



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

**Volume 29, Number 3
Autumn 2014**

LOOK INSIDE FOR

PRESIDENT'S PARAGRAPH2
IMPORTANT NOTICES2
BOTANIST'S CORNER2
CHAPTER ACTIVITIES5
WELCOME NEW MEMBERS6
ONPR COMMENTS & ORDER FORM....6
MEMBERSHIP FORM9

ONPS website: www.oknativeplants.org

Email: chadwick.cox@att.net

Printed on recycled paper

**COPY AND ART DEADLINE
FOR NEXT ISSUE IS**

15 August 2014

Gaillardia

The Oklahoma Native Plant Society Newsletter

CALENDAR

Note: the events dated below are followed by either a page number for further descriptions or the contact person.

Sept 8: NE Chapter will present Sadie Gordon at the Tulsa Garden Center. Page 6.

Sept. 13: Central Chapter outing to Arcadia Conservation Education Center. Page 5.

Sept 20: Cross-Timber Chapter will have a booth at the GardenFest at the OSU Botanical Gardens. Page 5.

Sept 20: NE Chapter Field Trip to the Rooney property. Page 6.

Sept 27: Central Chapter will be at "Monarch in the Park". Page 5.

Oct 11: Annual Meeting at Chandler Park in Tulsa. See insert.

Nov 1: NE Field Trip to Red Bud Valley. Page 6.

Fabulous Wildflower Fridays, the 3rd Friday of each month, Page 6

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

ONPS THANKS THESE DONORS

General Fund

Eddie & Savilla Stegall

Color Oklahoma

Patricia L. Stamper

PRESIDENT'S PARAGRAPH

The time has come to bid farewell. Due to term limits built into the ONPS By-Laws, I will not be serving another term as President of ONPS. I have really enjoyed writing the President's Paragraph over the last two (plus) years. In my final "report" I want to give a well-deserved thank you to the fine folks that make this organization so great. I think I could honestly fill out an entire *Gaillardia* edition recognizing all the folks that have positively impacted my tenure as president. I will limit this and simply say that this organization is in outstanding shape because of the fine membership and the board of directors.

I would, however, like to take a little time to recognize one of our board members that will be stepping down soon. Chadwick (Chad) Cox, is the long time Editor of the *Gaillardia*. Chad is retiring as Editor of this ONPS newsletter after several years of amazing service. He has contributed great quantities of his time to increasing the awareness of ONPS around the state and beyond. I hope you will all join me in thanking Chad for all he has done for this organization. Thank you Chad.

As was the case last year, the fall flowers and foliage are forecasted to be excellent this year. I'm especially looking forward to doing some botanizing at this year's Annual Meeting of ONPS. The meeting is going to be held on Saturday, October 11 from 10:00am-3:00pm at Chandler Park located just outside of Tulsa. I hope you will be making plans to join me and other botanist for this fun-filled day. More information on registration should be coming in the mail soon; so be on the lookout.

As always, happy botanizing!

IMPORTANT GENERAL NOTICES

At the next Annual Meeting we will elect officers and new Board members. The Board makes nominations but others can be nominated from the floor. The board has not yet found a member willing to serve as Vice President.

2014 ONPS Board Nominations

President: Joe Roberts

Vice President: TBA

Secretary: Sandy Graue

Treasurer: Mary Korthase

Class of 2017 Directors at Large: Elaine Lynch and Jay Pruett



BOTANIST'S CORNER

OSU Herbarium Specimens are Going Digital!

With grant support from the Andrew W. Mellon Foundation, Oklahoma State University graduate students Angela McDonnell and Lindsey Worcester have digitized all the type specimens at the OSU herbarium. "Digitized" means each specimen has been scanned and a high-resolution image captured. Type specimens are collections to which scientific names are directly attached and are annotated over time to reflect changes in taxonomy. A botanist working on a specific group of plants will often rely on the type specimens to decipher the taxonomic history of the group. For example, to understand the taxonomy of the species *Asclepias oenotheroides* (also known as Longhorn milkweed, Primrose milkweed, or Lindheimer's milkweed), which has over time been described as six different species (*A. brevicornu*, *A. lindheimeri*, *A. longicornu*, *A. oenotheroides*, *Podostemma australe*, and *P. helleri*), one needs to review each taxonomist's ideas to understand how taxonomic thought has changed over time. Though *A. oenotheroides* is currently accepted as a single variable species, examining the same material that was originally used is important to understanding how that change happened over time.

Because type specimens are important collections, many of which are very old, some herbaria will not send type specimens along with loaned specimens. Due to funding constraints, only some of the largest herbaria have their specimens digitized and available as high-resolution images online (through the JSTOR Global Plants website, <http://plants.jstor.org>, for example). This means that until recently, if you wanted to see the type specimens OSU holds, you needed to arrange a

visit to the herbarium in person to do so or request a loan.

To produce high-resolution images, we collaborated with the herbarium at the Botanical Research Institute of Texas (BRIT) in Fort Worth, Texas. Along with our 290 type specimens, we shipped over 1,800 specimens from the genus *Physalis*, commonly known as groundcherries, in the family Solanaceae. *Physalis* is distributed in warm temperate parts of North America and was notably the focus of U. T. Waterfall's dissertation research. Waterfall was curator of the OSU herbarium from 1949 to 1971 and published the authoritative taxonomic treatment of Mexican and Central American *Physalis*, so OSU has a significant collection of *Physalis* specimens from all over the world. We counted, packaged, and mailed the specimens to BRIT prior to heading to Fort Worth. The specimens were then frozen upon arrival, a standard practice to prevent herbarium pests, including the herbarium beetle (*Lasioderma serricornis*) which feeds on dried plant material. We unpacked the specimens, stamped them with the date they were imaged, and applied barcode stickers before the imaging process began.

BRIT has a state-of-the-art digitization studio (they call it their "digi-stu") as part of their newly renovated herbarium (it opened in 2011). There, we made use of two different types of workstations. The first type (Figure 1) uses an inverted flatbed scanner mounted on a box with a platform that holds a specimen. By pulling a lever, the specimen is raised to the level of the scanner. Imaging was controlled through a computer interface. Using this method, scanning takes between 4 and 6 minutes and produces very high resolution (600 dpi) images. The other workstation (Figure 2) was a lightbox with a digital camera mounted above it. This setup allows capture of specimen images in a second or two at lower, but still very high, resolution (about 200 dpi). Once all the specimens were imaged, we counted, packaged, and mailed everything back to OSU.

The overall process was fairly time-consuming, but it was also very easy after the imaging stations were set up to standard specifications. The workflow was natural: unpack boxes of specimens, stamp each one, label each with a barcode, capture the image, repack the boxes, and repeat! It would be nice if OSU were to get an imaging station and we could image all

151,000 specimens. We estimate that would take two people working full time almost nine months just to image everything. We would definitely need to get another grant, and some more staff!

Now that we have returned to OSU, we have finished databasing the label and annotation data associated with each type specimen. The images of the types and associated data will be included in the Global Plants database hosted by JSTOR, and will be available online for anyone's use. These data will aid researchers with taxonomic and systematic questions, and are available to anyone with identification questions. As always, the Oklahoma State University Herbarium welcomes visitors to the herbarium and can assist in plant identification.



Figure 1. This workstation is for capturing high resolution specimen images. Here, it's shown closed. By pulling the lever to the left, a space just above the silver part of the cart will open. Pulling the lever to the right will bring the specimen close to the scanner (shown at the top, upside down) for image capture.

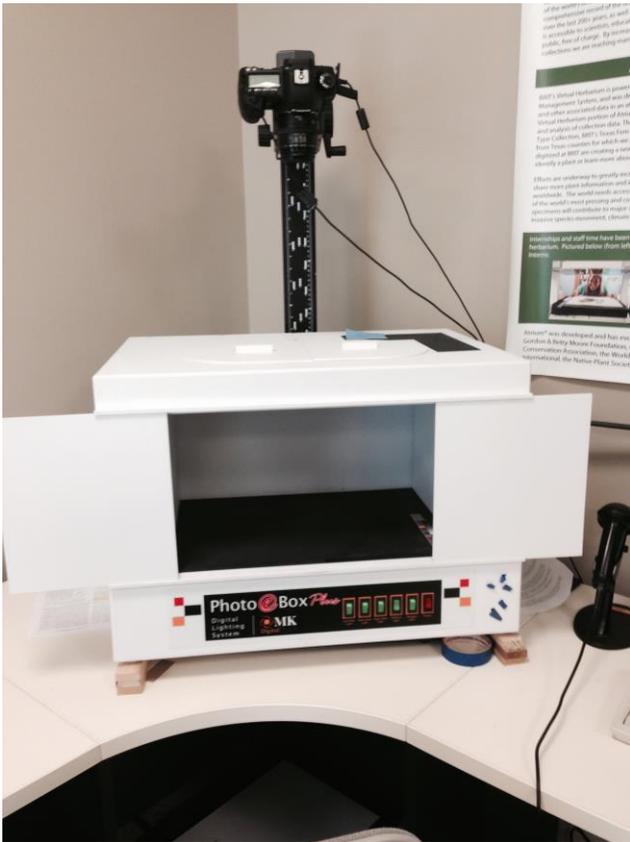


Figure 2. This workstation is for capturing lower-resolution specimen images. Here, it's shown open and with the lights off. By opening the doors at the front, a specimen can be placed inside. Closing the doors and controlling the camera (mounted above the box) using an attached computer facilitates image capture.



Figure 3. Photograph of *Physalis cinerascens* by Robert Stone from the Wildflower Center, University of Texas at Austin.



Figure 4. Photograph of *Physalis cinerascens* by Joseph Marcus from the Wildflower Center, University of Texas at Austin.

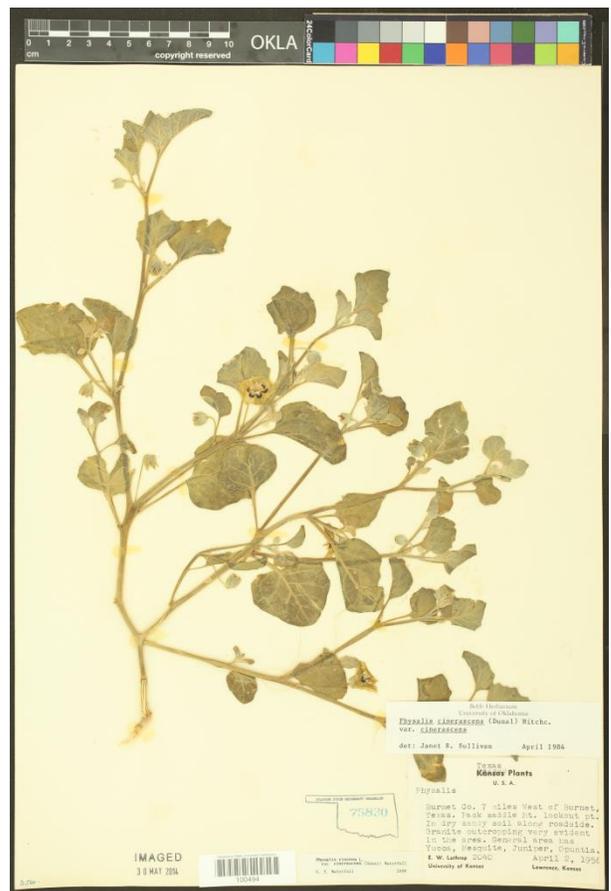


Figure 5. Imaged *Physalis* specimen from the OSU Herbarium

CHAPTER ACTIVITIES

Cross-Timbers Chapter

Elaine Lynch

The Cross-Timbers Chapter had no events over the summer but we will be more active now that cooler weather is coming. We are working on at least one fall field trip and our fall potluck. We will post notices once we have the details set.

Cross-Timbers will have a booth at the 2014 GardenFest at the OSU Botanical Garden on Saturday, September 20th. This is the third year we have been a GardenFest vendor. The first year was chilly and rainy but last year was beautiful, which made for good attendance. We passed out a lot of membership forms and had a number of people sign-up to receive notices of chapter events. Our location could not have been better. We were placed in the middle of the pollinator garden and enjoyed lovely flowers and butterflies throughout the day. Hopefully we will have good weather and a great location again this year. We are going to experiment with selling merchandise, which we have not done before, to see if it is worthwhile. For more information about GardenFest workshops and activities, visit their website:

botanicgarden.okstate.edu/events/gardenfest

Central Chapter

Joe Roberts

Central Chapter

Hope everyone has had a great summer enjoying the (relatively) cool weather. The welcome rain has resulted in luxuriant growth all over the state. On a recent vacation, I enjoyed seeing grasses and flowers out west where for nearly three years it seemed there was almost nothing growing. A group of 25 to 30 ONPS members and friends gathered on May 24th at the home of Marilyn and Ken Stewart for a potluck. We enjoyed chili, cornbread, and side dishes, cooked hot dogs over an open fire, and ate far, far, too many helpings of all the great desserts that were brought. Ok, I ate too many. Don't know about everyone else. We toured their property and fantastic native plant gardens, and most folks probably came home with several new ideas. We just missed getting rained out, so fortunately we were able to do several laps around the house to take it all in.

On June 1st the Central Chapter joined with the Southwest Chapter and toured the Wichita Mountains Wildlife Refuge near Lawton, OK. We were guided by members of the Friends of the Wichitas again this year. We bused around the refuge to several hotspots for botanizing. The rains had been good to the refuge this year, and we found lots to enjoy. The cacti were even blooming. Some photos have been posted to the ONPS Facebook page if you would like to see more.



WMWR field trip

Once again this year we will have a booth at the Butterfly Festival. This event was formerly held in Washington, OK. This year they have changed the name and the location. It will now be called the “Monarch in the Park” festival, and will be held at Lion's Park in Blanchard. The date will be Saturday, September 27th from 10-4. This is a good festival that is very family friendly. They do a great job of emphasizing the importance of native plants for migrating butterflies. If you get a chance, come by and say hi at the ONPS table. It's about time for a field trip, isn't it? We will get together on September 13th. Let's go see what is blooming at the Arcadia Conservation Education Center near Lake Arcadia, just east of Edmond, OK. This is an interesting area with lots of different habitats to explore. Some folks may remember it as the site of the Annual Meeting in 2013. We will meet at the Education Center at 9am, and explore the area. To get there, take Memorial Road to Midwest Blvd. Drive north to 33rd St and you will see the gate there and a parking lot. If the gate is closed, we will meet at that parking lot. If it's open, go about 100 yards east to the entrance to the center. For this trip, reservations are essential, so please email Joe at joeroberts13@cox.net or call me at (405) 820-6851 to let us know you are attending or if you have

any questions. Plug that number into your cell phone in case you get lost! Looking forward to seeing everyone. Bring an old friend, new friend, and a kid! All are welcome.

Northeast Chapter
Constance Murray

Sadie Cole Gordon will be our guest speaker on September 8th at 7:00 at the Tulsa Garden Center. She is a Master Gardener from Pryor. She has combed through newspapers, archives and old publications regarding gardens of Oklahoma, Missouri and Arkansas. She is currently working with Har-Ber Village to create a historically accurate garden there. She will speak to us on *Gardens of Yesteryear: 1870 – 1920*. Be sure to join us for dessert at 6:30 before the meeting.

Northeast Chapter has two field trips scheduled for the fall: September 20th we are going to the Rooney property on Spring Creek near Peggs; November 1st we are going to Red Bud Valley near Catoosa. As always bring a lunch, water and plan to meet at the Tulsa Garden Center at 8:30, so we can coalesce and caravan.

Northeast Chapter is hosting the Annual Meeting on October 11th at Chandler Park which is on a limestone bluff in west Tulsa overlooking the Arkansas River. Look for details elsewhere in the *Gaillardia*.

Oklahoma Native Plant Record

At this time we have a wide variety of articles in review for Volume 14 of *The Oklahoma Native Plant Record*, which is due out December 1. We are very excited that such a wide range of contributors, from gardeners to botanists, to geneticists, have submitted papers. This demonstrates the strength of our membership and helps us, as a society, bring all those interests together in a way that best promotes our goal of encouraging the study, protection, propagation, appreciation, and use of the native plants of Oklahoma.

We are especially delighted to bring to you, a report of research done regarding historic, domestic gardens in the Oklahoma, Kansas, Missouri, and Arkansas region. This work brings the interests of gardeners and taxonomists together and we hope to have more integrated research like this in the future. Also of great interest to gardeners and botanists, two other papers have to do with plant distribution maps. One brings the distribution maps of three invasive species up to date, and another describes the features and distributions of two vines that have been difficult to discern, for both professionals and amateurs, who encounter them in the field.

Our historical article this year will be about the flora of Kiowa County. There is still very little historic distribution information from that (far southwest) part of the state, and we hope that Lottie O. Baldock's 1938 master's thesis will spark some interest there. It will be of special value to current botanists and geneticists studying historic distributions and environmental changes in the distributions of species. Our "cutting edge" article this year is a laboratory research report of a valuable protein derived from an Oklahoma native species. If

We are considering sponsoring the Butterfly Garden at the Mary Kay Oxley Nature Center at Mohawk Park. As a consequence of city budget constraints, they are in serious need of people to maintain the garden, part of which has fallen into serious disrepair as a result of neglect. This will not require any financial contribution, but labor, to weed and mulch the garden. We have volunteers who are interested, but have as yet made no formal commitment.

We continue our *Fabulous Wildflower Fridays*, at 5:30 the third Friday of each month at Panera at 41st Street and Hudson Avenue. We plan field trips and events, identify wildflowers and share fellowship between our quarterly meetings.

WELCOME THESE NEW MEMBERS

Ruth Gray, Tulsa
Loren Krase, Tulsa
Brent Madding, Webbers Fall
Keith Martin, Claremore
Tom Pendergraft, Tulsa
Robert Shirk, Asher

this research can be completed in time, it will bring together our interest in botanical research and the genetics of native species. We are eager to break this news to the world.

Our pile of back issues of the *Oklahoma Native Plant Record* is going down due to our decision to print only 50 copies of each volume. You can no longer hold out until the current issue goes on sale for half price, we will be sold out by then. Here is the inventory of back issues that we still have available for sale. Please consider ordering some that have articles by your favorite authors, or with covers suitable for framing, or ...

Vol. 1	40	Vol 7	40	Vol 12	0	Unsold back issues
Vols 2-3	0	Vol 8	45	<u>Vol 13</u>	<u>0</u>	On sale for \$5
Vol 4	16	Vol 9	42	=	273	
Vol 5	34	Vol 10	0			Volume 14 \$10
Vol 6	40	Vol 11	11			

As we continue to develop the quality of the journal and its usefulness for botanists, researchers, and gardeners, the global footprint of the Society grows. Statistics show that, in addition to the hundreds of printed volumes sold, valuable information from the *Oklahoma Native Plant Record* has been accessed from Oklahoma State University's e-journal library thousands of times between 2010 when we first uploaded it, and 2013. We are grateful to Paula Shryock, who has been a multi-talented and valuable Production Editor in this process since 2008. Sandy Graue has since updated our previous electronic versions, produced between 2001 and 2010, and reformatted them for uploading in OSU's e-journal website as well. Sandy is our Electronic Production Editor, who joined us in 2010. We thank her for the time and work she put into resolving updating problems and getting the e-journal uploaded each year since.

The *Oklahoma Native Plant Record* is listed in the "Directory of Open Access Journals", and our abstracts are indexed in the "Centre for Agricultural Bioscience International". After we download data for Volumes 13 and 14 we will use these statistics to apply for inclusion in a larger index. Before I do that, however, we need to split my job of Managing Editor so that we can have a Manuscript Editor who gets manuscripts reviewed and ready for production, as well as someone who can promote the journal, recruit papers, and keep everything on time. I am eager to hear from you about filling either of those editing jobs. Please email me if you would like to become part of our editorial staff, or if you know someone who would. We need your help.

Sheila Strawn, Managing Editor
Oklahoma Native Plant Record.
sastrawn@hotmail.com

Order your copy of Volume 13 of *Oklahoma Native Plant Record* Today!

There are only a few copies of Volume 13 left. Why? Because it's got some of the best articles ever. Amy Buthod inventoried and prepared the species checklist for the Mary K. Oxley Nature Center that so many from our Northeast Chapter have been waiting for. It's in the hands of the Center's naturalists and in this issue. You'll also find Stan Rice's and Sonya Ross' research report on the effects of smoke-induced chemicals on seed germination. While effects of burning and charring have been studied for their effects on species distribution, the effects of smoke enhancement on germination has not been explored here - where drought and fire cycle repeatedly. We can hardly wait to hear more about the effects of smoke, which will undoubtedly follow this preliminary study.

What more could you want? Connie Taylor's master's thesis is finally digitized and available globally. Hers is a thorough accounting of species' distributions in the Water Branch Canyon system west of metropolitan Oklahoma City. It is now available, for botanists here and abroad, as a basis for studying the effects of canyon erosion, filling, and re-erosion on species in Permian Sandstone formations. It was one of the first

studies to document the persistence of Sugar Maples in these mesic ancient canyons, long after their extirpation from surrounding uplands.

To top it off, Ron Tyrl has given us an invaluable educational tool and a very enjoyable article to read, with his “Cavalcade of Field Botanists in Oklahoma”. In his personal style that we all love to listen to and read, he has written an article that is both inspirational and factual. It introduces us to many field botanists from the past and salutes several, whom many of us have known. From Francisco Vasques de Coronado’s expedition to the botanists of the Oklahoma Biological Survey and Flora of Oklahoma, he highlights their importance to us and to future botanists.

Don’t forget to order Volume 13 soon. By the way, back issues are half-price.

Oklahoma Native Plant Record order form

Name _____

Or institution _____

Email address _____

Mailing address _____

City, State, and Zip Code _____

of Print Volume 1(free) _____

of Print Volumes 2 & 3 Sold out.

of Print Volume 4 @ \$5.00 _____

of Print Volume 5 @ \$5.00 _____

of Print Volume 6 @ \$5.00 _____

of Print Volume 7 @ \$5.00 _____

of Print Volume 8 @ \$5.00 _____

of Print Volume 9 @ \$5.00 _____

of Print Volume 10 Sold out.

of Print Volume 11 Sold out.

of Print Volume 12 Sold out.

of Print Volume 13 @ \$10.00 _____

of CD Volumes 1-13 @ \$10.00 _____

Shipping @ \$2.00 _____

Total enclosed \$ _____

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

Oklahoma Native Plant Society
P.O. Box 14274
Tulsa, OK 74159-1274

FOR JOINING OR RENEWING USE THIS FORM

Fill out this form or supply the same information. Make checks payable to Oklahoma Native Plant Society and mail to Oklahoma Native Plant Society, P. O.Box 14274, Tulsa, OK 74159.

Membership is for Jan. 1 - Dec. 31 of current year and dues include subscription to *Gaillardia*.

Name: _____

Affiliation: (School, Business, or Avocation) _____

Address: _____

Phone: Home _____ **Cell** _____ **Office** _____ **Please do not list my phone** _____

E mail: _____

Renewal ___ **or New Member** ___ **Dues are tax deductible.**

Annual Membership Choice: \$15 Individual ___ or \$20 Family __, or \$5 Student ___

Life Membership Choice: \$250 Individual ___ or \$350 Family ___

Add \$5.00 ___ **to cover cost of copying and mailing a complete ONPS directory if desired.**

Oklahoma Native Plant Society
P. O. Box 14274
Tulsa, Oklahoma 74159

Non-Profit
U. S. Postage Paid
Tulsa, Oklahoma
Permit No. 357

Return Service Requested

IF YOUR LABEL DOES NOT SHOW
2014, PLEASE PAY YOUR DUES

ANNUAL MEETING
Oct 11, 2014 – Chandler Park, Tulsa
Registration Form Enclosed

The Gaillardia

Published quarterly by the
Oklahoma Native Plant Society
P. O. Box 14274, Tulsa OK 74159

President Adam Ryburn
Vice-president Joe Roberts
Secretary Sandy Graue
Membership Coordinator Tina Julich
Treasurer Mary Korthase
Historian Jeannie Coley

Directors at Large:

2014: Elaine Lynch and Jay Walker
2015: Bruce Smith and Pearl Garrison
2016: Sara Souza and Mike Dunn

Chapter Chairs:

Alicia Nelson Northeast
Joe Roberts Central
Mark Fishbein Cross-Timbers
Doug Kemper Southwest
Steve Marek Mycology

Gaillardia articles, except those reprinted here with permission from other sources, may be reprinted at will. Please acknowledge source and author.

Send all mail except contributions to the *Gaillardia* to:
Oklahoma Native Plant Society
P. O. Box 14274
Tulsa, OK 74159
Adam Ryburn at (405) 626 6792
or ryburna@yahoo.com

For *Gaillardia* material only, use the editor's address:
Chadwick Cox
4 Mockingbird Ct.
Norman, OK 73071
(405)-329-8860
Email: chadwick.cox@att.net

- All material accepted is with the understanding that it can be freely copied.
- Submit as txt, rtf or word files by disc or email.
- If submitted by hard copy, use Times New Roman or other standard font types for OCR.

Members who wish to receive information by email from ONPS may send their on-line address to chadwick.cox@att.net.