



THE DOCENT NEWS

Of The Tallgrass Prairie Preserve Docent Program



The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

JULY 2007

For the Volunteers and Supporters of the Oklahoma Chapter of The Nature Conservancy

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NEW SPECIES DISCOVERED

—Dan McGlinn

Oklahoma has had an exceptionally wet spring and summer across much of the State. Wet weather likely played a part in our discovery of a new plant species at the Tallgrass Prairie Preserve. The new collection, which is also a county record, is a representative of the genus ISOETES, also known as the quillworts.

Quillworts are radically different to most plants and are even placed in their own taxonomic order! Quillworts are so called because of their hollow leaves that, superficially, look like green quills growing out of a swollen brown root stock.

Photo-1 shows four individual plants of quillwort (Isoetes sp.). The sporangia which



Photo-1 by Matt Allen

contain the megaspores and microspores are located within the base of each quill in a swollen oval chamber.

Photo-2 shows a quillwort in its natural state. Note the slight spiral of its leaves at their tips and the distinct vertical groove.



Photo-2 by Matt Allen

Photo-3 shows the location of one of the populations. The ephemeral spring runs down slope in the background.

One of the things that makes this group unique is the presence of mega- and microspores, located near the base of the plant. Morphology of the megaspores is very important in distinguishing between species of quillworts; however, it is still difficult to distinguish many species of this genus and we have not yet identified the species of the particular quillwort we found at the preserve—it appears most similar to ISOETES BUTLERI. Another very interesting fact is that quillworts have a special kind of photosynthesis called CAM (Crassulacean acid meta-



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bolism), which is predominately found in arid plants such as cacti.



Photo-3 by Matt Allen

I first discovered a population of quillworts in late May while sampling in the southeastern corner of the preserve. This species prefers open moist sites in which the water has a relatively high concentration of calcium. During a return trip in late June to the same location, Dr. Mike Palmer, Matt Allen, Vaskar Thapa, and I were able to locate another population approximately 1 km away in a similar habitat. This suggests that there may be more populations of this relatively inconspicuous plant along some of the lime-rich springs that run throughout the preserve. The Flora of North America notes that although quillworts are a cosmopolitan genus they are often locally rare. Many North American species have quite restricted ranges. In Oklahoma, quillworts have been reported in only thirteen counties, primarily in the southeastern part of the state.

Dan McGlenn is a doctoral student working under the guidance of Dr. Mike Palmer in the Oklahoma State University Department of Botany.

VISITOR COUNTS

—Iris McPherson

I've just finished tallying the visitor counts for April and May. It's nice to see the increase in numbers of people signing in. Not surprisingly, as the weather improves, the number of visitors increases. In April there were 575 visitors, with 307 from Oklahoma. The top three states represented after that were Texas (27), Kansas (21), and California (18). There were 57 visitors from foreign countries with Germany topping the list with 22 visitors. The Czech Republic, Sri Lanka, Poland and Belgium were added to the list of countries represented in the last year and a half. May registered 810 visitors, with 479 Oklahomans signing in. They were followed by Texas (34), Arkansas (33) and Kansas (23). Forty-five visitors from foreign countries signed in with Germany again taking the lead

with 13 visitors. The countries of Taiwan (Republic of China), Ecuador, Spain, Guatemala and Luxemburg were added in May.

The total count of visitors this year for January through May is 1,828. From Oklahoma there were 1,072, followed by Texas (76), Kansas (58), Arkansas (55), Missouri (36). We are still missing visitors from Delaware, Hawaii, North Dakota and Wyoming this year. Twenty-four countries have been represented with Germany leading with 35.

Andrew Donovan-Shead answered the question I had last month concerning people signing in with a location of Poccue. It is translated as Russia. The way the names of countries seem to constantly changing, I was beginning to think I had just missed one of those changes.

COWBOYS & CATTLEMEN

—Bill Rinehart

Saturday, June 16, 2007, while I was up at the prairie for the Osage County Cattleman's Association ranch tour, I had the opportunity to photograph Bob Hamilton with the ranch hands who oversee the Tallgrass Prairie Preserve this summer.

Pictured from left to right are: Hamilton, Kevin Chouteau, Doug Stone, Dwight Christi-



an, Perry Collins, Tony Brown, and Joe Bob Briggs. Hamilton, of course, is the Science Director, Stone and Brown are temporary summer hires, Christian is ranch manager, and Chouteau, Collins, and Briggs are long service, full-time ranch hands. I thought it might be helpful to our fellow docents, for their general knowledge of the preserve, to know who these men are and what they look like.

In addition to the ranch hands, several of



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us docents helped direct traffic and provide additional gift-shop help. It was reported that 81 vehicles, mostly trucks with some containing several passengers each, comprised this year's ranch tour. The Nature Conservancy was asked to provide lunch for the group, which was catered by the IGA store in Pawhuska. Lunch consisted of a generous barbeque beef sandwich with all the trimmings. Those of us who volunteered for the occasion were invited to enjoy a lunch that proved to be quite good. Weather cooperated beautifully and sitting at one of the picnic tables under the trees between the Research Station and Stucco House with a soft breeze blowing and sharing good conversation was a pleasant experience. The Tallgrass Prairie Preserve is a truly beautiful place to be.

KEYSTONE ANCIENT FOREST

—Grant Gerondale, John Fisher

Trail Guides Needed! The City of Sand Springs Parks Department is now recruiting friendly, enthusiastic Oklahomans committed to sharing the magnificent Keystone Ancient Forest with others. The Keystone Ancient Forest will finally be ready for limited visitation by the public this fall, but we need your help to make that happen.

You've heard about the Keystone Ancient Forest already, so you know that this 1,300 acre represents one of the best examples of undisturbed cross timber forests in North America. Some of these ancient trees were alive and well before Columbus 'discovered' America and later served to shelter and shade Washington Irving before he crossed the Arkansas River in his tour of the prairie in 1832.

This virgin forest remnant has a story to tell, and your help is needed to share it with others along the shores of Lake Keystone just west of Sand Springs. The site is owned and operated by the City of Sand Springs Parks Department. The Oklahoma Chapter of The Nature Conservancy is actively managing the landscape and helping with this volunteer training.

KEYSTONE ANCIENT FOREST TRAIL GUIDES are needed to be on-call beginning October 1, 2007 to greet school groups, civic groups and other interested parties of ten or more at the Keystone Ancient Forest for a brief hike.

Keystone Ancient Forest Trail Guides will be responsible for:

- ▷ opening the property gate,
- ▷ greeting visitors,
- ▷ accompanying them on their visit & answering primary questions about the site,
- ▷ escorting guests off the property and locking the gate as they leave.

Successful trail guides will have attended a series of orientation workshops to prepare them in time to meet the October 1 deadline. The orientation dates will be scheduled at the end of August and the first of September. The exact dates have not been announced. They will be held at the Sand Springs Community Center and a field trip to the preserve.

Trail Guides will receive a Keystone Ancient Forest Trail Guide T-shirt, a small reference handout with information about the Keystone Ancient Forest, as well as resource information for additional education.

Meet others who share your love of the great outdoors and give back to the community. If you are interested in becoming a Keystone Ancient Forest Trail Guide contact Jamie Harrison at the City of Sand Springs Parks Department office at 918-246-2563, or for more information send email to:

jmharrison@sandspringsok.org

NO TRASH SERVICE

At the Visitor's Center there is no trash service, therefore please carry away your trash for disposal at home. White plastic kitchen trash bags should be available in one of the sink-unit cupboards, to replace filled bags in the waste baskets.

NEWSLETTER PUBLICATION

Deadline for submission of articles for inclusion in the newsletter is the 10th of each month. Publication date is on the 15th. All docents, Nature Conservancy staff, university scientists, philosophers, and historians are welcome to submit articles and pictures about the various preserves in Oklahoma, but of course the Tallgrass Prairie Preserve in particular.

NEWSLETTER BACK ISSUES

Back issues of the Docent Newsletter, to October 2006, can be found in the two green zip-binders, stored in the Perspex rack by the file cabinet in the office of the Visitor's Center.



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Pontotoc Ridge Preserve	918-585-1177
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