



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.

Jan 15: CT Chapter Outing to the Washington Irving Trail Museum near Stillwater. Page 7

Jan 21: NE Chapter Happy Hour, Panera (41st St. and S. Hudson. at 5:30 p.m. Page 8

Feb 18: NE Chapter Happy Hour, Panera (41st St. and S. Hudson.) at 5:30 p.m. Page 7

Feb 28: Central Chapter Meeting; Speaker Stan Blanchard on Wetland Remediation for Federal Government.

Mar 11: CT Chapter potluck dinner and update on "Oklahoma range today" by Kr. Karen Hickman of the OSU Agronomy Dept.

Mar 28: Central Chapter Meeting; Speaker Clark Overbo on Mushrooms.

May 14: CT Field Trip to visit Dr. Steve Owens' Native Oklahoma wildflower collection at his own garden.

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

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

Volume 19, Number 4
Winter 2004

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INSERT: INDOOR OUTING FORM

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FOR NEXT ISSUE IS
15 February 2005**

ONPS THANKS THESE DONORS

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PRESIDENT'S PARAGRAPH

Greetings!

Congratulations to all on a well-attended and interesting Annual Meeting at Lake Eufaula State Park. Thanks to Jim Elder and to Sue and Dale Amstutz for organizing the meeting. Thanks also to Gloria Caddell (UCO) and Patricia Folley (Flora Committee) for their efforts and skills in leading the Saturday Field Trips. I think all agreed that we enjoyed having the meeting earlier in the fall, so look for the Annual Meeting next year in early October.

I would like to take this opportunity to formally thank Jim Elder for all his hard work and leadership these past two years as President of ONPS. (He may be a zoologist, not a botanist, but I think he has a secret affinity for chlorophyll.)

I want to remind everyone to purchase the 'Color Oklahoma' license plate. Remember that we must reserve 100 before December 29th 2004 or there will be no license plate and no additional funding for wildflower plantings. The 'Color Oklahoma' Committee has worked very hard on getting this organized and through the state legislature, to make ONPS more visible to the public and in a very practical way fulfill our mission. Let's not have this effort go for naught. Plus, think how attractive an Indian blanket flower will look on your car!

As we go to press we are arranging the Indoor Outing at Rogers State College in February. Check the web for details.

Thank you for allowing me to serve you as ONPS President. If there is something you would like to see happen or not happen or happen differently, please let me know or tell one of the other board members. Our next meeting is December 4th in Norman. I hope we have a great year.

Connie Murray

IMPORTANT GENERAL NOTICES

A sad time for ONPS; John Taylor was buried November 13. John was a major contributor to ONPS and to Oklahoma botany in general. He was an early field guide that was familiar with all of Oklahoma. His and Connie's *An Annotated List of the Ferns, Fern Allies, Gymnosperms and Flowering Plants of Oklahoma* remains a valuable tool. You only need to see in the list all the plants that were identified here in Oklahoma by the Taylors to realize his importance to our botany. Our condolences to Connie.

ONPS is missing scrapbooks and asks if you know where they might be tell our new historian, Irene McKee, 1554 S. 74 East Ave, Tulsa, OK 74112, (918) 622-1696.



BOTANY BAY

Paul Buck

Medicinal Plants

The subject of this Botany Bay is discussed on most ONPS field trips. We know our ancestors used wild plants as medication for thousands of years. I do not recommend harvesting Oklahoma plants to treat health problems unless one knows what is being collected, what plant part to use, its preparation and dosage. The author of the book before me voices the following caveat. 'If you must experiment with these or other native remedies, you do so at your own risk.' Native Americans successfully used wild plants for medication but not just any member of the group; only recognized medicine makers whose training was in excess of our current physicians.

Due to interest in the use of herbs we now have available numerous herbals; books detailing plant species of medicinal use. Many of these sources clearly identify the specific plant, the part(s) to use and preparation. A trip to the local library permits one to review these references. At the same time, bookstores carry a variety of books on medicinal plants. Either approach will help one decide whether a purchase is warranted. Let me list a few you may wish to consider:

Kindscher, Kelly, 1952. *Medicinal Wildplants of the Prairies, An Ethnobotanical Guide*. University of Kansas Press.

Krochmal, Arnold & Connie, 1973. *A Guide to the Medicinal Plants of the United States*.

Quadrangle/The New York Times Book Co.

Moore, Michael, 1979. *Medicinal Plants of the Mountain West*. Museum of New Mexico Press.

Lewis, Walter H. & Memory D.F. Elvin-Lewis, 1977. *Medical Botany*. John Wiley and Sons.

The above list is not meant to be inclusive. You may encounter others that may be of interest.

In Oklahoma we are blessed with a variety of native North Americans, providing publications detailing some of their tribal medicinal botany. Take time to visit tribal bookstores such as that at the Cherokee Cultural Center near Tahlequah or the Choctaw Nation bookstore near Tuskahoma.

Although you may not find all of the medications of value many will be of interest. For example, I was intrigued by the recipe for 'An ointment for falls, wounds, contusions, cuts, etc.' in a delightful booklet by Nancy L. Doane titled *Indian Doctor Book*. To prepare the ointment: 'Take four pounds of mice dung, pound them, and put them in a new pot glazed inside, add to it one pound fresh butter; boil the whole during a short time, and strain it through a linen and in the liquid, put two ounces turpentine, and finish boiling the whole. This is a wonderful ointment.' Yes, that is correct. I've checked and it does stipulate four pounds of mice dung. I imagine one would need to let the local mouse population grow before filling this prescription.

Often small bits of information can be of value. I benefited from comments by a Yuchi medicine maker and Kindscher, both of whom suggested members of the genus *Rhus* (sumac) function as an astringent. Several years ago, while collecting in northwestern Roger Mills County, I carelessly cut my hand on barbed wire. The wound bled freely and I felt good about that. The flow of blood was washing out microorganisms greatly reducing the chance of infection. However, regardless of what I did it would not stop bleeding. Then I recalled the earlier comments and locating a healthy shoot of the abundant *Rhus aromatica* (skunkbush) I chewed some leaves to a pulpy mass and applied it

to the bleeding wound. GAWD, what a horrible taste. In about twenty seconds the bleeding stopped and the wound healed rapidly and cleanly. I know - some of you are thinking the bleeding was about to stop on its own. You may be right, but we will never know.

There is neither time nor space to treat our medicinal plants in depth. An extensive list would include plant descriptions, the part(s) used, preparation and dosage. Consequently I'll mention several and encourage you to search the literature before using any wild plant for medication. The admonition made in regard to *Datura* is applicable to many other species as well.

Jimsonweed (*Datura stramonium*): Introduced to Oklahoma and reported to be medicinal and poisonous. This plant had been used to treat epilepsy, rheumatism and convulsions. A decoction has been used as a sedative to calm patients while setting fractures. However, *Datura* is a poisonous hallucinogen summed up by one author with the statement: 'This is a plant that should never be taken internally for any reason. The proportions of active ingredients found in different plant parts, species and localities are extremely varied, making it highly unreliable even in trained hands for internal use.' Another reports the toxicity varies with dry/wet weather and during daylight/darkness. The local paper recently reported four unconscious high school students being admitted to a hospital after seeking a buzz by ingesting *Datura* seeds.

Indian Pipe (*Monotropa uniflora*): This rare but beautiful saprophytic native has been used for epilepsy and convulsions. More commonly it was used by native Americans as a remedy for inflamed eyes. Early settlers used the fresh juice, squeezed directly into the eye for ailments.

Black Willow (*Salix nigra*): An extract of *Salix* bark, salicin, has been used for more than 2,400 years by the Greeks to treat gout and other illnesses. No one knows how long North American Indians have used it for pain and reducing fevers. This is a remedy you need not seek in the field. The active ingredient, salicin, is changed to acetylsalicylic acid or aspirin. The latter compound lacks many of the undesirable side effects of salicin.

Mullein (*Verbascum thapsus*): Used for many years by Native Americans and settlers, the leaves were smoked for colds or coughs. As a tea or smoked, they are soothing to mucous membranes. Many are familiar with a second common name, 'Boy Scout's Friend' One coined since the leaves may be used as toilet tissue. At least it is seldom confused with poison ivy.

Thus, an introduction to some Oklahoma medicinal plants. Many have been used for centuries. Remember, early people did not have the advantage of a nearby pharmacy. Also, only well trained individuals (shamans, medicine men or medicine makers) obtained and prepared these medications. It probably would be best if we visited a local pharmacist.

BIOLOGICAL STATION TO OFFER TWO BOTANY COURSES

The University of Oklahoma Biological Station (UOBS), www.ou.edu/uobs will be offering two field-based botany courses as part of its Summer Session 2005 academic program:
Vascular Aquatic Plants, BOT 4990/5990, Sec. 051, May 22 – June 4, 2005
Instructor: Adam Ryburn, State University of New York at Oneonta
Studies of vascular, aquatic and wetland plants, including their taxonomy, adaptations to the aquatic environment, ecology, geography, economics and control. Emphasis on species of Oklahoma and the south-central United States.
Field Botany, BOT 4990/5990, Sec. 050, July 31 - Aug. 12, 2005
Instructor: Bruce Smith, University of Oklahoma
The study of the natural history patterns of local distributions, taxonomy and ecology of Oklahoma flora via field trips, with special emphasis on the use of taxonomic keys, terminology of vascular plants and the techniques of collecting and preserving plant specimens.
Both courses will include field trips to observe and collect specimens in their natural habitats for further study in the laboratory.

Other courses being offered during the May Summer Session (May 22 – June 4) are:
Experimental Design in Ecology, ZOO 4970/5970, Sec. 050

Instructor: Lance Williams, The Ohio State University
Field Insect Ecology, ZOO 4970/5970, Sec. 052
Instructor: Kenneth Hobson, University of Oklahoma
Molecular Techniques for Field Biology, ZOO 4970/5970, Sec. 100
Instructors: James Thompson, Jr., University of Oklahoma
Ron Woodruff, Bowling Green State University
Wildlife Conservation, ZOO 4970/5970, Sec. 053
Instructor: Richard Kazmaier, West Texas A&M University

Other courses being offered during the August Summer Session (July 31 – Aug. 12) are:
Field Mammalogy, ZOO 4970/5970, Sec. 054
Instructor: Michael Kennedy, University of Memphis
Introduction to Stream Ecology, ZOO 4970/5970, Sec. 051
Instructor: William Stark, Fort Hays State University
Reservoir Fish Ecology, ZOO 4970/5970, Sec. 054, Aug. 3 – Aug. 15, 2004
Instructor: Tim Patton, Southeastern Oklahoma State University
Brave New World? Genetically Modified Organisms in the 21st Century (Senior Capstone course for OU Zoology students only), ZOO 4983, Sec. 200
Instructors: Douglas Gaffin, University of Oklahoma
Mariëlle Hoefnagels, University of Oklahoma

Students receive 3 hours of upper-division undergraduate or graduate biological science with laboratory credit. UOBS is located on the north shore of Lake Texoma, approximately 125 miles south/southeast of the OU Norman campus. For further information and application materials, please contact Susan Bayliss, 405-325-5391 or sbayliss@ou.edu. Applications will be accepted starting Jan. 3, 2005.

FINAL COLOR OKLAHOMA TAG DESIGN
Kim Shannon

Here it is! The final tag design for the Color Oklahoma license tag. We are quickly approaching our December 31st deadline for pre-ordering this new tag. You can get an application for the tag at

www.coloroklahoma.org or you can call Kim Shannon at 918.697.3488 if you are in the Tulsa area or try 405.623.8022 if you are calling from the OKC area. This would make a perfect holiday gift for that "hard to buy for" person on your list!

A big THANK YOU to everyone who has pre-ordered this tag already!



A New Seeder (not a Cedar) for the Color Oklahoma Project

By Kim Shannon, Color OK Chair

One of the main 2004 fundraising goals for Color Oklahoma has been for the purchase of a new drill seeder. Color Oklahoma works directly with the Oklahoma Department of Transportation when it comes to the actual planting of wildflower seeds and ODOT's seeders were getting old and showing their age. This new drill seeder replaces one of two 14-year old models for ODOT that are worn out and no longer have parts available for repairs.

Marcy Robinowitz took the lead in our fundraising efforts. She quickly found donors willing to support our goal of buying a new seeder. Our major donor was the Anne and Henry Zarrow Foundation of Tulsa. Other donors include Bonnie Klein, Peggy Helmerich and Bette Wozoboki of Tulsa, Lew Meibergen of Enid, Melvin Moran of Seminole, the Snodgrasses of Ardmore, and many others. While ODOT's budget did not allow them to purchase an entire new seeder, they were able to help us by paying for a portion of the drill seeder.

The drill seeder was purchased from the Truax Company of Minnesota. It is a Flex II Series Grass Drill (see photo). This machine places seeds at a uniform soil depth without tilling, which makes for better seedling emergence in the spring. ODOT has planted some sites this fall using the new drill seeder and will finish planting other sites in the state when our mid-November rain stops. One side

of the seeder reads "Oklahoma Native Plant Society" and the opposite side reads "Color Oklahoma".



Planting sites this fall include 2 acres on the Creek turnpike, 2 acres at the I 40/US 183 junction near Clinton, 2 acres along I 40 near Elk City, 1 acre at the Erick rest area, and 2 acres either near Bartlesville on US 75 or near Oologah at the Hwy 169/88 junction. Some of the seeds planted at these sites include Tickseed, Indian paintbrush, Lazy daisy, Plains coreopsis, Standing cypress and Indian blanket.

Many thanks to Marcy Robinowitz for all her hard work handling the fundraising and to Pearl Garrison for her many news releases. And a special thank you to all the donors who made this purchase possible so we can continue to Color Oklahoma!



CONSERVATION CORNER

Chad Cox

The Conservation Committee has been busy developing a non-native invasive plants list for Oklahoma. As a state, we are well behind others and in fact, we are borrowing from the work of some border states. You might be thinking that the eastern and Pacific coastal states would be thoroughly regulated by now but that is only partly true. Firstly, developing a list is regional and requires regional assessment and agreement. Secondly, regulation is not a straightforward action across a list on invasive plants. Discussion in the Fall/Winter issue in New England Wild Flower, Journal of their Wild Flower Society, illuminates the problems. Massachusetts developed a list using an Advisory Group with 17 voting members

composed of nursery professionals, conservationists and government agencies. Sounded as though the process could have been a little contentious. Even then, 15 plants on their first list are still widely commercially available in nurseries there. Although the nursery owners had agreed to voluntarily control their sale, stocks had not appeared to be reduced by the time of the publication of the article. The article also indicated the most effective form of eliminating the use of the plants would be if all contributed, nurseries, garden centers, landscapers, government agencies and certainly the public. And the quicker the better; prevention is so much easier and cheaper than control that requires removal.

That brings up another problem of regulation. Colorado has 3 levels of regulation for their lists of invasive plants. The A level requires that all the plants found are removed by prescribed methods. *Lespedeza cuneata* and *Lythrum salicaria* are on that list. Plants on the B list are in purgatory. Designated agencies are attempting to design control methods for these plants. In the mean time, they ask that all help to control them but no one is required to do so. *Tamarix* spp. (salt cedar) and

Onopordum acanthium (Scotch thistle) fall in this category. C level plants are conditionally pardoned. The agencies will provide information and assistance to counties that choose to attempt to control these species. *Sorghum halepense* (Johnson grass) and *Conium maculatum* (poison hemlock) are a pair on this list.

Our first effort has been to develop a list for educational purposes with no regulatory component. This would be similar to the New England States except for New Hampshire and Vermont and possibly Massachusetts. At present here in Oklahoma, only the three "thistles" are banned and require removal. A longer list of aquatic plants are banned but there is no enforcement largely because of a lack of funding. So we will start with our educational list.

Given the space available in this issue, our working list is presented now. The list includes all those already banned here, species found here and on an invasive plants lists of a border state, and a few specified by field botanists.

OK Non-Native Invasive Plant Species Working List

Acroptilon repens
Aegilops cylindrica
Alternanthera philoxeroides
Anthemis cotula
Avena fatua
Azolla pinnata
Bothriochloa ischaemum
Bromus commutatus
Bromus secalinus
Bromus tectorum
Cardaria draba
Carduus acanthoides
Carduus nutans
Caulerpa taxifolia
Centaurea solstitialis
Chrysanthemum leucanthemum
Cirsium vulgare
Conium maculatum
Cynodon dactylon
Cyperus rotundus
Dipsacus fullonum
Egeria densa
Eichhornia azurea
Elaeagnus angustifolia
Elymus repens
Erodium cicutarium

Glossostigma diandrum
Hibiscus trionum
Hydrilla verticillata
Hygrophila polysperma
Hypericum perforatum
Ipomoea aquatica
Ipomoea hederacea
Ipomoea purpurea
Kochia scoparia
Lagarosiphon major
Lespedeza cuneata
Ligustrum spp.
Limnophila sessiliflora
Linaria dalmatica
Linaria vulgaris
Lolium temulentum
Lonicera japonica
Marsilea minuta
Marsilea mutica
Marsilea quadrifolia
Melaleuca quinquenervia
Monochoria hastata
Myriophyllum aquaticum
Myriophyllum spicatum
Onopordum acanthium

Ottelia alismoides
Potentilla recta
Pueraria montana
Rosa multiflora
Rumex crispus
Sagittaria sagittifolia
Salsola collina
Salsola tragus
Salvinia auriculata
Salvinia biloba
Salvinia herzogii
Salvinia molesta
Senecio vulgaris
Setaria faberi
Setaria viridis
Silybum marianum
Solanum tampicense
Sorghum halepense
Sparganium erectum
Tamarix chinensis
Tamarix parviflora
Tamarix ramosissima
Tanacetum vulgare
Ulmus pumila
Verbascum blattaria
Verbascum thapsus

ANNUAL MEETING

The Annual Meeting was held at Lake Eufaula State Park on October 8-10. Friday night most of the attendees gathered at the central building for a meal and an introduction to the area by an assistant ranger. Some of the history was provided by members that were familiar with the area. Saturday, after breakfast, Gloria Caddell and Patricia Folley led field trips in different parts of the park. Again after lunch, there were additional field trips.

Saturday night, the new officers were elected and I refer you to the box on page 12. Sue Amstutz informed us that no nominations for the Service Award had been received. Susan Chambers was awarded the Anne Long Award. Remember she and Wayne were awarded the Snodgrass Award at the Wildflower Workshop.

Jessie Edmondson, an undergraduate researcher at the Tree Ring Lab at the University of Arkansas, presented the entertaining evening program. He related that we have several old growth site here in Oklahoma that rival those elsewhere. The longest lived tree so far found in Oklahoma at these sites is an Eastern red cedar, in the 600 year range.

There was a brief Sunday morning meeting of the board. At the time of the meeting we had a balance of \$1,766.95 in our operating fund and 342 paying members. The next board meeting was set for December 4 at 10 AM at the Biological Survey on the OU campus.



CHAPTER ACTIVITIES

Crosstimbers Chapter
Suzanne McAlister

We had a field trip on September 11 to the cross-country course at OSU led by Ron Tyrl. The course has many grasses and wildflowers that we were able to see. There are also interesting intrusive species. This was followed on September 17th by a pot-luck dinner in a Botany Lab at OSU. The year's program was planned following a talk on the several hundred years old oaks and red cedars at The Tulsa Nature Conservancy Ancient Forest site at Sand Springs by Dr. David Stahle of Univ. of Arkansas. We followed this with a visit on November 6th to the Ancient Forest site to see these ancient surviving post oaks and red cedars. John Fisher of the Conservancy spent several hours

showing us some of the trees and their locations and forms.

Further planned events include a trip on January 15 to the Washington Irving Trail Museum near Stillwater. There are Washington Irving documents and early Oklahoma Native American and settler artifacts plus surrounding "rough ground". March 11th is a potluck dinner and update on "Oklahoma range today" by Kr. Karen Hickman of the OSU Agronomy Dept. We plan a May 14th field trip to visit Dr. Steve Owens Native Oklahoma wildflower collection at his own garden. Additional events may be added and a June open date has been left with a business meeting to discuss officers and program for next year.

Central Chapter
Sharon McCain

September 18th 2004 field trip to Bonnie Winchesters farm at Douglas, Oklahoma. Bonnie was featured in the first issue of Oklahoma Gardening and has many native grasses, etc on her wheat farm. Field trip was attended by approximately 24 members. Bonnie's garden maybe a work in progress as she calls it, I just wish mine looked like hers. We enjoyed seeing her employ so many beautiful garden art objects along with her native plants. After milling around her house and garden, we went to the back 40 for a hike through waist high big bluestem along with many other western native plants. Pat Folley as always led us the adventure identifying many plants. She identified the little caper-family plant with white flowers as *Polanisia dodecandra* also know as "clammy weed" because of the sticky gum found on the leaves. The honey locust with all the evil thorns was identified as *Gleditsia triacanthos*. Thanks Bonnie.

October 30th, 2004 field trip to Red Rock Canyon to view the Caddo Sugar Maple fall foliage. Approximately 22 attended the trip to Red Rock Canyon. Many Caddo Sugar Maples were beginning to color with their hues of pink and orange. Dr. Bruce Smith led the field trip which proved to be an interesting educational day. Weather was superb. Most of the group also toured the Methodist Church Camp nearby.

November 29th, 2004 indoor meeting finally. Speaker will be Tim Cannon. Elections for Central Chapter will also take place. Watch for your emails or postcards as to location.

February 28, 2005–Speaker Stan Blanchard – Wetland Remediation for Federal Government. Does French Drain Installation

March 28, 2005 – Speaker Clark Overbo on Mushrooms.

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.

Northeast Chapter
Connie Murray

September 13th we held our Fall Pot Luck and Program Meeting. Ron Tyrl, OSU, presented "Taxonomy – More Than Just Identification: Studies of the Love Vine"

September 17th, October 15th, and November 19th we held monthly Happy Hour at Panera, (41st St. and S. Hudson.) Each Happy Hour was attended by ten to fifteen members who brought books, pictures and plants to share.

Upcoming Events:

December 6th – Holiday Pot Luck and Program Meeting. Michael Palmer, OSU Botany Department, will speak on his ongoing research at the TallGrass Prairie Preserve in Osage County.

December 17th, January 21st, February 18th – Winter Happy Hours. Panera (41st St. and S. Hudson.) at 5:30 p.m. Feel free to join us to share ideas for future field trips and meetings. Bring plants you would like to have identified.

Mycology Chapter
Clark Ovrebo

Of all those who enjoy natural history, mushroom hunters probably rank at the top in welcoming periods of rain in fall. With the rains come mushrooms. A mushroom field guide by David Arora is appropriately entitled "All that the Rain Promises and More . . ." Mushroom fruit bodies are largely water, so some minimum level of soil moisture is required to stimulate their fruiting. How the rains occur is important. Several days or a week of rains is better than one large downpour. The soil needs to remain constantly moist during the time that the mushroom primordia are developing so a day or two of rain might not be enough, especially if followed by hot and dry weather. In Oklahoma, a period of wet weather is critical because the temperature can turn hot, the winds may blow, and the soil will begin to dry. The moisture conditions were just right this past June resulting in a luxuriant flush of mushrooms in late June and early July. Prior to this, the last good fruiting I witnessed was in June of 2000. The rains of this recent fall have also stimulated mushroom fruiting.

An impromptu Mycology Chapter field trip was held on June 27 at Lake Thunderbird State Park. Mushrooms were everywhere – in the forest, open areas, and also the treed, grassy picnic areas. Gilled mushrooms, boletes (mushrooms with pores), puffballs and earthstars were all fruiting. Although we did not see any stinkhorns, you may have seen them in your lawn or garden.

In the summertime and fall, you can expect to find certain species of mushrooms. I will focus the current discussion on several species of gilled

mushrooms and boletes. On lawns, two of the larger mushroom species that were common were *Chlorophyllum molybdites* and *Amanita thiersii*. These species were discussed in the summer, 2004, *Gaillardia*. A small-statured species that occurs on lawns is *Marasmius oreades* (fairy ring mushroom). The common name is not always accurate because it will not necessarily fruit in a ring fashion. The pileus attains a width at most of two inches and has a creamy tan color. The lamellae and stipe are off-white and the spore deposit is white. I make special mention of this species because it is a delicious edible. Because of its small stature quite a few fruit bodies are needed to make a meal. *Marasmius oreades* fruits from mid-summer to late fall.

In general, the greatest diversity of mushrooms is found in forests. Some of the forest mushrooms are saprotrophs, that is, their mycelium breaks down dead organic matter. Others form symbiotic/mutualistic associations with trees. In this association, termed mycorrhiza, the fungus mycelium is connected to tree roots. The fungus shunts inorganic nutrients to the trees and in return the fungus receives photosynthates from the tree. In central Oklahoma, mainly the oaks and hickories are mycorrhizal. Pines are also mycorrhizal and may have fungal associations that are different from the hardwoods. Most of the forest mushrooms that are encountered during a good fruiting period are likely mycorrhizal.

Lactarius species are mycorrhizal and the genus is easy to recognize. The root "lact" is the same one employed in the terms lactate and lactose (milk sugar). The root means milk. When you cut into a fresh specimen of this genus, it exudes a milky latex. A number of species were common last summer but one that is easy to recognize is *Lactarius piperatus*. It is entirely white, has very crowded lamellae, and when you touch your tongue to exposed tissue, you quickly experience a spicy hot taste.

Boletes are also mycorrhizal. The most common summer bolete in this area is *Boletus fraternus*. This fungus is small in stature. The pileus width does not exceed two inches in diameter. It has a felt-like, red pileus surface and the pores and stipe are yellow. When sliced with a knife the flesh of

the mushroom quickly turns blue on exposure to air. The pores will also stain blue where bruised. Other boletes show this color change so it is not necessarily characteristic of this species. During the recent wet period in late October and early November, *Suillus brevipes* was common under planted pines in central Oklahoma. The pileus surface starts out brown but in age takes on more of a yellow color. The surface is slimy when fresh.

One final mycorrhizal fungus worth mentioning is *Amanita virosa* (destroying angel). It is deadly poisonous. This species was common at Lake Thunderbird last summer and I also found it at Hafer Park in Edmond. The genus *Amanita* has free lamellae (not attached to stipe) and a universal veil that in most species leaves a cup at the base of the stipe. Many amanitas also have an annulus which is the remnant of a partial veil. *Amanita virosa* has both veils and is entirely white in color. One should never experiment with eating wild mushrooms unless you are absolutely positive of the identification. Taking this advice one step further, never eat a mushroom that is entirely white. If you do, you may have *Amanita virosa*.

More information on the species discussed above can be found in most mushroom field guides or viewed on numerous websites. If you would like to be on an e-mail list to receive announcements of impromptu mushroom field trips, please contact Clark Ovrebo covrebo@ucok.edu or Pat Folley pfolley7@juno.com.

WELCOME THESE NEW MEMBERS

Becky Billings, Tulsa
Dan Boatwright, Bartlesville
Megan Degeus, Edmond
Nickie Hall-Hensley, Tulsa
Steve Kelley, Tulsa
Connie McCasland, Devol
Carol Savage, Grove
Louise A. Schroeder, Stillwater
Maureen Turner, Tulsa
David and Betty Turner, Bartlesville

If you haven't already ordered your OKLAHOMA NATIVE PLANT RECORD for this year you can use the form below to do so as soon as possible. Volume 4 is to be released December 1, 2004. We only print 100 each year and you won't want to miss this volume because Anne Long's master's thesis is the lead article. Hers was an ecological study of the factors which affect the distribution of woody vegetation. It gave special reference to the Smoke-tree and was done just west of Tulsa. The study was a thorough investigation for its time and includes charts and photos of the area. Although two of the original figures cannot be reproduced, newer, clearer ones have been substituted.

That's not all, Dr. Bruce Hoagland has come through for us again, giving us an update on the current status of *Cotinus obovatus* Raf. from his database, as well as some good background information about the species itself. Ms. Amy Buthod teamed up with Hoagland to give us still another great paper on the status and characteristics of *Cypripedium kentuckiense*, a beautiful little orchid from southeastern Oklahoma. The Flora of the Chouteau Wildlife Management Area is the subject of this year's floristic list from the Oklahoma Biological Survey database. This survey was done in 1996 by Hoagland and Dr. Forrest L. Johnson, now deceased. Dr. Johnson was an untiring researcher and botanist. We are honored to publish some of his last work in this issue.

Once again we've found an excellent paper of broad interest for you, about the Native American use of Giant cane. Ms. Julia A. (Judy) Jordan has provided color photos with a depth of information that will satisfy the most curious readers and spark an interest in the topic for many more of us. We will, no doubt, be talking about this one at the Indoor-Outing in February. And if that's not enough, we've got a fun article about fungi. Dr. Clark Ovrebo is piquing our interest in these largely misunderstood organisms with color photos and simple identification characteristics of common lawn mushrooms. More members are expressing an interest in fungi, now that we have a chapter specifically dedicated to that historic branch of botany.

All of these articles are chosen to share what is known about Oklahoma's native plants and to promote an understanding of their importance. Dr. Wayne J. Elisen's essay will delight you and give you a sense of the importance of our mission in the Oklahoma Native Plant Society.

I hope you enjoy this volume as much as I enjoyed working with all of these authors and their reviewers to bring it to you. Once again I want to thank everyone who helped bring it together, our reviewers, proof readers, editorial staff, and shippers. Get your orders in soon. We can't wait for you to read it.

Dr. Sheila A. Strawn, Managing Editor
OKLAHOMA NATIVE PLANT RECORD

Oklahoma Native Plant Record

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The 2004 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 lower half of this notice with your payment. Journal will be shipped in December 2004.

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