Sixth Annual Meeting

The ONPS Annual Meeting and field trips will be headquartered on the Northwestern Oklahoma State University campus in Alva on Saturday and Sunday, Oct. 3-4.

Registration will be from 9:00 am until noon on Saturday in the Science Building. At 1:00 p.m. there will be a field trip to the Cimmaron Sand Dunes. At approximately 4:30, a brief business meeting is scheduled and election of officers. Saturday evening there will be a dinner with awards presented and a speaker. The dinner will be in the Student Union.

Sunday morning the group will breakfast together and have a field trip that will last as long as participants can stay.

Fees for registration, dinner and breakfast will be about $17.00.

Members will have already received a registration form and list of area motels. If you did not receive the special mailing, and would like to participate, please call Paul Nighswonger at (405) 327-2752, or Ruth Boyd at (405) 872-9652.

Inside this issue:

Bog Tripping • Wild Orchid finds • Rocky Mtn. Flora • Two views on "landscaping" (pg. 6) • and more!

1992-1993 Officer Nominees

A nominating committee consisting of Betty Kemm, Tulsa, Chair; Susan Chambers, Oklahoma City; and Paul Nighswonger, Alva, present the following slate of officers for your consideration for next year:

President • Ruth Boyd, Noble
Vice-President • Paul Buck, Tulsa
Secretary • Patricia Foley, Noble
Treasurer • Rebecca Ovrebo, Edmond
Historian • Marjorie Franklin, Oklahoma City

Board members for 1993-1995:

Connie Taylor, Durant
Danny Wann, Poteau

Nominations will also be accepted from the floor at the Annual Meeting on October 2 (see above).

Copy & art deadline for next Gaillardia: Dec. 1.

Black Mesa calendar note

The schedule of events for this year as determined by the Board of Directors included a 4-day trip to Black Mesa State Park in late May. We found, however, that the youth camp had to be reserved a year in advance, so we went instead to the Clayton Lake area for three days.

We have now reserved the camp near Black Mesa for the Memorial Day weekend in 1993. Details will be carried in later communications, but please mark your calendars.

Ruth Boyd
Imagine. You push through a towering thicket of horsetails, ancient plants that swish as you part them. Or you pluck a floating fern from mucky waters while you learn about predatory bladderworts flowering nearby. You sample the peppery nonnative watercress growing in a cold spring and smell the pungent composite Pluchea.

Dr. Ron Tyrf's wetland plant students experienced all this and much more as we toured some prime aquatic habitats in southeastern Oklahoma. I say "toured," but this is too delicate a word. We really got into the habitat as we slogged along muddy banks, jumped up and down on quaking mats, or sank ankle-deep or deeper in the muck. Everett Laney (from the Corps of Engineers) joined Ron in plunging in chest deep to retrieve submergent plants.

ONPS members know that Ron is a wonderful teacher and field trip leader. He is tolerant of endless questions, and he helps students learn by injecting "pizzazz" into role learning. Can we ever forget the difference between Virginia and Canada Wild Rye (Elymus virginicus and E. canadensis) respectively? Not if we remember that the Virginia Wild Rye has bow-legged glumes like Owen Wister's cowboy character.

**Orchid find a highlight**

Our class included Bruce Smith, a plant taxonomist and biology teacher from McCloud. Bruce likes lower plants, although he did light up when we found a lovely population of the Yellow Fringed Orchid (Habenaria or Platanthera ciliaris). This is the orchid that won Jim Norman top prize in a past ONPS photo contest. This plant makes all the mucking about worth it.

Bruce showed us the reproductive structures of the Horsetails (Equisetum hyemale) we found downstream of the spillway at Lake Murray. Bruce said we needed to remember four S's: the plant itself is a sporophyte, and its reproductive structures are the strobilus (the cone atop the stem), the sporangiophores which bear the sporangia which bear the spores. Bruce shook out a mass of green spores from ripe sporangia.

Horsetails have hollow stems reminiscent of bamboo. Whorls of leaves are found at each segment, although the leaves in *E. hyemale* are much reduced. These plants formed the understory of forests 400 million years ago as amphibians were just emerging from ancient wetlands. Ron led the more musically inclined in a salute to Pan after he showed how to make whistles from the Horsetail stems. Native Americans, pioneers and modern day campers use the silicon rich stems to scour dishes clean, hence the common name, "Scouring Rushes."

Another day we went to Forked Lake, part of the Little River National Wildlife Refuge. Forked Lake boasts a fine stand of Bald Cypress (*Taxodium distichum*). This is one of but a few sites in the state to have a natural population, although Bald Cypress has been successfully planted in other areas of the state. We were on the lookout for alligators which have been reported there but unfortunately we did not see any.

As much fun as the class was, there are serious considerations associated with wetlands. Humans have modified or destroyed most wetland habitats. Wetlands provide water, shelter and corridors for many plants and animals. Without wetlands much of the diversity of our state would be lost. So getting into wetlands is an important part of saving our natural heritage.

**Protecting our natural heritage involves inventoring and monitoring sites. But at least one important wetland site in the state has not recently been studied by botanists.** This is Ferrsdale Bog, part of McGee Creek National Scenic Recreation Area in Atoka County. The area is managed by the Oklahoma Department of Tourism and Recreation, but our assistance is welcome. Ferrsdale Bog has wilderness designation but may need special management if it has rare plants which apparently rely on disturbance, such as the Least Pipewort (*Eriocaulon komickianum*). Mike Palmer, my co-chair on the Conservation Committee, and I would like to invite interested volunteers to do a botanical inventory of Ferrsdale Bog next spring and summer. Let us know if you are interested in this important project.

At left, horsetail (Equisetum sylvaticum) strobilus-bearing shoot, and a strobilus with whorls of sporangiophores.
Swink, Battiest, Honobia, Tom.

How do those names grab you? They're just some of the stops we made August 8 while searching for orchids in southeastern Oklahoma during the ONPS field trip.

"Orchids in Oklahoma! You gotta be kidding!" That's the response I often get when the subject comes up. But, according to Dr. Larry Magrath, Oklahoma's leading orchid authority, there are some 30 species of wild orchids that are known to grow in Oklahoma.

There were 21 of us -- members and guests -- from all across the state, and we had gathered at Raymond Gary State Park, just east of Hugo, in order to search out some of the several species of orchids that are native to the humid southeast corner of the state.

Our trip began on an exciting note. Someone discovered a nice, big, timber rattlesnake laying peacefully at the base of a tree. Obviously engorged with a rat, rabbit or some other rodent, it only half-heartedly rattled its warning as several of us gathered around for some not-too-close-up photos. I was pleasantly surprised that no one insisted we kill it, which could have been easily accomplished, so we left it in peace - one very lucky rattler. But I digress.

The Yellow Fringed Orchid plant stands 2 to 3 feet tall, and is topped with a 4 or 5-inch cluster of about 50, inch-sized, deeply fringed yellow-orange flowers. This orchid is arguably the most beautiful wildflower in Oklahoma. At least, that's been my opinion since I first saw it growing near Schooler Lake in Choctaw County in 1946. Since then, I've returned in early August, in an almost annual pilgrimage, to see how they look, fearful each time that the boggy wetland they occupy will have drained and cleared to make way for the never-ending, all-consuming pine tree industry.

Some of the other plants observed here were: sensitive and cinnamon ferns, smooth alder, farkleberry, Chianthus, chinkapin, cedar elm, etc.

Back on U.S. 70, en route to Idabel for lunch, we made a stop in the town of Valliant to admire and contemplate the age of a mammoth willow oak whose dimensions so far exceed those of the present state champion that I'm confident this one is a winner. When I first noticed and stopped to measure this big oak in February, there were a couple of young horned owls glaring down at us from their nest-cavity in the top of the truck.

During our lunch stop at my favorite restaurant, the Catfish King in Idabel, someone expressed a desire to see the palmetto. What few dwarf palmettoes I've seen in the state were south of Tom, almost to the Red River, in the Gulf Coastal Plain Region. So we headed south among the loblolly pines of the Ouachita National Forest, toward Tom and the Red River. But on the way, I had to show them Bohoma Campground, which I consider one of the beauty spots of the whole area. Here, on the pretty little lake, we examined water-shield, with its gelatinous-coated stems and undersides, and Utricularia, with its floating yellow blooms and tiny carnivorous bladders. Along the edge was a stand of bright blue-flowered Hydroclea.

Well, eventually we did get south through Tom, where, thanks to Sallie Webb of Broken Bow we were able to see one long palmetto growing, believe it or not, just two feet off of the paved highway #87! Unfortunately, many of these scarce plants are being stripped to decorate various churches in the vicinity for Palm Sunday.

Suddenly it dawned on me (and probably everyone else) that it was getting late in the day and we still hadn't seen the other two orchids I'd promised earlier. So we hastily headed north through Idabel and Broken Bow, and finally turned west off U.S. 259 and on, finally, to park at a wooded bottomland just west of the Choctaw settlement of Battiest. Here we had only to step out of the cars and into the woods to see dozens of blooming Tipularia, the crane-fly orchid, and the equally numerous, low-growing Triphora, or three-birds - all of these growing up through a veritable carpet of partridgeberry.

By now it was really time to go our separate ways, and so we did.

---

With apologies to Photo Contest winners:

Corrections regarding "contest winners" published incorrectly in the Summer 1992 Gaillardia... winners are:

**AMATEUR CLOSE-UP**
1st Place - David Willard, Tulsa
2nd Place - D.A. Nunneley, Sand Springs
3rd Place - Donald "Chip" Cooper, Bristow
(Above names were totally left out of the article.)

**ADVANCED CLOSE-UP**
1st Place - Jennifer Lindsey, Sapulpa
2nd Place - Ruth Miller, Sand Springs
3rd Place - Bob Lindsey, Sapulpa
(The above names were listed in the article as AMATEUR CLOSE-UP winners.)

Pointed out by Sue Armitztz
Photo Committee
Thoughts from the Rockies: August, 1992  
Vice President Paul Buck at the Rocky Mountain Biological Laboratory on the Colorado Western Slope

In a very few days it will be time to pack my books, field equipment and meager belongings and head back down to the plains. Another summer presenting a Rocky Mountain Flora course at the Rocky Mountain Biological Laboratory on the western slope of the Colorado Rockies is drawing to a close.

This part of the Rockies, and the laboratory, are beautiful, magic places to be, but this summer has been particularly delightful due to the stimulating young people gathered here as students. It is obvious they are all very eager to learn more of the earth upon which they live. I have the feeling if it were possible to leave the world in the care of these students it would be safe — they are aware of carrying capacities, the need for species diversity and ecosystem stability and are clearly gentle with their Mother Earth.

Perhaps with young people like these there is the chance a future generation would not become extinct due to widespread overpopulation, a global nuclear conflict or disease ravaging an overly dense human population.

Enough! These are not the thoughts for this special time and place. I’ve just walked up the mountain above the lab to an isolated place, one that is very special to me and one to which I have invited very few people. Although not very long, the hike was far enough to be completely isolated from any sight or sound of humans or their activities. Once here I’ve nestled down in a dense growth of field horsetail on a small ridge, am leaning against a young Engelmann spruce and looking out over a view so beautiful it would be impossible to describe it accurately.

To my right is a small mountain stream trickling down the slope to join a large beaver pond perched on the shelf below. Due to beaver activity the soil on the ledge is saturated and is covered mostly by dense stands of low willows. Wherever there is an accumulation of drier soil amid the willows, large suncup and fir trees that appear to be quite old have become established. I suspect many of these trees, plus the beaver pond, were here when Lewis and Clarke made their “Journey of Discovery” into the Louisiana Territory in the early 1800s.

Gazing down on the willows they appear to be bordered by a brilliant band of blue, a dense population of fringed gentians in full flower. The gentians are at their flowering peak and I am blessed to be able to share this special day with them. Mixed with the gentians are the much taller, late summer blooming purple larkspurs and Monkehocks, despised by the ranchers for their poisonous nature, yet even these will speak to the beauty.

The little stream is not large nor does it tumble roughly over the rocks, except perhaps during spring snow melt. As a result of its gentle nature, soil has accumulated along its length and an abundance of beautiful flowers line the narrow banks. Tiny pools of bright blue betray the presence of the minute speedwell and mixed with it are Monkeyflowers, Grass of Pammassus, elephantellas, saxifragas and at least three additional gentians, the Little, Star and Bottle gentians.

Today in one small, moist, very special area under a cluster of spruce and fir trees I observe five species of orchids, four in flower and one in fruit. But there are other flowers just as beautiful. Three members of the wintergreen family are in flower, two pyrolas and the wood nymph, sometimes called “Shy Maiden” for the flower is always turned away from the viewer. The saxifraga family is represented by several true saxifragas and two species of Bishop’s cap with minute flowers so beautiful they must be seen to be appreciated.

Of course, I’ve taken photographs as a way to share some of this small garden in the mountains, but they cannot tell the story. One must be here to sit quietly and listen to the wind through the trees and eventually experience the deep feeling you are one with nature. It is time to leave, to return for a few more days to the duties, real and imagined, of a faculty member. Yes, I am coming back down on the plains but I’ll return to this small bit of heaven, if not in this life, in the next.

Incidentally, have I told you I know a number of similar isolated nature gardens in Oklahoma that are as beautiful? One day we must pack a lunch and visit one together. 

Line drawings from Ruth Nelson’s Rocky Mountain Wildflower

Patterns in nature using Phyllotaxy — by Linda Watson

Leaves are arranged in one of the three definite ways: 1) if they are paired at the same height, one on each side of the twig, they are opposite; 2) when more than two are found at the same node, they are whorled or verticillate; and where only one single leaf is attached at each node, close inspection will show that the leaves are arranged in spirals about the twig and are in this case alternate. With the alternate arrangement the determination of the number of leaves in each complete turn of the spiral is important since it is often the same throughout a genus and sometimes applies to all members of the same family.

In determining spiral phyllotaxy, the twig is held in a vertical position and two leaves are chosen, one of which is directly above the other, twisted, deformed, or very slow growth twigs should not be used; and the inspection should be confined to a single season’s growth. Neglecting to count the lower leaf of the two leaves chosen, ascend the spiral and count the number of leaves passed, up to and including the upper leaf, and also note the number of complete turns made around the twig.

A fraction may then be formed, using the number of turns as the numerator and the number of leaves as the denominator. If this is done, it will be found that one of the following fractions has resulted:

\[
\frac{1}{2}, \frac{1}{3}, \frac{2}{5}, \frac{3}{8}, \frac{5}{13}, \frac{8}{21} \ldots
\]

The first three are common in broad-leaved trees; the higher fractions occur in some of the conifers. The 1/2 phyllotaxy typical of elm and birch is the simplest arrangement and results in a so-called “two-ranked” placement of the leaves. The 1/3 type is typical of alders, while the 2/5 is found in many trees including the oak and poplar.

Several peculiar relationships are immediately evident in this series. If the numerators and denominators, respectively, of the first two fractions are added, the result is the next higher fraction of the series, and this rule applies to all the rest of the members as one ascends the scale; also, the numerator of the third term is the same as the denominator of the first, that of the fourth the same as the 

(Cont. on pg 7)
Why the native plant industry is doomed -- by John J. Clegg
Letter to the editor of Native Plant Society of Texas' NEWS

For years we have been trying to promote native plants for use in the landscape on the basis on their low-maintenance, low water use, and low cost characteristics. We have assumed that home landscapes were functional and that homeowners were rational in their selection of plants. After years of dealing with homeowners, code enforcement officials, landscapers, and nurserymen, I have come to believe that we have overlooked the function of the home landscape as a conspicuous display of wealth.

We owe the concept of the Doctrine of Conspicuous Consumption to a turn-of-the-century economist named Thorstein Veblen. Veblen argued that only a modest amount of income was necessary to satisfy basic human needs, and that any disposable income beyond that was totally devoted to a quest for status.

"One's neighbors, mechanically speaking, often are socially not one's neighbors, or even acquaintances; and still their transient good opinion has a high degree of utility. The only practicable means of impressing one's pecuniary ability on these unsympathetic observers of one's everyday life is an unremitting demonstration of ability to pay.

"By further habituation to an appreciative perception of the marks of expensiveness in goods, and by habitually identifying beauty with reputability, it comes about that a beautiful article which is not expensive is accounted not beautiful. In this way it has happened, for instance, that some beautiful flowers pass conventionally for offensive weeds..." (Veblen, The Theory of the Leisure Class)

The consumer of home landscape plants is often the same person who has become accustomed to buying clothes on the basis of fashion. Decision to purchase a plant is often made on the basis of appearance in the nursery, a recent magazine article, or the use of the plant by someone in a social class to which the consumer aspires. It is interesting that the economics of the nursery industry are such that if a nurseryman sells you a plant that lives he is out of business. If he sells you a plant that dies, he can sell you the same plant next year.

The concept of the mowed lawn has become such a religious concept enshrined in city codes that its origins are cloaked in mystery. At one time the lawn was exclusively limited to the very wealthy and was maintained by gangs of peasants with scythes and hand shears. The average person had little buffer between his door step and the street, where the accumulation of animal manure, garbage, and chamber pot contents was ground to a fine powder by passing hooves and was blown into doors and windows by any breeze. Consequently, the lawn was a powerful status symbol. The invention of the mechanical mower has not only made the lawn available to everyone, but it also employs huge armies of otherwise unemployable people mowing vast stretches of land for which there is no reasonable justification.

In summary, it seems to me that low cost, low maintenance landscapes will continue to be perceived as undesirable and that homeowners will continue to use their landscapes as a means of displaying wealth. The middle class will continue to toil on weekends to make their landscape appear as if they could afford a gardener.

A Backyard Fence -- by Rebecca Ovrebo

We live up-drainage from a little pond, in a wooded area. The backyard is enclosed by a chainlink fence. I don't particularly like fences and a chainlink fence is distinctly unsightly. We have considered planting shrubs to hide it but it is in a drainage easement that leads to the pond; storm drainoff can come through in tremendous volume; we hear that in years past several vines and others have volunteered. This summer, at least, we've been successful and our eyesore has become a dynamic, interesting landscape -- almost pretty.

We planted passion flower (Passiflora incarnata L.) which has a lovely blue-purple clock-face flower and clematis (Clematis sp., some horticultural variety) which also has an attractive blue flower. One vine that has volunteered is a tiny gourd (Melothria pendula L.) with a little yellow flower and a correspondingly tiny melon-type fruit. A second is a member of the buckwheat family (Polygonum scandens L.) which has a small white flower and a winged fruit typical for that family. There is also some sort of a bindweed/morning glory but that hasn't flowered.

The volunteers haven't added much color, either because of the absence or small size of the flower, but they add a lot of interest when you look at them closely -- and they nearly hide the ugly metal fence.

We'll continue to add to our fence next summer and try to turn it into an asset instead of an eyesore. I'd like to add trumpet vine (Campsis radicans L. Seem.) that does so well in central Oklahoma that it should do well for us.

Now that I look at our fence in an entirely new light, there's lots of potential.

Rebecca Ovrebo is professor, Rose State College
Patterns (from pg. 5)

denominator of the second, etc.

The Italian mathematician Leonard Fibonacci (circa 1170-1230) proposed the series 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55... The numerators of the leaf arrangement series fit this pattern. Early botanists seeking to understand spiral phyllotaxy used this sequence and the principles of spirals of Archimedes to form what may be called the fractional Fibonacci series used above. Even though leaves of some plants show considerable deviation from the theoretical arrangement, they certainly do not occur in a haphazard fashion, but rather with almost mathematical precision.

More than a thousand years before Fibonacci, the ancient Greeks were interested in spiral leaf arrangement, and also observed some of the many other spirals found through nature. Actually, Fibonacci had rediscovered one of the 20 proportional series of Pythagoras (550 B.C.). Early geomet- rician ideas were fascinated by the properties of the rectangle. Architects and artists experimented with rectangles of different shapes and finally decided that the most "ideal" one, most pleasing to the eye, had sides with a ratio of approximately 1:1.618. In the higher numbers of the Fibonacci series beginning with ...34, 55... dividing the smaller into the larger 55/34 results in 1.618 or close to it. This was the first "golden triangle" famous throughout history.

The editor: a bit of history

The background on the Wildflower Workshop in the summer issue of Gaillardia was interesting, but stated that the Workshop was begun and planned by the State Garden Club with Dept. of Transport-ation (DOT) participation coming along three years later.

On behalf of the many DOT people who worked so hard on that first wildflower workshop, I thought you might be interested in the following:

The first workshop was held in 1977 in Tulsa and was very much a partnership project with the Department of Transportation locating half of the speakers, plus writing, printing and mailing the workshop flyers. DOT prepared biographies on all the speakers and prepared and printed the program. A display of wildflower photographs was prepared and erected by DOT. The eight-foot tall free standing panels held large 16 x 20" and 24 x 35" mounted photographs that attracted much attention. It was similar to a display shown in the Capitol Building that same year. DOT did all publicity, too.

The program listed the Oklahoma Department of Transportation, the Oklahoma Garden Clubs, Inc., and the Tulsa Garden Center as sponsors but the hard-working workshop committee also included many people who were just interested in wildflowers and did not belong to any of the sponsoring groups. In fact, the Chairman of the first Wildflower Workshop was NOT a Garden Club member but a botanist, the late Anne Long of Tulsa.

The field trip had seven buses full of enthusiastic wildflower buffs and even a flat tire did not dampen their interest. Tour leaders were Dr. Harriet Barclay, Dr. Paul Buck, Anne Long and Russell Studebaker.

Most of the Committee on that pioneering workshop in Tulsa continued to guide the workshops in the following years. In fact, profits from the early workshops were used as the nest egg to found the Oklahoma Native Plant Society. ONPS is now one of the three continuing sponsors of the wildflower workshop and as was pointed out, supplies all tour leaders and runs the popular wildflower photo contest that is displayed at the workshop.

Joanne Orr, Beautification Coordinator, Oklahoma Dept. of Transportation

Become an Oklahoma Native Plant Society member.

Please enroll me as a Member of the Oklahoma Native Plant Society. My dues payment is enclosed for the category checked. Make checks payable to Oklahoma Native Plant Society, and mail to:

Oklahoma Native Plant Society ▪ 2435 South Peoria ▪ Tulsa, OK 74114

☐ Gift or Unbirthday
From: ____________________________

☐ Renewal
☐ New Membership

❑ $15.00 Family
❑ $10.00 Individual
❑ $ 5.00 Student
❑ $_____ contribution (All contributions are tax deductible.)

NAME: ____________________________ HOME PHONE: ____________________________

ADDRESS: ____________________________ BUSINESS PHONE: ____________________________

CITY: ____________________________ STATE: ________ ZIP: ________
**Chapter Notes**

The Central Chapter next meets on Oct. 26 for a special treat by Dr. Paul Minnis, whose subject is "Secret Lives of Ugly Plants." The associate professor of anthropology at O.U. has a keen interest in archeological evidence that some native plants were prehistorically cultivated crops.

Meeting will also include the Chapter's Annual Seed Exchange.

Meet at 7:30, OSU Tech. Center, Oklahoma City.

The Nov. 30 meeting will be same place and time, subject to be announced. No December meeting will be scheduled due to holiday chaos.

************

The Northeast Chapter met September 10 for Jim Norman's wildflower photography, and will announce monthly meetings thereafter via telephone committee and/or postcard.

Chapter members volunteered time and work preparing *Gaillardia* for mailing -- summer and fall issues, as well as proofreading.

**For your calendar**

OAS Fall meeting Sept. 25-27
ONPS Annual Meeting Oct. 3-4
Central Chapter Oct. 26
(See Chapter Notes)
Northeast Chapter Feb. 5-6, 1993
(See Chapter Notes)
ONPS Indoor outing Mike Palmer,
Stillwater 405-547-2621 or 744-7717

**The Gaillardia**

Published quarterly by Oklahoma Native Plant Society
2435 S. Peoria • Tulsa, OK 74114 • (918) 496-2216

President: Ruth Boyd
Vice President: Paul Buck
Secretary: Pat Folley
Treasurer: Rebecca Owrebo
Historian: Marjorie Franklin
Editing by Marilyn Bell, WriteAngle, Tulsa

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