



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

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YELLOW INSERT: REGISTRATION FOR THE ANNUAL MEETING
immediate response required!

BLUE INSERT: ENTRY FORM AND RULES FOR THE 1997 PHOTO CONTEST.

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Volume 11, Number 3

Autumn 1996

**COPY AND ART DEADLINE
FOR NEXT ISSUE IS
15 November 1996**

☛ Contributions from members are welcome!

Gaillardia

The Oklahoma Native Plant Society Newsletter

CALENDAR

Note: the events dated below are identified either by a page number for a fuller description of the event or the name of a person to contact. Phone numbers are at the bottom of the page.

- | | |
|---------------|---|
| September 30 | Monday evening 7:30, at the Horticulture Center, 4th & Portland OKC, Central Chapter Meeting & Plant /Seed exchange. See page 10. |
| October 12-13 | Annual Meeting at Tallgrass Prairie Preserve. Mike Palmer & Nora Jones. |
| October 28 | Evening meeting of Central Chapter at OSU Horticulture Center, OKC. Speaker will be Clark Ovrebo. 7:30 p.m. |
| November 2 | Fall Foliage tour, Kiamichi area. Details on page 10. Register with Connie Taylor*. |
| November 25 | Central Chapter meets at 7:30 p.m. Program on Oklahoma's rare plants. |
| December 1 | Deadline for 1997 Photo Contest Entries. Now is the time to be selecting your best shots for entry. Details on the blue insert. |
| December 9 | Monday evening meeting and pot-luck dinner at the Tulsa Garden Center, 6:30 p.m. For more information see page 9 |
| May 9-10 '97 | Wildflower Workshop, to be held in Duncan. Start now to save the weekend. |

Note: all members are invited to all chapter field trips or meetings, and are encouraged to bring guests. Many field trips are suitable for children: ask first.

*Betty Kemm (918)742-4351, Connie Taylor (405)924-0121. Jim Norman (918)682-1896 Nora Jones (918)585-1117 or (918)743-9612; Mike Palmer (405)744-7717.

"We travel together, passengers on a little space ship, dependent on its vulnerable reserves of air and soil; all committed for our safety to its security and peace; preserved from annihilation only by the care, the work, and, I will say, the love we give our fragile craft." Adlai Stevenson

PRESIDENT'S PARAGRAPH

by Frank Carl

I am looking forward to the Annual Meeting. The Executive Board Meeting should be productive and interesting. I am sure there will be a lot of input regarding the "Echinacea Issue". The election of officers and board members is always a fun event with the promise of a new beginning and a different approach.

My soon-to-be-completed term as President of ONPS, and also first year of retirement, has been rewarding. We have met a lot of people, presented several programs on native plants, birds, butterflies and nature in general, and almost wore out my slide projector.

This organization and its members have also had a successful year. I won't go over previously announced winners of various awards other than to again offer "Congratulations". A lot of talent is obvious in this group.

We are hoping for a large turnout at the Tallgrass Prairie Preserve for the Annual Meeting. We are still looking for people to present programs promoting Oklahoma's Native Plants and ONPS. Pat Folley is willing to make up a ready-to-use program, so come to the Annual Meeting in a volunteering state of mind.

"For a great tree death comes as a gradual transformation. Its vitality ebbs slowly. Even when life has abandoned it entirely it remains a majestic thing. On some hilltop a dead tree may dominate the landscape for miles around. Alone among living things it retains its character and dignity after death. Plants wither; animals disintegrate. But a dead tree may be as arresting, as filled with personality, in death as it is in life. Even in its final moments, when the massive trunk lies prone and it has moldered into a ridge covered with mosses and fungi, it arrives at a fitting and noble end. It enriches and refreshes the earth. And later, as part of other green and growing things, it rises again" Edwin Way Teal; *Dune Boy, The Early Years of a Naturalist*

LETTERS

Shirley Lusk writes from Gainesville, Texas, to order a plant list for Pontotoc Ridge (it's now 405 species long and counting). Shirley is wonderful for attending field trips. She comments on the Conservation Corner essay regarding collections for educational purpose: "the local North Central Texas college botany

class requires photos instead of specimens, and the best one judged by the art department is reprinted in poster-size and framed for the Biology Building's hall gallery". Hmm. Wonder if any Oklahoma teachers or schools are trying something of the kind?

BOOK REVIEW

by Pat Folley

Plant Extinction: A Global Crisis

by Dr. Harold Koopowitz and Hilary Kay, 2nd edition published 1990 by Christopher Helm, London.

(I try not to read books with titles like this one, as there are enough subjects for gloom in my daily work, and who needs any more? But Ulrike Stradtman, who is a Friend of the Wichitas and lives in Lawton, loaned it to me, and I was surprised.)

Imagine! A book about the extinction rate that offers positive, do-able ideas for helping out. While ONPS members generally don't need to be told that plants matter, it is gratifying to see that statement in print. Want an all-purpose statistic in defense of our position? Try this: on average, 40 species of animals use each plant species as a part of their life support system. While plants form the basis of all food chains, the kinds (species) of plants number less than the total number of animal species.

In seven parts that lay out the problem clearly and dispassionately, the authors set the stage upon which the rest of our lives will be played. About the underlying cause, they are matter-of-fact: "Very simply, the problem is too many people but not enough thinking ahead." This is not a manual on population control; however, and the authors proceed to outline some methods of ameliorating the impact while the political and religious forces are gathering strength to address the population crisis.

A brief summary of data outlining the process of "normal" extinctions is followed by specific instructions on the building of gene banks. Several levels of gene banks have been in existence for many years, some of them quite technical, others as simple as the careful storage of seed. There are practical suggestions for the establishment of specialized collections by individuals, schools, museums, and Native Plant Societies. Incredibly, the methods are not beyond the means of most of us, requiring only equipment like home freezers and desiccants (i.e., silica-gel).

The value of other means of preservation and conservation is not denied. There are botanical gardens and educational institutions which are performing miracles of preservation by growing plants in controlled environments, but these methods can save only a few species by the very intensive nature of their methods. The authors suggest that all concerned people specialize in one or two genera of plants, and co-ordinate their efforts with others in the field.

There are several success stories described in some detail. Any ONPS member could profit from this information, and the book should be available from your library if not still in the bookstore. Make the effort: you will be glad you did.

GARDENING ON THE WILD SIDE

> This guest article clipped from the July/August edition of *Wild Ones Journal*, a fine bi-monthly

newsletter from Natural Landscapers-Ltd., PO Box 23576, Milwaukee, WI 53223-0576. The author, Bret Rappaport, is the president of that organization.



NATURAL LANDSCAPING'S EMERALD CITY

Searching for her way home, Dorothy followed the yellow brick road. Do you remember the scene where Dorothy and friends, trembling with fear, crept through the forest—"lions and tigers and bears, oh my!" The fearful troop came forth onto a field of poppies and, off on the horizon, the Emerald City. Much the same happened to my family troop last weekend.

I had heard about Prairie Crossing (no not from Glinda, but from an ad in the paper), a community that promises to be the Natural Landscape Movement's "Emerald City"—the place natural landscape proponents always said could and should be built.

Before getting to Prairie Crossing, however, our mettle was tested as we traversed State Rt. 120 through West Gurnee, Ill. Nothing but an explosion of shopping centers, gas stations, fast food joints and a gazillion stoplights. My son needed a rain coat ... we pulled into a Target parking lot. The parking lot was a scary place—"carts and cars and arrows pointing every which-way, oh my!" Then we headed west and turned into Prairie Crossing just before noon.

Located on 667 acres, 40 miles north of Chicago, Prairie Crossing sits on what had been farmland for 100 years. We natural landscapers and conservationists preach that we all must learn to live harmoniously with Nature. To date, natural landscapers have faced the daunting task of changing the landscapes of existing homesites in established communities. Going against the establishment is difficult and often costly. Moreover, the results are muted since the benign effects of naturally landscaping one home in a neighborhood can be squelched by the mono-turfed, exotics-filled, pesticide-laden yard next door. By contrast, Prairie Crossing preaches and teaches natural landscaping subdivision-wide and a holistic approach to living with Nature in concept, design and practice.

Conceptually, Prairie Crossing draws inspiration from the work of Frederick Law Olmsted and the philosophy of Aldo Leopold. A "thing is right when it tends to preserve the stability, integrity and beauty of a biotic community. It is wrong when it tends otherwise," wrote Leopold. Conservationist Gaylord Donnelley envisioned a community based on preservation of rural character: large fields, community areas and open space. Ecology was a first thought for Prairie Crossing, not an afterthought.

After Donnelley's death, his nephew George Ranney, a Chicago attorney, took over. A list of guiding principles include "environmental protection" and "learning and education." Victoria Post Ranney, George's wife, heads up the planning and makes the day-to-day decisions. Coincidentally, Mrs. Ranney is a landscape historian. She insisted that homeowners know the natural history of the site and not be served up superficial notions so often handed out at

subdivisions named for far off lands. The streets of Prairie Crossing, for example, carry the names of native forbs. An old dairy barn from a nearby property is being restored for use as a community meeting hall. Mrs. Ranney muses, "I hope that people living here develop a sense of place. It is my hope that we learn to live with the land, not off the land."

Prairie Crossing's design fits with the land. The 317 homesites are clustered on 132 acres, the balance being open space. Homes are energy-efficient. There is a 22-acre lake, 13 acres of wetlands and 160 acres of restored prairie. To minimize run-off and pollution, Prairie Crossing uses a "treatment train system." Stormwater first accumulates in swales along roadsides planted with natives that serve as initial filters. Next, the water flows through prairies, which slowly convey the run-off to a wetland bordering the lake. The prairies and wetlands act as 'Nature's kidneys,' filtering sediments and pollutants. Engineers estimate the system will reduce runoff by 65 percent and non-point source pollution by 85 to 100 percent, much like the natural process that operated before the countryside was altered.

Homeowners are not only permitted but also encouraged to go natural. Mike Sands, the resident naturalist, has designed his landscape (lot 37) with native forbs, grasses and shrubs. Mike explains it this way: "It's a big step for most people. They need to be comfortable in their gut. We hope that when they can see real examples, they'll jump for it."

Other homeowners have also naturally landscaped their lots. The Malins on lot 313 have a yard comprised of a meadow mix (Purple Coneflower, Prairie Coreopsis, Aster, Sweet William, Baptisia), Hackberry and Hawthorn trees, a Bur Oak and Witchhazel shrubs.

In practice, Prairie Crossing seeks to inculcate Leopold's land ethic. The use of pesticides and fertilizers is strongly discouraged. There is an organic farm, and members of the community-supported garden get a half bushel of fresh vegetables each week during summer. There is a commuter train station at the edge of Prairie Crossing. Miles of walking trails meander through the site and will continue onto an adjacent 2,500-acre open space preserve.

As we pulled out, my wife Jina and I looked at each other—"Prairie Crossing, oh my, oh my!"

Prairie Crossing represents validation for those of us who seemed like voices in the wilderness. To be economically successful, in the long term, society in general and subdivisions in particular must be ecologically successful.

Economy and Ecology have the same Greek root—it means *home*. And it was for home that Dorothy searched and it is home for which we're looking as we strive to be a part of Nature, not apart from Her. —Bret Rappaport

CONSERVATION CORNER

by Sheila Strawn

More on what heterogeneous patterns of climate and geology have to do with the biodiversity of Oklahoma.

Oklahoma's location in the middle of North America has determined, to a great extent, its climate and geological formations. These in turn have generally determined which species are able to survive here, but it is not a simple correlation. The interaction of climate and geology has meant the division of the landscape into a mosaic of widely varying characteristics. This heterogeneous landscape allows a greater number of species with extremes of habitat requirements to live in close proximity. Tropical palms and desert cactus can both be found growing naturally somewhere in Oklahoma, but neither is the predominant vegetation type of this mid-latitude, mid-continent, temperate location. Most of Oklahoma's geographic characteristics average out to be "mid-everything, but it is the wild extremes of temperature, moisture, solar insolation, wind-speed, and water holding capacity of the soil which really characterize Oklahoma, not its averages. It is these extremes which organisms must tolerate or move within, in order to grow and reproduce here. It is these extremes which account for Oklahoma's diversity of species.

Here in the middle of North America there is an east-west moisture gradient. Most of the precipitation comes from the moist air which comes up from the Gulf of Mexico in the south-east. Air which has been dried by orographic effect comes from the west, over the mountains from the Pacific Ocean. This moisture gradient is enhanced by the landscape's gradual west-to-east slope which drains rivers from the Rocky Mountains into lakes and reservoirs in the south and east. Interacting with this is a north-south temperature gradient due to the increased solar radiation in the south which keeps temperatures slightly warmer. Further complicating the pattern is the fact that where there is moisture, temperature fluctuations are moderated due to the insulative properties of water. Arid regions in the Northwest have wider seasonal temperature extremes than the Southeast.

In warm areas nutrients build up in soil which holds moisture. Little nutrient material builds up in soils which don't hold moisture. When water drains out, nutrients drain out, but the soil's ability to hold water and nutrients is first determined by its particle size. Located in the middle of North America, Oklahoma has been receiving soil from the Rocky Mountains for billions of years via wind and water. Relatively new grains of sand carried by the rivers

from Colorado are deposited on riverbanks. These particles are large and, holding very little water between them, drain quickly. The older clays and silts, eroded from ancient mountain formations and deposited as sediment across the plains, have been worn to a smaller size and the iron in them has been oxidized to a red color. Clays are better at holding water and nutrients which plants need than sand is. But the patterns of clay and sand deposition alone, do not account for moisture availability in any area. Temperature and wind also affect the soil's ability to hold water. Oklahoma loses more water due to evaporation than it gets from rainfall. Our ground water, rivers, and lakes are very important to all life forms in Oklahoma. Furthermore, water availability, whether determined by precipitation, ground water, soil type or evaporation, is still only part of what forms Oklahoma's environmental mosaic.

Seasonal changes can further extend the extremes of temperature, moisture, and nutrient conditions. Organisms will live and reproduce only when and where these conditions are within their survival thresholds. Because immobile species must remain here through the extremes, they must have the genetic ability to cope with these gradients of climatic and geographic conditions and soil-water availability. Some immobile species live and reproduce in Oklahoma only in certain seasons of the year. They then go dormant or die and leave protected offspring such as eggs, spores or seeds. Some organisms' conditional limits vary in different stages of development. Only those species whose thresholds for each condition are matched at each stage of development can survive here year-round. Mobile animal species, such as migrating birds, take advantage of warmer temperature and resources at specific seasons and then move on to take advantage of temperature and resources elsewhere during other seasons. The existence of temperature and moisture gradients and seasonal changes means that many different species will be able to live within their own thresholds-somewhere within the state-during some time of the year.

This has been a rather broad generalization of why plants grow where they are. There are many interesting exceptions to the limits of a species' distribution, especially ways that certain varieties have become genetically adapted to the environment. There's more than one way to "skin a cat" and there's more than one way by which limits are extended for a plant. The heterogeneous patterns of climate and geology are responsible for much of the diversity of organisms in Oklahoma's mosaic patches, but we still haven't discussed the effects of genetic adaptation or species interactions, especially human influence....next time.

References

- 1) Wilson, Edward O. 1992. *The Diversity of Life*. Harvard University Press, Cambridge, MA. p 203.
- 2) Ehrlich, Paul R. 1986. *The Machinery of Nature*. Simon & Schuster, New York. pp 20-23
- 3) Wike, Tom (ed.) 1991. *Atlas of Oklahoma*. Dept. of Geography, Oklahoma State University, Stillwater.
- 4) Strahler, A.H. and A.N. Strahler 1992. *Modern Physical Geography*. Wiley & Sons, New York.

BOTANY BAY

by Paul Buck

HARRIET BARCLAY

It was just over six years ago, 25 May 1990, that Dr. Harriet G. Barclay passed away. Those of us who were close friends still miss her and often find her in our thoughts. It seems like she left such a short time ago and it comes as a surprise to hear younger members of the ONPS ask "Who was Harriet Barclay?"; "Why is the annual Harriet G. Barclay award given by the Society to the Oklahoma Junior Academy of Science?" The fact that those questions are being raised suggests it is time for a brief note about Harriet in the *Gaillardia*. It will be an opportunity to introduce that 'one of a kind' woman to newcomers in our organization and to refresh the memories of those of us who knew and loved her. This "Botany Bay" will be devoted and dedicated to Dr. Harriet G. Barclay.

Born in Minnesota on 31 August 1901 to Arthur and May George, Harriet admitted to being a spoiled, only child. She recalled her mother and father as hard-working, loving parents who instilled in her an abiding love of nature, particularly plants. Even as a small child, her goal was to become a botanist.

After public school in Minneapolis, Harriet entered the University of Minnesota majoring in botany. It was there Dr. William S. Cooper introduced her to the still-young discipline of ecology and she knew at once where her future lay. From that point to her death she was dedicated to plant ecology.

Harriet took her B.A. in 1923 and M.A. in 1925 under Dr. Cooper, whom she often referred to as her mentor. Along the way she served as president of the Women's Athletic Association, was invited to join Sigma Xi (The Scientific Research Society), and elected to Phi Beta Kappa. She went on to the University of Chicago to work on her PhD under the direction of the pioneer ecologist Dr. Henry C. Cowles and that degree was granted in 1928. In the same class, taking his Ph.D. in plant anatomy, was Bertram Donald (Don) Barclay; they were married on the 4th of September. Don accepted a position at the University of Tulsa with the charge to establish a botany department and they became members of the Tulsa community in the fall of 1928.

Although Harriet continued to be professionally involved as a botanist by lecturing, carrying out research and working with community garden groups, much of her time was soon consumed by two sons, Donald, born in 1930, and Arthur in 1932. Most of those early summers

were spent at the Rocky Mountain Biological Laboratory on the western slope of the Colorado Rockies where Don presented botany courses and Harriet continued her botanical research. During those years she developed an interest in photography and her skills as an artist continued to be refined. The latter involved study in Taos, New Mexico, an additional B.A., this time in Art from the University of Tulsa, and numerous shows of her work in regional galleries and museums.

In 1953 Don was killed in an automobile accident and Harriet assumed his position as Chair of the Botany Department with full time teaching responsibilities, the latter of which she held until her retirement in 1972. Actually, that retirement was just from the University of Tulsa as she continued teaching at North Carolina State University during the academic year and at the University of Oklahoma Biological Station and Rocky Mountain Biological Laboratory during the summers.

Harriet's many summers in the Rocky Mountains resulted in an intense interest in, and love for alpine habitats and in the late 1950s she received several grants to study high-altitude vegetation in the Andes Mountains of South America during which she collected over 36,000 specimens, including at least ten species new to science. Her specimens are currently in widely scattered herbaria including the Missouri Botanical Garden, Gray Herbarium at Harvard University, the U.S. National Herbarium in Washington, New York Botanical Garden, the University of Oklahoma and several South American institutions including the Universidad de Nacional de Colombia.

Among Harriet's many contributions to Oklahoma and the Tulsa community were her involvement in the early stages of the roadside wildflower program, establishment of Redbud Valley Nature Preserve (now with its Harriet G. Barclay Nature Center), years of dedication to the Tulsa Garden Clubs and, of course, her role as one of the driving forces in the formation of the Oklahoma Native Plant Society. It was inevitable that her contributions would be recognized by her friends, peers, and numerous groups, both locally and regionally, who benefited. The complete list of honors bestowed upon her is far too long for this brief space, but the following are representative:

The William S. Wright medal for Watercolor Painting.

The Conservation Award from the Oklahoma Wildlife Federation.

The Silver Seal Award from the National Council of State Garden Clubs.

Personal Achievement Award from the University of Chicago Alumni.

Designated Woman of the Year by American Women in Radio and Television.

Greenleaf Award from The Nature Conservancy.

The Distinguished Service Award from the University of Tulsa.

Induction into the Oklahoma Hall of Fame.

Those of us that many of you refer to as 'old timers' still mourn the loss of Harriet. She was a powerful personality and a strong motivational force to each of us. I sincerely

continued on page 6

ONPS ANNUAL MEETING

Nora Jones and her committee have prepared an outstanding agenda in a wonderful natural site for the Annual Meeting. The enclosed flyer says it all, so we can only urge you to read it, detach the registration form, and send it in. For many of us, this will be the last big outing of the year: what a pleasure to be able to meet in one of the jewels of the state park system. If you haven't been involved in the Oklahoma Academy of Science's field meetings, you might not have experienced a stay in one of the youth camps. Takes you back to your college days, with sleeping in a bunkhouse, meals in a commons, lots of new and old friends. Some of us have spent some of the best days of our lives in Osage Hills: come see why!

Harriet Barclay, cont. from page 5

regret the fact that recent newcomers to the ONPS, particularly the younger people, will never have the opportunity to interact with such a caring and inspirational individual as Harriet Barclay.

The ONPS has established a Harriet G. Barclay Endowment Fund which is slowly growing. At this time it is producing enough annual interest to cover our awards to Oklahoma high school students carrying out research projects in botany (see 1995 Summer issue of Gaillardia, p. 5). I envision the day when the Barclay Fund allows the Society to offer significant financial support to an outstanding Oklahoma high school student with the desire to study botany in one of our state institutions of higher education.

The next time you write a check for your dues, add a few dollars and indicate it is for the Barclay Endowment Fund. Such action will serve as recognition of leaders gone before us and as a statement of faith in the future of our Society.

Ed. note: Dr. Buck, a former student of Dr. Harriet Barclay, is retired as a Professor of Botany at University of Tulsa, a member of the Flora of Oklahoma editorial board, and a popular leader of field trips and public speaker.

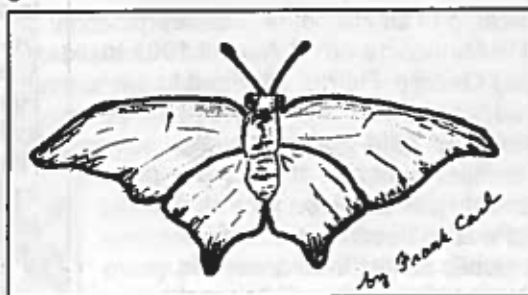
The Goatweed Butterfly

Goatweed Butterfly, *Anaea andria*: not an appealing name, also has not so appealing food habits, at least by human standards. The normal fare includes tree sap (not so bad), rotting fruit, dung and moisture from decaying

wood. The mention of dung is what causes eyebrows to raise.

There is rhyme and reason for this. The sap and moisture from rotting fruit provide protein, amino acids are derived from dung, all very necessary in the successful life cycle of this species.

Goatweed, a leafwing butterfly, is a member of the *Nymphalidae* family (brush-footed butterflies). This large, diverse family has approximately 3,000 species worldwide with 150-plus species living in or visiting North America. The Goatweed is a large butterfly, with a 2 3/8 to 3" wingspread. In general, the males are bright orange-red above with dusky margins. Females are a duller orange with broader wing margins. From below, both sexes are a mottled, purplish brown or gray. The leafwings do indeed resemble leaves due to shape and coloration when the wings are folded. This illusion is further defined by their habit of slanting wings to the side while resting on the ground.



The common name, Goatweed, is derived from the host plants: crotons. Several croton species are native to Oklahoma, including "one-seeded croton" (*Croton monanthogynus*) and "wooly croton" (*C. capitatus*), both identified as larval food sources and both reported in all regions of the state except the far northwest. Seeds are easy to collect, usually in September, and it is easy to add goatweeds to your wildflower patch. Crotons are also called "doveweed". The seeds are one of the preferred foods of mourning dove.

Coyotes, indirectly, are the cause of many goatweed butterfly deaths. Coyotes commonly travel country roads. As you drive through the country, be alert for and avoid those sometimes large clumps of goatweed butterflies feeding on coyote scats in the middle of the road. Cars are dangerous to butterfly health.

I've considered starting a campaign to change the name from Goatweed to Doveweed, or maybe Croton butterfly, however, the point of this article is "human values should not be assigned to any animal's activities or lifestyle", which may also be applicable to a goat's namesake.

(Ed. note: Frank wrote this for the Conservation Corner, but as I already had one left from last issue, it will just have to ride here. Sorry, Frank)

>>>>Read a good book lately? Write a short review and send it for the Gaillardia to share with our fellow ONPS members. Address on page 12.

FIELD TRIP NEWS

by Patricia Folley

Oh, those lazy, hazy, crazy days of summer.... when the spirit longs for the joys of unspoiled places and the body develops hayfever, insect bites and sunburn. If those were among your reasons for not joining Jim Norman and the Die-hards for the annual Orchid Pilgrimage, you'd better skip the rest of this report!

We assembled, as usual, at the first picnic area in Raymond Gary State Park on the tenth of August, 9 a.m. Jim and friend Jerry had been staying with Berlin Heck at the Little River Refuge, and brought him along. Dr. Larry Magrath, the state's acknowledged expert on orchids, joined us for the first time in several years. Nature Conservancy employees Sydney and Barry Carpenter brought a GIS locator which we hoped would settle some uncertainties about the exact locations of some of the places. It was, as they say, a stellar cast.

Some of us had toured the area on the day before, scouting for the best locations. This effort was made more exciting by a heavy downpour about midafternoon that slowed the "pros" not a bit but drove this old head into the motel in Valliant for a nap. So, we knew that *Cooperia drummondii* (rain lily) was blooming along the roadsides and that the spectacular *Platanthera ciliata*, a large, orange fringed orchid was in bloom near Swink Bog. In six-or-so vehicles, we took off for Swink.

Enroute, we noticed huge plants of *Rudbeckia maxima*, or giant coneflower, in the US-70 roadsides. Incredibly, even the "spider-lily", *Hymenocallis caroliniana*, which normally blooms late-April to early May, was in good bloom. Bravely, considering the heavy wet vegetation screening the shady path beside Swink's bog, we splashed and climbed Smilax vines until we had viewed several incredible orchid plants, a rare sedge, *Dulichium arundinacium*, a big, brown *Scirpus*, *Cuscutas* of several sorts, and many more. The variety of trees mentioned by Berlin Heck looks, on my field book, as if there could have been only one of each species present. Frank would have found enough *Crotons* to maintain all the Goat-weed butterflies in Oklahoma along those Choctaw County dirt roads.

Continuing north on SH 98, we passed enough inviting bogs to keep a web-footed army busy for months, finally taking SH 3 over to US 271 at Broken Bow and north through McCurtain County to Battiest. There is way too much logging and road-building and new chicken ranches everywhere along here, yet the remnants continue to produce huge ferns and tiny orchids and enormous trees and a bewilderment of

vines and shrubs. The Battiest Bog, claimed by Dr. Magrath as the "best orchid site in Oklahoma", is more disturbed every time we visit, yet it continues, somehow, to produce *Triphora trianthophora*, or "three-birds orchid", and the delicate crane-fly orchid *Tipularia discolor*. The leafy forest floor was wild with mushrooms, many of them brilliant orange. I brought back a dandy "earthstar", *Geastrum triplex*, which would become the very first mushroom adopted into the Bebb Herbarium.

Following threats of mutiny, Jim permitted a lunch stop. At a country store. We bought bottles of juice and pop, and the owner sold us a loaf of bread and fixings for sandwiches. Again we pressed on, following SH 144 toward Honobia (pronounced Ho' nobie). More big orange orchids, delicate crane-fly orchids, and more woody and viny things than you would believe. Christmas ferns and Royal ferns and Chain ferns everywhere. North of Honobia, now in Le Flore County, we stopped on, not beside, the narrow highway to visit one more troop of the *Platanthera*. The scenery is simply stunning, and as many of the roadside trees are Red maples and Sweet-gum, it will be spectacular during the fall as well. It was late in the day, and this old lady left the die-hards rooting in the wet leaves to begin the long drive home.



Orchid trippers, left to right: Holly Ferris, Berlin Heck, Randy Shannon, Ralph Lindgren, Barry Carpenter, Jim Norman

Their revenge was sweet, however, because I was barely out of sight when they found a colony of *Isoetes* -- one of my all-time wish plants. O well, if Jim and the forest hold out, there's always next year.

Of course, we wore our Skin-So-Soft, and our industrial-strength OFF!, and it must have worked, because I got not even one insect bite, and only a little poison ivy. As always we wished we had had more time, like a week or two at each stop, and vowed to come back in other seasons for other treats. Ralph Lindgren, who had come down from Joplin, MO, for the day, shared his recipe for "trail wash": it's a mixture of two parts witch-hazel with one part rubbing alcohol with wintergreen, splashed liberally on exposed flesh before each return to the car. It works, is refreshingly cool, and smells good, too.

Plan to come with us next year: it'll do you good!

Plant Now for Spring Beauty

reprinted from NWRC's newsletter, *Wildflower*, Sept/Oct. 1993, by F. M. Oxley, Resource Botanist.

As a botanist at the National Wildflower Research Center, one of the most common questions I receive during the fall season is, "what is the easiest way to plant wildflowers in my yard?" Just like any project, incorporating native plants into an existing landscape can be as difficult or as simple as you want to make it. We use the following method at the Wildflower Center. It's simple; any homeowner can use it to begin landscaping with native plants and wildflowers.

There are three basic steps to successfully planting wildflowers in your yard: plant selection, soil preparation and seeding, and maintenance.

Plant Selection

Before you set out to use any native plant in your existing landscape, you need to look at your yard and decide what kinds of native plants and wildflowers will do well in the habitat your yard represents. Go into the surrounding countryside and observe plants growing in their natural environments. What is growing well along the roadsides near your home? Are the plants growing in a ditch full of water? In full sun, or partial or dappled shade?

Determine which species grow together and which species are solitary. You don't have to know every species that grows in your area, but a basic knowledge of the dominant species will give you a good idea of what might do well in your yard. Spend some time at your local native plant nursery*. People who work with and propagate native plants will have a good idea of what species might do best in your yard. If you can duplicate at home what you have observed in nature, the wildflower species you choose will thrive in your yard.

Soil Preparation and Seeding

Choosing plants that are appropriate to the micro-habitats in your yard will eliminate the need for major soil preparation. In fact, disturbing the site can create more problems than it solves.

If your site is not too weedy, and you plan to incorporate wildflowers into the existing vegetation, the first step is to mow the area to be seeded. Mow the vegetation at the lowest possible setting. This is

known as "scalping" the area. Next, rake up as much of the thatch as possible to expose the ground and open up bare areas, allowing the seed to make good soil contact, which is essential for germination.

Once the thatch has been removed, the next step is to sow your seeds. Hand broadcasting is the easiest and doesn't require any special equipment. Seed each species separately because the different sizes and weights of the seeds make it difficult to evenly distribute each species. Adding fine, damp sand to the seeds, in a ratio of four parts sand to one part seeds, will ensure a more even distribution of each species.

After seeding, lightly rake or tamp the area to ensure good seed-to-soil contact. Soil contact helps seeds retain water, which is important for germination, as well as providing a substrate for seedling growth.

If rain is not expected within several days after planting, thoroughly water the area once following planting. Then, lightly water the area every two days for approximately one week.

Managing Your Wildflowers

All landscapes need several years to become well established. Once established, your landscape will need minimal maintenance. However, some attention will be necessary during the establishment period. Depending on the look you want to achieve, you may want to prune or weed out fast-growing species and undesirable plants as they appear. Clipping seedheads encourages fullness and longer bloom periods for many perennial wildflowers. Some native shrubs and perennials respond well to severe pruning in the fall or late winter.

Because native plants are adapted to their environments, little or no chemical maintenance is required. Native plants come with their own "built-in" pesticides and fungicides. Once established, native plants will crowd out all but the most noxious weed invaders, eliminating the need for herbicides. Native plants usually do not require fertilizers. Many natives thrive in very poor soils and applying fertilizer could chemically burn them or stimulate lush foliage growth with few flowers. Fertilizers also stimulate the growth of unwanted species.

Mow only at the end of the bloom season. Mowing after the flowers have set seed will help reseed your wildflowers and produce a strong display next year.

By planting native species, you provide habitat and food resources for wildlife and encourage the presence of native insects and micro-organisms that benefit plants and keep them healthy. With a little care, thought and patience, your landscape can become an interacting, changing entity that offers a unique look into the complex interactions of the natural world -- right in your own backyard.

**We wish!*



NE CHAPTER ACTIVITIES

by Betty Kemm

[Ed. note: Most of what Betty sent will become history before you receive this newsletter, so I am rephrasing the announcements to the past tense.]

A field trip to "wander in the hills" was scheduled to leave on Saturday, September 7. Members met at 8:00 a.m. at Tulsa Garden Center or at 9:00 a.m. at the Walmart parking lot in Muskogee. [Sounds like a native plant kind of day.]

Then, on the following Monday, an indoor meeting at the Tulsa Garden Center. Program to be brought by Donna Horton of the Oxley Nature Center. Her title "Niches - Why You Are Where You Are" The time is 7:30 p.m.

No meeting has been set for October because "everyone" will be at the Annual Meeting in Osage Hills State Park.

Next meeting is set for Monday, December 2 at the Tulsa Garden Center. 6:30 p.m. for a potluck dinner followed by a program.

CENTRAL CHAPTER REPORTS

by Ruth Boyd

It's been a quiet summer in Central Chapter country. I hope that since there have been no chapter activities locally, more of our folks have participated in state trips. By the time you read this, the Central group will have had a tour of an organic worm farm in NE Oklahoma City (on August 24).

Our fall season of programs will kick off on Monday evening, September 30, with a program arranged by Wayne and Susan Chambers (who also planned the the August 24 trip), and will feature personnel from Blue Thumb Water Quality Service telling us about water conservation and preservation. Now there's a vital issue we must all be concerned with. This (September 30) is also our fall plant and seed exchange, so start collecting and potting now. *(If you haven't any native plants to share, but do have empty pots, some of us would love to have them.)* We will also hold a short organizational meeting. So far we have operated with no organization whatsoever and have heard that there is a better way to do things!

On October 28, Dr. Clark Ovrebo, ONPS member and biology professor at CSU, will talk about Oklahoma's mushrooms and

particularly those we might find here during a wet autumn. If conditions are right, he will bring some real mushrooms for us to examine.

On November 25 our very own Pat Folley will present a program called "OK Wildflowers: the Shy, the Rare, and the Wonderful". As usual the talk will be accompanied by Pat's stunning slides. Thank Goodness, this program will not have to include purple cone flowers this year!

All of our regular indoor programs are the last Monday of the month and start at 7:30 p.m. at the Kirkpatrick Horticulture Center at NW 4th and Hudson in OKC. We do not meet in December because of Christmas nor in January because of the Indoor Outing in early February.

Visions of Paradise

Susan Chambers reports on the Central Chapter visit to a commercial garden in Oklahoma City with the wonderful name "Visions of Paradise". About 20 members and visitors met on Saturday, August 24, at the home of John and Lisa Blevins. From the glowing reports, the name is an understatement! There are all kinds of gardens; vegetable, flower, worm, foliage, indoor and out. All organic, of course. John retired last year as a private school teacher, and he and Lisa have been building their home and business there for some two years already.

Yes, they do landscaping, too. Their own gardens flow from one to the other and from house to back again in a most charming way. There is a big pit greenhouse where the worms are raised around the edges. It floods, of course, when it rains, but the flooding is used to provide compost for the worm operation. What a lot of talent is released by retirement. Wish you could all enjoy some!

ONPS Photo Contest Displays

Our beautiful posters of Oklahoma Wildflowers from past entries in the annual photo contest are available for display anywhere in the state.

Call Ruth Boyd at (405)872-9652 or Sue Amstutz at (918)742-8374 to schedule a display. You will need a secure location, where they can be locked up at night, if the posters are to remain in a location for several days.

Mushrooms, Anyone?

Our new Interim Curator at the Robert Bebb Herbarium in Oklahoma University is a lovely young lady, Patty Cruze-Smith. Patty has offered to start a mushroom collection, which will be kept available for study as a regular addition to the plant collections. Right now, we are experimenting with different preservative solutions, drying techniques, etc., and have completed our first collecting expedition.

ONPS members with specimens, information, references or other materials that might be loaned or donated are encouraged to contact Patty at (405)325-7533. Some of us think that specimens accompanied by pictures of the living mushroom are best of all. Taxonomic quibbles over the meaning of "mushroom" will not cause Myxomycetes and lichens to be refused.

Fall Foliage Tour

Did you know that you can go fall-foliage-touring in Oklahoma without driving through 30 miles of fog on SH 1? Join us for a semi-official state field trip through the beautiful Kiamichi country on Saturday, November 2 and find out where.

Connie Taylor is bringing her Forestry class from SEOSU, Central Chapter is forming car-pools (call Pat Folley about that), and we haven't told the Northeast Chapter yet, but they will pitch in and join us as soon as they hear.

The meeting place is Clayton Lake Recreation Area, right on US 271, south of Wilburton and northeast of Antlers. We'll be close to the public restrooms. Time 11:00 a.m. Bring a sack lunch or snack: the towns on this route are not big enough to provide services.

Maximilian's Sunflower

by Patricia Folley

Ruth said I could write this, so it must be OK, but I really feel a bit embarrassed, as if caught showing grandkid pictures at a board meeting. As probably 9/10 of the State knows already, *Helianthus maximiliani* is my most favorite wildflower. There are many reasons, but count among them that (1) it produces an astounding inflorescence that can contain 50 to 100 or more big, beautiful yellow flower-heads, (2) grows right beside the road where it is available to couch-potatoes that never leave the car, and (3) is in bloom on my birthday. That is, it is always in great form on the weekend of the Annual Meeting.

Since the picture that will accompany this piece will be in black and white, you should know that *Helianthus maximiliani* has both yellow ray flowers and yellow disk flowers, is a perennial, and isn't the least fussy about soil, temperature, or humidity. It is also considerate, and waits until all the lesser sunflowers, those with only five-to-a-dozen flowering heads, have finished their display, and the asters are coming on strong. The lavender-blue of asters looks so good as a background to H. max.'s bright yellow. It is a tall plant, as a rule; six to ten feet if not restrained by gardeners or road crews, and could even be more common if people hadn't filled up all the prairies with cows, which like sunflower plants to eat. The leaves are quite different from those of other sunflowers, being long and narrow, with a decided lengthwise crease. Back before Dr. McCoy made it unnecessary, I used to make up my own names for the wildflowers, and called this one the "peach-leaf" sunflower. When you come across a big, beautiful, all-yellow sunflower in a fence-row of asters, remember this peach-leaf character and

you will know you have the genuine H. max. Sometimes the road-mowers will catch them just before the blooms begin, and they will be found blooming at less than 4 feet in height.

Gardeners will want to know that, while this will never make a border plant, it will quietly live in a corner against a sunny wall or fence without ever becoming a pest, or pushing its way into the tomatoes or moss-roses. I just lift a clump of young shoots with some root attached when they emerge in spring, and find them easy to grow. It does like enough water to keep its roots well-moistened, and in fact can tolerate conditions that would otherwise raise only sedges or thoroughworts. Besides your editor, butterflies, bees, especially the big native bumblebees, and even hummingbirds enjoy the flowers.



ONPS WELCOMES NEW MEMBERS

Larry & Dawn Montello, Marlow
 Mark & Teresa Hoehner, Edmond
 Jenni Ward, Norman
 Linda A. Cantu, Norman
 Linda Norton, Edmond
 Richard & Joy Jones, Guthrie
 Melissa Wasson, Oklahoma City
 Kim Brewer, Tishomingo
 Muhammad Allah, Oklahoma City
 Dan L. Reinking, Bartlesville
 Susan Hill, Norman
 Emily Hampstead, Norman
 Frank L. Caldwell, Tulsa
 Jeri A. McMahon, Ft. Gibson
 Pamela A. Walker, Norman
 Mary Ann Miller, Plano TX
 Soania Wilson, Stuart
 Melanie Wortham, Ardmore
 Bruce Hoagland, Norman

Know any of these good folks? Let them know
 we're glad to have them with us!

*Ever wonder why the same dozen-or-so
 names appear in every issue? It's because,
 they volunteered to take a responsibility.
 Please, if you can help, offer. Call Frank Carl
 at (405) 822-3660 to get involved!*

FORMING A NEW CHAPTER

Several members have mentioned that they are interested in forming local chapters. It's really very easy to do: first you ask Darlene Michael to make you a printout from the membership data-base for your area. It is easier to do if you give her the zip codes that you want included. Then, contact your prospects (Darlene can make your list on mailing labels, if you ask). Schedule a meeting at a place with parking available, maybe bring some cookies and a pot of coffee, and stand back!

We've learned by working with the Central chapter that field trips are not very good for organizing -- all of us are more interested in the wildflowers than in electing officers -- and that a minimum of one Chairman, to schedule meetings, a Delegate to attend the statewide Board Meetings (can be a current officer who would be going anyway), and a Program Chairman. Titles are optional. Our first elected leader in the Central Chapter, Mike Bush, wanted to be called "Czar". A Secretary /Treasurer to take notes and keep records is good, too. The state board will pay the chapter's reasonable expenses, and chapters are not expected to raise funds unless for local projects.

Keep it light, keep it flexible, and make it interesting and fun. We're an educational and personal-involvement organization -- not a political party. When you decide to make it official, schedule a visit with the Board or with President Frank Carl.

MEMBERSHIP RENEWAL FORM

Please renew my membership in the Oklahoma Native Plant Society, or add the name below to the membership list in the category checked.

NAME _____ HOME PHONE () _____

AFFILIATION (School, Business or Avocation) _____

ADDRESS _____ BUSINESS PHONE() _____

CITY _____ STATE _____ ZIP _____ ☐ please don't list my phone

_____ \$15.00 Family _____ \$10.00 Individual _____ \$5.00 Student _____ ☐ Gift from _____

LIFE MEMBERSHIP _____ \$300.00 Family _____ or \$200.00 Individual. ☐ Renewal ☐ New Member

DONATION TO: ANNE LONG FUND _____ HARRIET BARCLAY FUND _____

☐ I am enclosing an additional \$2.50 (to cover cost of printing and mailing) for a complete ONPS directory.

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The Gaillardia

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Vice President	Ann Randle
Secretary	Darlene Michael
Treasurer	Judy Jordan
Historian	Karen Haworth

Boardmembers-at-Large
1996 T. H. Milby
1997: Mike Palmer and Richard Bradley
1998: Sheila Strawn and Betty Kemm

Edited by Patricia Folley
Copy to: 15100 Etowah Road, Noble OK 73068
Telephone -voice or fax- (405)872-8361

Gaillardia articles may be reprinted at will. Please
acknowledge the source and author!

Condensed from "The Closing Circle", by Barry Commoner:

First Law: Everything is connected to everything else. Life begins with light from the sun. The energy is transferred from sun to plant to animal. Fungi and microorganisms recycle the remains of larger life forms and make them available for regrowth. As Aldo Leopold so well described, every molecule on earth has been recycled time and again.

Second Law: Everything has to go somewhere. The Earth is finite. The limited supply of energy, minerals, air and water must be shared by all living creatures. Any disturbance in the cycles could jeopardize the living members.

Third Law: Everything is always changing. The plant and animal residents of a community do not remain the same. They react with each other and with other communities. Over short or long times, the change is called *ecological succession*. Following a catastrophe, like a volcanic eruption or a construction project, life proceeds to reclaim the space. The first pioneer is usually a lichen (or Bermuda grass?), the soil manufactured by lichens eventually supports seeds of higher plants, followed by animals which use the plants for support, followed by the micro-cleanup crew.

Fourth Law: There is no such thing as a free lunch. The equations must be balanced for life to continue. Any plant or animal which exceeds its balance in the accounts of life will eventually become "bankrupt". We call that condition *extinction*. Mankind is not exempt from this law.

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