



Gaillardia

Oklahoma Native Plant Society

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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Summer 2017

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ONPS website: www.oknativeplants.org

oknativeplants@yahoo.com

Gaillardia email: thegaillardia@gmail.com

COPY AND ART DEADLINE

FOR NEXT ISSUE IS

August 5th, 2017

DYC

Noun (*plural* DYCs)

1. (botany, humorous) damn (or damned) yellow composite; any hard-to-identify yellow-flowered member of the sunflower family (Compositae)

Upcoming Events/Activities

(check the ONPS website for more details)

August 3-7:00 CC, OSU/OKC Horticultural Building, TBA

September 11-6:30 NE Chapter Tulsa Garden Center, TBA

Fabulous Wildflower Fridays, at 5:30 the third Friday of each month at Panera at 41st Street and Hudson Ave

Save the date: September 15 and 16, Annual meeting at Stillwater

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



Helianthus tuberosa

Jerusalem Artichoke

Photo: C.R. Ledford

WELCOME TO THESE NEW MEMBERS

Kathleen Baughman	Rose
Tim & Kate Brophy	Tulsa
Aaron Cobb	Jenks
Merv Coil	Mustang
Arlene Evans	Pawnee
Susan Miller	Norman
Patricia & Michael Morris	Edmond
Michael & Marilyn Schooling	Tulsa
Bobby & Laura White	Lawton
Rob Voss	Moore
Karen Hey	Bartlesville
Tammy Smith	Eufaula
Richard Snow	Tulsa

DONATIONS

Barry Redlinger, Color Oklahoma

ATTENTION ALL PHOTOGRAPHERS

Your nature sightings are needed.

The ONPS Photo Contest is changing for 2017. The Special subject is "Host Plants". These are plants which are hosts to butterflies, bees, flies, birds, mammals, etc., whether it be as a food source, or housing or any other use nature has developed.

The entry deadline is December 1, 2017. This gives you lots of time to capture any host plant in any season in any use. Other changes include no entry fees, and winners will only be acknowledged for their excellence and appreciated for sharing their experience. Winners will be announced at the Indoor Outing in February 2018.

Watch our website and Facebook page for more details about entering.

Annual Meeting

Plans are underway for the ONPS Annual Meeting which will be held in Stillwater on September 15 and 16.

Keynote speaker will be Heather Holm, award-winning author of Pollinators of Native Plants and Bees: An Identification and Native Plant Forage Guide.

President's Paragraph

Joe Roberts

I write this in limbo between the Wonders of Wildflowers weekend that was to be, and the WOW weekend that will be. On our originally scheduled weekend, Osage county was deluged by rain, forcing postponement. This coming June 2-4th we will try again, and it promises to be a good one.

ONPS activities are numerous and available around the state for all to enjoy. A quick glance at the website's "Upcoming Events" shows no fewer than seven events spread over just three weekends. This time of year is always full of activity, and sometimes the only problem is deciding which to attend. Some of these pop up quickly, and a good way to stay on top of them is to have our website bookmarked and check in often.

With all the rain we have had, this promises to be a verdant year for our state and your garden. I hope you all have time to enjoy nature's bounty, whether it be a wildflower-laden prairie or a potted native plant on your patio. It's all good.

From the Editor

Yellow flowers are prevalent on prairies and roadsides each year and they can be tough to identify. Legend has it that Lady Bird Johnson, when asked by a companion what one of them was shot back "it's a damned yellow composite" and the acronym DYC was born. The term even has its own Wikipedia page. Pretty thin on information, but it does exist.

Many *many* years ago at an ONPS meeting I observed two of our state's top Asteraceae experts get in a heated argument about the i.d. of a Goldenrod. One insisted it was *Solidago nemoralis*, the other was convinced it was not. Voices became raised, backs straightened, neither one would back down. If *they* couldn't agree on this would I, a mere mortal, ever have a chance to make a 100% correct i.d. on any of our DYCs? Probably not, but we can take a stab at making an i.d. on the ONPS Facebook page and sit back and see who wins in the comment section.

Go out to your yard or prairie or park and find a DYC to puzzle over, chances are you won't be the first to scratch your head wondering what it is.

Botanist's Corner

Abigail Moore, Director, Bebb Herbarium

The sunflower family, the Asteraceae or Compositae, is one of the two largest families of flowering plants, with the other contender being the orchid family, the Orchidaceae. Both families have around 25,000 species. More importantly for us, the sunflower family is also the largest plant family in Oklahoma, both in terms of species (370) and genera (125). In addition, although comps, as members of the sunflower family are often called, grow in almost every habitat in the state, this ecological diversity has evolved while the plants have kept the same basic morphological plan. All members of the sunflower family have flowers in heads and one-seeded fruits, called achenes. Although there are many exceptions, many of Oklahoma's comps can be considered to exhibit variations on a theme: plants that are 1–4 feet tall with heads of yellow flowers. Since they can be so similar, sometimes people refer to these plants as NYCs or damn yellow comps in frustration. However, instead of wishing you could ignore them, I would encourage you to take a closer look and appreciate some of their hidden diversity.

The first thing to know is that the structure that looks like a single flower is actually many tiny flowers put together, mimicking a single flower. What people think of as a sunflower "flower" is actually a flower head, because it contains many flowers. A sunflower has two types of flowers in its flower head: central flowers (often brown) that are tubular and flowers around the edge that have one extended petal-like structure (and indeed people often think of these as the petals of a sunflower). The central flowers are called disk flowers, because they form the central disk of the flower head. The flowers around the edge are called ray flowers, because if a flower head is like the sun, they are the rays of the sun.

Ray flowers produce seeds in some species, but in others they are sterile, existing only to make the flower head attractive for pollinators. In either case, they never produce pollen. Only disk flowers produce pollen. Disk flowers usually produce seeds as well, but not always. For this reason, some comps, such as thistles, have flower heads with disk flowers only (discoid heads) and some comps, such as true sunflowers and their relatives, have both ray flowers and disk flowers in their flower heads (called radiate heads). But they never have only ray flowers (at least not in nature).

However, one group of comps looks like it only has ray flowers. That is the dandelion tribe. All of their flowers are similar and each has one extended, petal-like structure. These flowers produce both seed and pollen and evolved independently from true ray flowers. Not only are the dandelions the only plants with this type of flower (called ligulate flowers), they also have another distinguishing feature: they produce white milky sap, like many of the milkweeds from last issue. Lettuce is a relative of dandelions, and you can sometimes still find some milky sap when you cut the main stem of a lettuce head.

Another important difference between comps is the form of the phyllaries (sometimes called involucre bracts): the small, leaf-like structures that surround the outside of the flower head. An artichoke is an immature flower head of a thistle, and when you cook a whole artichoke, the leaves that you dip in butter are the phyllaries. In many cases, phyllaries overlap in many rows, as in an artichoke, but there are many different variations. For example, *Coreopsis* has two series of phyllaries, an inner series that is wide and closely surrounds the base of the head and an outer series that is narrow and sticks out parallel to the ray flowers.

Harriet Barclay Award

Sue Amstutz

Trena Bartlett was named recipient of the 2017 Harriet Barclay Award during the recently held Oklahoma State Science Fair held March 31-April 1 on the campus of Eastern Oklahoma University in Ada. Trena is a student at Sasakwa High School in Sasakwa, Oklahoma. Trena's entry, "Look Back At It: A Study of the Eastern Red Cedar Invasion", earned for Miss Bartlett a \$100.00 cash prize, a one-year complimentary membership in ONPS, and a one-year complimentary subscription to *The Gaillardia*. Sponsoring Trena was her high school science teacher, Mr. Brad Story, who also receives a similar award...cash prize, complimentary membership and complimentary subscription... for guiding his award-winning student.

No winner was selected in the Middle School / Junior High division since no entries relevant to native plants and related topics were entered in the competition.

ONPS is particularly grateful to Erica Corbett who on our behalf judged the science fair competition with regard to the Harriet Barclay Award in her role as ONPS Special Judge. We are also indebted to Dr. Michael Bay, Oklahoma State Science Fair General Chairman of Judges, who for the second consecutive year graciously served as Liaison between ONPS and the State Science Fair. Both of these professional educators provided invaluable assistance to the Society in making possible the selection of Trena Bartlett as recipient of the Harriet Barclay Award for 2017.

Rudbeckia hirta

Black-eyed Susan

Marilyn Stewart

Certainly one of the most commonly seen wildflowers this time of year is the Black-eyed Susan. It is used extensively in highway plantings, but is also a good addition to the home garden. An annual, it will reseed although I've never found it to be invasive and has the added benefit of being a larval host plant for the Silvery Crescentspot butterfly.

Bright, happy, makes a super cut flower, requires little in the way of water or care, what's not to love about this one?

Helianthus maximillianii

Maximillian Sunflower

Joe Roberts

The NYCs are notoriously difficult to identify. My success in identifying NYCs is represented mathematically by the equation $(x - y) * 1/z$, where x is the number of botanists on the trip, y is the number of field guides I left on my desk at home in the rush to get going, and z is my proximity in meters to Adam Ryburn. But I don't have to worry when it comes to my favorite NYC, Maximilian Sunflower. Early fall, big thicket, 8 feet tall, unbranched stem covered in hairs and exploding in yellow flowers – not many things to confuse it with. Even in a car doing 50 mph down the road, you can pretty safely ID it, making you look like a real expert to your kids, unless they are teenagers, in which case nothing you say could ever have any relevance (cue the eyeroll).

A thicket of Maximilian Sunflower is like an insect zoo as well. The amount of life this NYC supports is phenomenal. Once, I had the bright idea of cutting some roadside blooms and some Indian Grass heads. I was going to make some “Okie Ikebana” for the dinner table. I carefully arranged everything in a vase and put it on the table. Beautiful. But when we went to eat, the table was covered with invertebrate friends who were not welcomed by my wife.

This attractive plant looks good in a garden or a field, and is my favorite NYC.

***Helianthus tuberosa* L.**

Jerusalem Artichoke

C.R. Ledford

There is an old Pawnee story about a coyote and artichokes. When the coyote passed by the artichokes he heard a voice saying “eat me”. The coyote moved on and heard the voice again and upon the third time he responded. The trickster ate an abundance of the tubers. Soon, he had intense gastrointestinal issues; flatulence. The moral of the story is?

The common name of this perennial member of the aster family is lacking in relevance. The native plant, growing 2-8 feet tall, producing edible tubers is scattered across the state in more than twenty counties. The plant tends to have a preference of partial to full shade, moist conditions, in loamy soils. It can be aggressive in growth.

It is a late flowering pollinator plant having disk and ray flowers. It primarily attracts bees and some smallinators. There are some butterfly and moth larvae that feed on the plant. Reportedly, the removal of flowers can result in more tuber growth.

There are numerous ways to prepare tubers for consumption. Based on my experience the raw and boiled sections of the tubers are quite tasty and with content of inulin may be more diabetic friendly. According to Moerman, fifteen Native American tribes consumed the plant. Remember the first paragraph, just in case.

Coreopsis tinctoria

Plains tickseed or Dyer's coreopsis

Kim Shannon

I have always liked this little annual because it can hide in plain sight. I think it's able to hide because of the dark red to maroon band at the base of the ray florets. It is especially hard to pick out when botanizing at 65+mph. That inner spot of color seems to break up the bright yellow that would otherwise make it as obvious as its cousin, *Coreopsis grandiflora*. I also like this one because it typically blooms a little later, or perhaps longer, than many of the spring NYCs.

As is true with most species names, the roots of the genus and specific epithet tell us about the plant. The genus *Coreopsis* is derived from the Greek words koris, meaning bug and opsis, meaning in reference to. Specifically, *Coreopsis* refers to the bug-like shape of the seed (actually its fruit, an achene); tickseed. The specific epithet, *tinctoria*, is derived from the Latin *tinctura*, meaning dye. A friend who dyes fabrics and fibers tells me that this is one of her favorite dye plants. The common name can also be Dyer's coreopsis. The flowers are used to create a deep red dye solution that will turn a natural fiber to a golden orange; about the color that would be produced if you could mix the maroon and bright yellow of the ray florets.



Ray Luth and Donna Stuber man the ONPS table during the Tulsa Audubon Backyard Tour on May 21st.

Connections

A Sample Of Asteraceae Used By Oklahoma Native American Tribes Fred Schneider

Many species of Asteraceae were traditionally used by the Native American Tribes of Oklahoma. It would be impossible at this time to list all these species and their uses. Below are species which are perhaps more familiar to the general public. Most information is taken from Daniel Moerman's Native American Ethnobotany. **DO NOT EXPERIMENT USING THESE PLANTS FOR MEDICINAL PURPOSES! The following are not recipes and are not clear as to quantity and dosage.**

ARTEMESIA

Artemisia sp. Cheyenne: Branches used to remove spines of prickly pear cacti fruits. **Pawnee & Ponca:** Plant used to begin any ceremonial in order to drive away evil influences. Decoction of plant used as a wash for purification. Decoction of plant was taken for stomach troubles and many other ailments. Plant used as incense to exorcise evil powers. Plant tops chewed and used for popgun wads.

Artemisia dracunculus, Wormwood **Pawnee:** Decoction of tops used as a wash for rheumatism. Plant used in the smoke treatment of unspecified ailments. **Ponca:** Plant used in the smoke treatment of unspecified ailments. Decoction of plant taken and used as a wash for burns.

Artemisia filifolia. Sand Sagebrush. **Comanche:** Padding of plants placed over hot coals as a bed after childbirth. **Kiowa:** Used for drying hands and as a substitute for toilet paper.

Artemisia frigida, Prairie Sagewort. **Delaware:** Leaves chewed as "ceremonial" medicine. **Pawnee & Ponca:** Decoction of plant taken and used as a wash for irregular menstruation. Plant bunches used as towels in old time.

Artemisia ludoviciana, Louisiana Sagewort. **Apache:** Used as a flavor for meat. **Cheyenne:** Snuff of crushed leaves used for headache. Plants used in ceremonies. Crushed leaves used as a snuff for nosebleeds. Leaves crushed and used as snuff for sinus. Plant rubbed on body for immunity to sickness. Plants used in ceremonies to drive away bad spirits, evil influences and ominous dreams. Leaves burned as incense in ceremonies to purify implements, utensils, or person. Plants wiped on persons who broke taboos for purification. Plants wrapped around sundancer's eagle bone whistles for prevention of thirst. Sprigs used as ceremonial paint brushes during sundance. Sprigs used to sprinkle water on rocks in sweat lodge. **Comanche:** Leaves chewed and used for insect bites and spider bites. **Kiowa:** Infusion of plant taken for stomach troubles. Infusion of plants taken for the lungs or to cut phlegm. Poultice of chewed leaves applied to sores. Plant used as a purifying agent in the sweat house. Leaves chewed for sore throats. **Pawnee:** Tea used during menses. **Ponca:** Plant branches used as towels in old time. **Seminole:** Leaves crushed and rolled in hand and inhaled as a sort of tonic to cure headache.

Artemisia ludoviciana ssp. Mexicana var., Mexican White Sagebrush. **Kiowa:** Poultice of chewed leaves applied to sores. Plant used as a purifying agent in the sweat house. Leaves chewed for sore throats.

Artemisia vulgaris, Common Wormwood. **Kiowa:** Plant used as a "worm" medicine. Used to make cushions for worshippers in the peyote ceremony. Leaves rubbed on the face and hand as a purifying agent.

ECHINACEA

Echinacea sp. Comanche: Decoction of root taken for sore throat. Root held against tooth for toothaches.

Echinacea angustifolia, Blacksamson Echinacea, Narrow-Leaf Purple Coneflower. **Apache:** Chewed root for toothache or sore throat, applied externally to other parts of body to alleviate aches and pains. **Cheyenne:** Infusion of powdered leaves and roots used as a wash for sore and painful necks, sore mouth or gums, sore throat and toothache. Roots used to stimulate saliva. **Kiowa:** Ground root used for coughs, chewed for sore throats. Dried head used as a comb. **Pawnee & Ponca:** Juice used as wash for pain from burns, plant used in the treatment for headache, plant used as antidote for many poisonous conditions, used by jugglers as wash for arms to protect against boiling water, poultice of plant applied to enlarged glands, plant used for snake bites and stings, for toothache, and smoke treatment for horses with distemper.

Echinacea pallida, Pale Purple Coneflower. **Cheyenne:** Decoction of roots and leaves taken for rheumatism, arthritis, burns, wash for burns, wash for fevers, smallpox, mumps and measles, sore mouth and gums. Roots chewed for cold, mixed with puffball mushroom spores and skunk oil and used for boils, used to prevent thirst, and an infusion of powdered roots and leaves taken for sore mouth and gums, sore throat, and colic.

Echinacea purpurea, Purple Coneflower. **Delaware:** Simple or compound infusion of root, highly effective for gonorrhea.

SOLIDAGO

Solidago sp. Goldenrod **Apache:** Fever medicine made from decoction of leaves. **Cherokee:** Infusion used for fevers.

Solidago juncea, Early Goldenrod. **Delaware:** Leaves chewed or infusion taken for fever, taken for diarrhea.

Silphium lanciniatum

Compass Plant

Ken Stewart

There are some plants that are just cool. I like the Eryngiums (Rattlesnake Master and Leavenworth's Eryngium because they are so unusual and for me among the DYC's that standard belongs to the Silphiums, particularly *Silphium lanciniatum*, aka Compass Plant. And the source of the common name? It seems that the huge (I've seen them up to 2 ft long) leaves line up north to south in such a way as to maximize their exposure to the sun. So on a cloudy day in the endless prairie you could look to this plant to assist you with going in the right direction.

Compass Plant is considered a 'prairie indicator plant', meaning when this 12 foot plant is present the area hasn't been tilled or grazed. The roots go down at least 15 feet. Historically, there have been many medicinal and edible uses for this plant.

I find them in great quantities is on my drive to work on highway 9 just west of Earlsboro. There are numerous stands that vary in size depending on the number of times they have escaped the destruction of the ODOT mowers. As I type these words this year's crop stands ready to shoot their spikes up and start blooming. Every morning I hold my breath hoping the mowers have stayed away.



Coreopsis tinctoria

Plains Tickseed

Photo: Marilyn Stewart



Hymenoxys scaposa

Four Nerve Daisy



Ratibida columnifera

Yellow Prairie Coneflower

Photo: Alex Watson



Helianthus maximilianii

Maximillian Sunflower

Photo: Color Oklahoma



Engelmannia peristenia

Engelmann's Daisy

Photo: Ken Stewart



Verbesina enceloides

Golden Crownbeard

Photo: Marilyn Stewart



Silphium perfoliatum

Cup Plant

Photo: Scott Thompson



Senecio flaccidus

Threadleaf Ragwort

Photo: Courtesy of Wildflower.org



Rudbeckia hirta

Black-eyed Susan

Photo: Marilyn Stewart

Silphium lacianatum

Compass Plant

Photo: Courtesy Prairie
Moon Nursery



Gaillardia aestivalis

Summer Gaillardia



Echinacea paradoxa

Yellow Coneflower

Senecio
Ragwort
Bruce Hoagland

When I think of yellow composites, two spring immediately to mind: threadleaf ragwort (*Senecio flaccidus* Less.) and Riddell's ragwort (*Senecio riddellii* Torrey & A. Gray). Both are member of the groundsel or ragwort genus *Senecio*, which consists of over 1,000 species. Many of you recognize the name *senecio*, because there was once eight species of *senecio* in Oklahoma, of which five were transferred to the genus *Packera*, including the widespread prairie ragwort (*Senecio plattensis* Nutt., now *Packera plattensis* (Nutt.) W.A. Weber & A. Löve).

Of the remaining *Senecios*, only common ragwort (*Senecio vulgaris* L.), a native of Europe, is herbaceous. Threadleaf and Riddell's ragworts are considered subshrubs because they produce woody taproots and a woody crown. Of the two, threadleaf ragwort is the most widespread in the state; it can be found in almost all counties west of Hwy 81. In the U.S., it's range extends from Texas and Oklahoma, north to South Dakota, and west to Wyoming and south to Arizona. G.W. Stevens was first to report the plant from Oklahoma in 1913, with collections from Ellis and Woods counties.

If you wish to see threadleaf ragwort, a trip to the Panhandle is in the offing. Although it is reported from all three Panhandle counties, I encounter it most frequently in pastures in the Back Mesa region. This is also where intrepid botanist G.W. Stevens reported the first occurrence of the plant in Oklahoma on 14 May 1913. From the northwest corner of Cimarron County, the range extends west of the 100th meridian through Wyoming, Utah, Nevada, and California, south into Mexico. Of the three described varieties of *Senecio flaccidus* (*douglasii*, *flaccidus*, and *monoensis*), only variety *flaccidus* is considered to occur in Oklahoma.

I believe both species would make excellent rock garden plants, though I cannot find a source for either. The dissected, linear leaf segments and dazzling dome of yellow flowers are very attractive to humans (I would give a nod to threadleaf ragwort due to its white, tomentose leaves) and pollinator. I imagine both would propagate readily from seed. I would be remiss, however, if I failed to mention a downside; both species produce alkaloids that are toxic to livestock. They are considered increasers, meaning the number of plants increases as the grazing pressure in a pasture increases. In fact, there was an active eradication program aimed at Riddell's ragwort following World War II.

Engelmann's Daisy, *Engelmannia peristinia*, is the only one of its genus. It is named for German born George Engelmann, (1809-1884) who came to America and named more than 100 native species. His irreplaceable collection of specimens was given to the Missouri Botanical Gardens and led to the founding of the Henry Shaw School of Botany.

Verbesina enceloides
Golden Crownbeard
Melody Hobbs

Have your backyard chickens created a barren No Man's Land where nothing can grow? Try planting Golden Crownbeard, aka Butter Daisy or Cowpen Daisy.

Like its namesake Enkelados, the 100 armed giant of Greek mythology who is buried under Mount Etna, *Verbesina enceloides* grows to become a multiple branched giant. It erupts into bloom in early April and continues through the heat of the summer until a hard frost. The 1-3' height listed in most descriptions does not take into account its potential when growing in a well fertilized (some might say over fertilized) area such as a poultry yard, as most of mine are 4-5' tall.

This plant reaches its full potential for greatness in full sun, but can grow in partial shade as well. It is not palatable to poultry, cattle, sheep, goats or horses, and will grow tall enough to offer small mammals cover from hawks. It is a host plant for the Bordered Patch butterfly and is wildly attractive to insect pollinators including Monarchs and all manner of bees, the height of the plant insures they are kept out of the hungry chickens below.

Crownbeard is a prolific reseeder, and there is some evidence to suggest it relies on allelopathy, releasing chemicals from their roots to suppress competition from other plants, therefore potentially exclusively colonizing an area. On the other hand, seedlings and even relatively large plants are easily pulled by hand to thin them out if they begin encroaching on other equally desirable species, allowing you and the butterflies to enjoy a bright spot of yellow.

Gaillardia aestivalis
Summer Gaillardia

We are all familiar with Oklahoma's state wildflower—*Gaillardia pulchella*, but there are four *Gaillardia* species native to our state and one is a NYC; *Gaillardia aestivalis*. It is an annual, sometimes a tender perennial and blooms from the middle of June until frost. It is usually found growing in prairies and open places across much of Oklahoma.

The only requirement for growing this is to give it full sun and not too rich of a soil. Doesn't get too tall, only about 2 feet and is fairly bushy in habit. Pollinators seem to really like this one which is good because there aren't too many things that can keep blooming through the summer heat like this one can.

Oklahoma Invasive Plants:

Cirsium arvense

Chad Cox

This article continues the reports on the Watch List of OkIPC of Oklahoma invasive plants. The Thistle Law enacted in 1994 and extended to the whole state later included Canada thistle, *Cirsium arvense*. The weed is a native of southeastern Eurasia introduced to Canada as a contaminant of crop seed as early as the late 18th century. It now occupies all US states but seven in the south.

Although some plants were collected in the panhandle in the 1950s and two vouchered reports from 1974 for Bryan County exist, no current reports for Canada thistle are known. It is on the watch list because of its very invasive nature and its existence in bordering counties in Kansas and Arkansas.

Canada thistle is a perennial, developing from a deep and extensive horizontal root network. Stems are 1 to 4 feet tall, ridged, branching above. Leaves are alternative, lacking petioles, oblong or lance-shaped, waxy on both surfaces, divided into spiny-tipped irregular lobes. Flowers are numerous, urn shaped involucre, unisexual, on separate plants, flowers pink to purple (occasionally white) in heads 1/2 to 3/4 inch in diameter. These male and female flower heads make the Canada thistle unique from other true thistles, the root complex makes this aggressive weed difficult to control.

Canada thistle control using herbicides requires a several year process just like so many other invasive plants. Its biocontrol is better by comparison. The larvae of the fruit fly *Orellia ruficauda* feeds exclusively on the fertile seed heads of Canada thistle and is effective for controlling spreading by seeds. Other biocontrol agents are the rust species *Puccinia obtogens*, and *P. punctiformis*. The fungal spores are used to inoculate the current plants and these will infect the next crop of plants from the root complex and eventual kill this complex. There are other biocontrol agents but these have proved better.

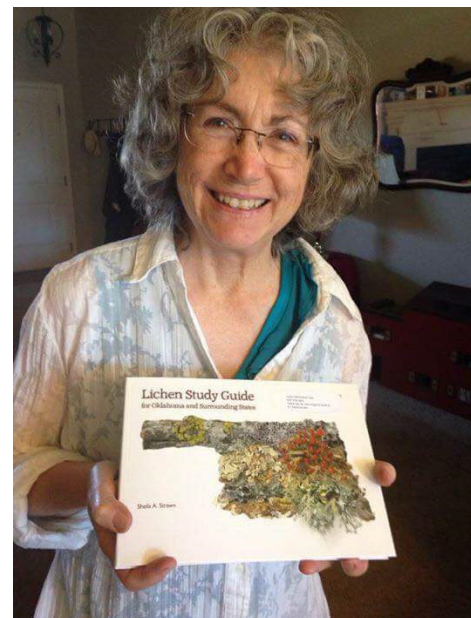
Better yet we have an opportunity to keep it out of Oklahoma if we remain vigilant and eradicate any infestations as soon as detected. Remember, biocontrol does not eliminate the species; it just makes them easier to live with. That is the relation Oklahoma has with *Carduus nutans*, musk thistle now.



Our very own Dr. Sheila Strawn has authored an 80 page lichen study guide which covers lichens for Oklahoma and several surrounding states. Dr. Strawn is available to conduct workshops on the identification of these fascinating organisms and you may contact her at sastrawn@hotmail.com.

The guide may be ordered through Brit Press:

<https://brit.org/>



"What a thousand acres of compass plant looked like when they tickled the bellies of the buffalo is a question never again to be answered, and perhaps not even asked"

Aldo Leopold, *A Sand Country Almanac*

Color Oklahoma

Sow Some Wild Seeds

Pearl Garrison, President

Here are three ways you can help preserve our native wildflowers.

Buy a Color Oklahoma license plate, which is certainly much prettier than the new state tag. Each tag costs \$35, and Color Oklahoma, a project of the Oklahoma Native Plant Society, receives \$20 from each sale. You can order online from the state Tax Commission or at a tag office. Display the Color Oklahoma tag and stash the standard tag in the trunk.

The money from tag sales is used for education and to purchase native wildflower seeds that are sown by the Oklahoma Turnpike Authority. We also have a matching grant program for roadside and park beautification.

Ask your County Commissioners to reduce roadside mowing. I have prepared a two-minute script that I am presenting at County Commission meetings in Oklahoma. Let me know if you would like to do the same. All you need to do is call your County Commission office, ask to be put on the agenda, show up at meeting time, and read the script. Contact me if you want to speak up for wildflowers.

osageprairie10@hotmail.com or 918-671-8207.

Donate to Color Oklahoma. Write a check to Color Oklahoma and mail to Oklahoma Native Plant Society, P.O. Box 14274, Tulsa, OK 74159. Many make a contribution in memory of a loved one who appreciated plants and nature. The money will be used for native seed purchases.

Look for Color Oklahoma sites in the Stillwater Loop off of the Cimarron Turnpike, at the southwest end of the Bailey Turnpike, and along the Turner Turnpike. We are adding to these established sites each year. The Turnpike Authority is very supportive of our efforts, which means crews don't mow prematurely.

Learn more at coloroklahoma.org, where there is a Photo Gallery to help you identify common wildflowers.

SW Chapter News

On April 21, 2017 the Southwest Chapter held a field trip for 60 pre-AP biology students at the Medicine Park Aquarium and Natural Sciences Center. The event was sponsored by a grant from the American Society of Plant Taxonomists and the Botanical Society of America. The students divided into groups of 20 and each group rotated through three different stations; touring the aquarium, planting native plants in outdoor beds, and a photo scavenger hunt for native wildflowers. A storm with heavy rain and strong winds at starting time delayed the event but once the rain passed the group rotations proceeded. Shoes were quickly caked in mud but everyone remained in good spirits having been well prepared by their teacher to expect rain. A grill-out lunch was followed by a discussion and question and answer session.

Central Chapter News

The January talk was given by Bruce Hoagland, with the Oklahoma Natural Heritage Inventory and Department of Geography and Environmental Sustainability (OU). He spoke on the natural history of Oklahoma's native plants past and present, and gave an overview of the Heritage Inventory.

The February meeting featured a presentation by Bob Blasing on the historical use of native plants by Native Americans.

In March, Jay Pruett, with the Nature Conservancy of Oklahoma, spoke on "Wind Energy and Wildlife---What to Do?" At the April meeting, Judy Kautz, a master gardener, presented the program "Photography in the Garden," on how to choose subjects in the garden and how to frame photos, choosing the right angle and lighting.

The "annual May get-together" was May 21st at the Prairie Wind Nursery in Norman. There were about 50 in attendance, Bill Farris gave a short presentation about propagation. Patrick Bell played chef and a great time was had by all.

The monthly meetings/ presentations will resume August 3rd, 7pm, Horticulture Building, OSU-OKC campus.

The meetings are casual, fun and informative... mark your calendar and plan to join us.

NE Chapter News

The Northeast ONPS chapter has had two great programs this spring. The first, in March, was Donna Horton discussing Geocaching for Botanists. She told us how geocaching sites can be a great new resource of places to go and see native plants. Our second program was Master Gardener Erma Roquemore speaking on Environmentally Friendly Gardening. We had great attendance at both programs in the ballroom of the Tulsa Garden Center.

Our field trips included an April trek through the North Woods of Oxley Nature Center, where we scouted and were rewarded by finding trout lilies, among many other spring bloomers. In May, we traveled west of Skiatook for a prairie tour at the home of Rusty Grimpe. His yard was so full of native species that we didn't have to venture on to the prairie—but we did anyway.

Informational booths on ONPS were manned at the Tulsa Garden Center Garden Info Fair and at the Audubon Backyard Habitat Tour. People all over seem to really be excited about native species right now. This summer we will be attending the Wonders of Wildflowers Weekend, June board meeting, and out cultivating the new natives in our yards, so our next meeting will be September 11th.

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Marilyn Stewart
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