "We suspect other factors are influencing (developments) there," Worm says.

The situation in some coastal waters is different. In the North and Baltic Seas in Europe, for example, mass quantities of nutrients flow from land into the ocean. An enormous algae bloom in the Baltic has been the result this summer, but other microscopic organisms benefit as well. Still, coastal waters make up only a fraction of the total ocean.

Worm and his colleagues Daniel Boyce and Marion Lewis believe climate change is responsible for the disappearance of phytoplankton. In contrast to coastal areas, waters in the open sea are deeply stratified. Phytoplankton is found near the surface and gets its nourishment when cold and nutrient-rich water rises from the depths. "But when water on the upper surface gets warmer as a result of climate change, then it makes this mixing difficult," Worm explained. As a result, the phytoplankton can no longer get sufficient nutrients.

'So Serious It Is almost Unbelievable'

Other experts have also said they were struck by the sheer scale of the development. "A retreat of 40 percent in 60 years, that is so serious that it is almost unbelievable," says Heinz-Dieter Franke of the Biological Institute Helgoland, part of the Alfred Wegener Institute for Polar and Marine Research. He warned, however, against attributing the decline in phytoplankton solely to

temperature increases. Higher temperatures, after all, could also result in more nutrients being delivered by air, he said. Other influences, like changes in cloud composition — and thus changes in sunlight on the oceans' surface — complicate the situation.

Phytoplankton's Contribution to Global Warming

That humans have done serious damage to the world's oceans is hardly a new finding. Over-fishing is an acute problem for several species with beloved types like blue fin tuna being threatened with extinction. Already, experts are warning that the world's fisheries could collapse by 2050. But the decline in phytoplankton could make the situation even worse.

Franke of the Alfred Wegener Institute said he fears the decline in phytoplankton will make itself particularly apparent in fisheries. "If the oceans' total productivity declines by 40 percent, then the yields of the fisheries must also retreat by the same amount," Franke told SPIEGEL ONLINE.

The loss of the oceans as a source of nutrients isn't the only threat to humans. Half of the oxygen produced by plants comes from phytoplankton. For a long time, scientists have been measuring an extremely small, but also constant decline in the oxygen content of the atmosphere. "So far, the use of fossil fuels has been discussed as a reason," said Worm. But it's possible that the loss of phytoplankton could also be a factor.

In addition, phytoplankton absorbs a huge amount of the greenhouse gas carbon dioxide each year. The disappearance of the microscopic organisms could further accelerate warming.

COLOR OKLAHOMA

Tina Julich

OTA Agrees to Wildflower Plantings

Color Oklahoma is working with The Oklahoma Turnpike Authority to plant over 90 acres of native wildflower seed this fall. Next spring should be a beautiful showing of our wonderful wildflowers if Mother Nature cooperates and gives us the best growing conditions. Plantings

will be concentrated close to cities on the turnpikes to make the areas a welcoming gateway to the selected city. Selected cities for 2010 plantings are Vinita, Miami, Creek, Muskogee, Bristow, Antlers, Sulphur, Lawton, and Stillwater. The OTA has also agreed to allow the wildflowers to go to seed before mowing so that our wildflower dollars will go farther by not having to reseed as frequently.

Volunteer Still Needed for CO Committee

The Color Oklahoma team is still in need of a volunteer to join the CO committee. In the past we have met during the week in various locations around the state, but we are reconsidering this option and will probably start meeting on Saturdays. So if you have thought about helping us to spread wildflowers across the state, please consider joining us.

What does the Color Oklahoma Committee do? We work with state agencies to arrange wildflower seed plantings; oversee the matching grant program, deciding what organizations or individuals will receive a matching grant; coordinate the ordering of wildflower seeds planted around the state; man information tables at festivals to give out information on Color Oklahoma, the CO car tags, and our wildflower planting programs. If you would like to help with this great and rewarding job, contact Lynn Michael or Tina Julich.

Car Tags

I am always pleased to see the number of Color Oklahoma car tags whenever ONPS meets, and when I'm driving and see another WF tag pass me (because I'm the one in the slow lane!) I wave and try to see if I know who is behind the wheel. It gives me a warm feeling to know that someone else supports our efforts to beautify Oklahoma one seed at a time. Join me as a wildflower loving Oklahoman by ordering a new Color Oklahoma special vehicle license plate. The tags are issued by the state Tax Commission and cost just \$35 plus a \$2 mailing fee, with \$20 of each tag going to our wildflowers. You don't have to wait until your regular tag is due to buy a special tag, just stop by your favorite tag agent and they'll be glad to help you.

You can download a tag order form from the Color Oklahoma website;

www.ColorOklahoma.org, or you can email a request for a form to

wildflowers@coloroklahoma.org and we'll send you one by mail. Your local tag agent can also provide a form. Just fill in the blanks and mail your check for \$37 and the form to the state Tax Commission.

ONPS Photo Contest Update

Kim Shannon

This is the perfect time of year to be taking photographs for the 2011 ONPS Photo Contest, especially for our special category; Flora and Fauna. Grab a big container of water or a sport drink, your camera, perhaps a wide-brimmed hat, and put on your stealthiest shoes so you can sneak up on a butterfly, bee or hummingbird feeding on one of our native wildflowers. A reminder though, the "fauna" portion of your photo should not include a person, a pet, or a domesticated animal. There are lots of caterpillars munching on my native plants right now in my garden and I will bet you can find some in the wild too.

The photo contest deadline entry is not until February 28, 2011, so you have plenty of time to get some great shots this summer and into the autumn! Remember to take a little dose of patience with you and don't stay outside in the heat too long! Soon I will be taking Photo Contest flyers to local businesses for some extra exposure. If you want one to hang up in your office, church, beauty shop, etc., just email me and I will send a pdf of the flyer directly to you (okpenstemon@cox.net). I look forward to seeing your submissions and some interesting takes on our Flora and Fauna!



CHAPTER ACTIVITIES

Northeast Chapter

Karen Haworth

The Northeast Chapter is looking forward to autumn, cooler weather, and Judy Jordan's presentation at our fall Chapter meeting! Judy will be presenting material on the botanical work that was the basis for her book *Plains Apache Ethnobotany*.

The meeting will be held September 13 at the Tulsa Garden Center. We'll have a potluck meal at 6:00 pm followed by a brief meeting and Judy's presentation at 7:00. The NE Chapter has been approached about helping with some minor renovation of a trail on Turkey Mountain and will be provided with information to see if any Chapter members are interested in participating in this project.

We had field trips to private properties in May and June, and two trips to Oxley Nature Center in northeast Tulsa. Approximately 25 people traveled west of Skiatook to Rusty Grimpe's new home on May 29th. Rusty has compiled a species list of 150 plants located on the land, and the group located approximately half of the plants on the list that day. His property encompasses both prairie and woodlands. On June 12th seven members and one guest went to Lynn Michael's family property north of Claremore. There is a beautiful meadow on the property that was in full summer bloom with a plethora of prairie posies! (I'm not a botanist, so I'm not going to attempt to list specific plants.) Horses will probably be grazing on the meadow by another summer, so we especially appreciated our time there. Thanks to Rusty Grimpe, Lynn Michael and Amy Morris for arranging all these trips for us.

NE Chapter Chapter Chair Alicia Nelson reports that we acquired one new member through our spring and summer field trips and one member who had not been active for a while came out to join us. Alicia encourages all ONPS members to invite someone to come along on a field trip!

A reminder about our Fabulous Wildflower Fridays at Panera Bread on 41st Street in Tulsa on the third Friday of each month, at 5:30 pm. It's a great socializing and learning time—Lynn Michael always brings a bouquet for us to identify.

Cross-Timbers Chapter Ron Tyril

The chapter has been like a quiescent seed this summer—not much activity, just waiting until the weather is favorable. We are hoping that it will be on Saturday morning, September 18th, when we are scheduled to take a field trip to see the fall wildflowers of Sonja Hannon's restored prairie

just north of Stillwater. We will meet in the parking lot north of the Life Sciences East building on the OSU campus at 8:00 AM and then carpool to the prairie. We would be pleased to have you join us.

On Friday, November 5th, the chapter will hold its fall potluck dinner beginning at 6:00 PM in Room 110 of the Life Sciences East building. Our speaker is new ONPS member Dr. Mark Fishbein, Assistant Professor of Botany and Director of the OSU Herbarium. An expert on the phylogeny and taxonomy of the genus *Asclepias*, he will present a talk titled *Five Surprising Things You Didn't Know about Milkweed*. We invite you to join us for an evening of good food and an informative lecture.

Our plans to assist Stillwater's Department of Parks, Events, & Recreation with the restoration and improvement of its natural areas unfortunately haven't progressed very rapidly. Hopefully, this fall we will be able to initiate work.

Central Chapter Jeannie Coley

September 12, 2010, Sunday at 2:00 pm
Field Trip - focus on winter food for wildlife
Private acreage SW of Norman - Dan and Jeannie Coley.

Fall fruits and nuts are plentiful this year. See persimmons, pawpaws, elderberries, plums, filberts, pecans, walnuts, and more. The woods around the pond contrasts with nearby native grasses and sunflowers in open prairie, all on the same property.

Directions to 18383 310th Street, Norman, 73072 (Located about 4 miles Southwest of I-35 and Lindsey Street.) Drive South on I-35 across the South Canadian River bridge. Turn Right (west) at Exit 106, Hwy 9, to Chickasha. (Caution, Riverwind Casino traffic!) Continue west on Hwy 9 for 1+ mile to 24th Street. It is the first street past McDonald's. Turn Left (south) onto 24th Street. Drive 1½ miles to the second 4-way stop. Turn right (west) onto 310th, continue ¼ mile to the white (HO Coley 18383) mailbox on the North (Right) side of the road. Contact Jeannie Coley 405-329-6303 / dj18383@sbcglobal.net

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 meets at the OSU/OKC Student Center Conference Room North at 7:00 pm on the last Monday of the month during most winter months. Watch for announcements about programs on October 25 and November 29.

WELCOME THESE NEW MEMBERS

Colleen Bennett, Bartlesville
 Daniel Cameron
 Donna Deason, Grove
 Lauren Heald, Bartlesville
 Natalie Sampson, Grove
 Jill Schamp, Tulsa

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: _____

Phone: Home _____ Cell _____ Office _____ 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 Editorial Board of *The Oklahoma Native Plant Record* thanks these reviewers for their service 2001-2010

Bill Buck, Ph.D.; Paul Buck, Ph.D. (deceased); Gloria Caddell, Ph.D.; Leslie Cole-Jackson, DVM; Jim Elder, Ph.D.; Wayne Elisens, Ph.D.; Patricia Folley; Bruce Hoagland, Ph. D.; Jay Justice, M.S.; Doug Ladd, M.S.; Larry Magrath, Ph.D. (deceased); Orson Miller, Ph.D.; Connie Murray, Ph.D.; Paul Olsen, Ph.D.; Clark Ovrebo, Ph.D.; Michael Palmer, Ph.D.; James H. Peck, Ph.D.; Kristi Rice, M.S.; Patty Smith, M.S.; Ronald J. Tyrl, Ph.D.; Nancy Weber, Ph.D.; Michael Windham, M.S.; George Yatskievych, Ph.D.

This year, our 10th year of publication, is marked by our entry into the World Wide Web. We've been working with Digital Services at Oklahoma State University's Edmon-Low Library to make the *Oklahoma Native Plant Record* available to everyone, globally. We are ready for the new age of botanists who have grown up in the digital age and expect to be able to submit articles without picking up a pencil or putting a stamp on an envelope. Some of us will be challenged to think and communicate differently, as we re-tool our offices and struggle to learn electronic text, graphics, and statistics programs. We ask for your patience as we make the transition and offer our help as you continue to submit, review, and read our articles.

We have a very useful historic article this year, "The Identification of Some of the More Common Native Oklahoma Grasses by Vegetative Characters". It is the Master's thesis of William Franklin Harris, who graduated from Oklahoma Agricultural and Mechanical College (now OSU) in 1949 and submitted this as his Master's thesis the following year. A commonly used key to the grasses of Oklahoma, it is overdue for publication. Hopefully this version, updated by Dr. Ronald J. Tyrl, recently retired botanist from OSU, will inspire new taxonomists.

Dr. Bruce Hoagland and Ms. Amy Buthod, from the Oklahoma Biological Survey, have given us a new checklist for one of the most popular regions of the state, Ouachita National Forest. Since Thomas Nuttall's visit in 1819 the area has been inventoried numerous times, but only three floristic lists have been published for this vast and diverse area. This list of species, collected at The Camp Tom Hale Scout Reservation, is an extension their 2009 study in the Cucumber Creek area which is 66 km SE of this site. It is intended to enhance the knowledge of plant distributions in the Ouachita Mountains in Le Flore County and to be used as an educational tool by the Boy Scouts of America.

Ms. Mary Gard is a graduate student at Oklahoma State University. Her preliminary research on the toxicity of *Tephrosia virginiana* plants in Oklahoma provides insight to their historic use by Native Americans to stun fish to facilitate capture. While some of the findings of previous studies were similar, it also raises new questions that she intends to address in future research.

Because the purpose of the Society is to encourage the study of native plants, the *Record* has an obligation to its readers to be a resource for that study. To that end, our "Critic's Choice" essay this year is written by Dr. Ron Tyrl. Tyrl, whose stories are proverbially erudite, holding our attention and giving us an intriguing piece of his knowledge that keeps us wanting more. Acknowledging the importance of taxonomic identification tools like Patricia Folley's field guide for Oklahoma wildflowers (forthcoming from Iowa Press), he underscores the importance of keys for learning those species that aren't often photographed. He provides us with an historic perspective on the format styles and use of keys like those of Harris and Linnaeus.

I hope you took a minute to read through the list of distinguished reviewers who have been serving *The Oklahoma Native Plant Record* for the past 10 years. Please let them know how much we appreciate their help in getting Oklahoma's botanical records and research out to our readers and especially to other scientists. With their help our journal has become an established tool for professionals, educators, and students of Oklahoma Native Plants.

Sheila Strawn, Editor

Oklahoma Native Plant Society

announces the publication of its annual journal

Oklahoma Native Plant Record

Volume 10, December 1, 2010

The 2010 issue is being offered to members, non-members, libraries, colleges, and universities at a subscription rate of \$10.00 plus \$2.00 shipping. It is also available in electronic format (CD) at \$10.00 for all ten volumes. If you would like to receive the journal please return this notice with your payment to the address below.

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 Sold out.

of Print Volume 3 Sold out.

of Print Volume 4 @ \$5.00 _____

of Print Volume 5 @ \$5.00 _____

of Print Volume 6 @ \$5.00 _____

of Print Volume 7 @ \$5.00 _____

of Print Volume 8 @ \$5.00 _____

of Print Volume 9 @ \$5.00 _____

of Print Volume 10 @ \$10 _____

of CD Volumes 1-10 @ \$10.00 _____

Total enclosed \$ _____

Shipping up to 8 volumes @ \$2.00 _____

Enclose order form **with your check** (email sastrawn@hotmail.com if you need an invoice) and mail to:

Oklahoma Native Plant Society

c/o Tulsa Garden Center

2435 South Peoria

Tulsa, OK 74114

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

Return Service Requested

IF YOU HAVE NOT PAID YOUR
2010 DUES PLEASE DO BEFORE
WE SEND YOU A REMINDER

74135\$471.

This page rearranged to meet postal requirements

The Gaillardia

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

President Lynn Michael
Vice-president Carol Eames
Secretary Paula Shryock
Membership Coordinator Tina Julich
Treasurer Mary Korthase
Historian Sharon McCain

Directors at Large:

2010: Connie Murray and Bruce Smith
2011: Ron Tyrl and Marilyn Stewart
2012: Clare and Buddy Miller

Chapter Chairs:

Alicia Nelson Northeast
Betty Culpepper Central
RonTyrl Cross-Timbers
Sheila Strawn 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
Lynn Michael at (918) 341-0743 or
zebraweeds@sbcglobal

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.