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Helping People Help The Land

July/August 2013 Issue No. 22

The Reverchon Naturalist

Recognizing the work of French botanist Julien Reverchon, who began collecting throughout the North-Central Texas area in 1876, and all the botanists/naturalists who have followed ...

Eryngo—the Rattlesnake Master

Jason Hardin

Rattlesnake master (*Eryngium yuccifolium*), also known as Button Eryngo, Button Snakeroot, Yucca-leaf Eryngo, Corn Snakeroot, Water-eryngo, Rattlesnake Flag, Rattlesnake Weed and Button snake-root, is a once common plant of the tall grass prairie. It has been found in both wet and dry prairies and savannas and prefers full to partial sunlight. Although a member of the carrot family, Apiaceae, the growth form of this plant is much different than most plants in this family.

Image 1. Eryngo flower

Image 2. Eryngo leaf

Rattlesnake master is a warm season native growing from 2 to 6 feet in height. Flowers exist as several prickly balls ½-1" across surrounded by prickly bracts (Image 1). The entire plant is bluish to greyish green. Basal leaves can grow up to 3 feet long and be 2½ inches wide with scattered teeth along the edges resembling those of a yucca (Image 2).

Rattlesnake master blooms mid- to late summer and blooms last for several months. After blooming, the plant will slowly die back to the base.

Rattlesnake master has increased on a savanna dominated by post oak and southern red oak after receiving regular, dormant season prescribed fire (3-4 year rotation) during the past 15 years in Leon County, Texas (Image 3). Other associated species on this site include indiangrass, little bluestem and brownseed paspalum. The plant was first identified on this site around 2004 and has spread slightly since that time. It appears to do well with the increase in sunlight provided by the lower density of trees per acre, which is a result of the regular fire interval.

Image 3. Eryngo thrives in the oak savanna landscape.
Photo Credits: Jason Hardin, TPWD

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By Ricky Linex
NRCS Wildlife Biologist
Weatherford, Texas

Change is Part of the Cycle...in Life and on the Range

Beginning this issue, I would like to introduce Melissa Sturdivant, the new co-editor of the Reverchon Naturalist. Melissa is a Soil Conservationist with the NRCS field office in Goldthwaite, Texas. I've known Melissa for about 15 years and she truly appreciates native plants and the habitats that are out on the land. She is quite knowledgeable on insects and you will note that over the past three years the newsletter has featured many interesting insects. Melissa will be a great fit with the newsletter. Our late co-editor, Randy Henry, first picked Melissa to be his temporary replacement knowing he would be off work for two months recuperating from a planned liver transplant. Thankfully, Randy had worked to gain approval through the supervisory chain of command for Melissa to work on the newsletter in his absence. Randy had a military background before joining NRCS as did Melissa, so there was a strong bond of friendship among veterans. I am thankful that Melissa is willing to tackle the layout process every two months in addition to continuing her normal field office duties. And so the Reverchon Naturalist marches on, and we adapt to change and continue learning, exploring and observing the plants and organisms that inhabit our wild and native lands. And while I haven't read the book, I feel like this quote describes the editorial transition succinctly:

"Things change. And friends leave. Life doesn't stop for anybody." — Stephen Chbosky, *The Perks of Being a Wallflower*

MARK YOUR CALENDAR

Proper Functioning Condition Riparian Workshop

September 26, 2013

Briggs Community Center, 215 Loop 308, Briggs, TX

Participants will learn the basic interaction of hydrology, erosion and vegetation for Central Texas creeks and rivers. Topics to be covered include: channels, floodplains, water table, vegetation, base flow, flood flow, sediment and how all of these things in combination make up the riparian area. To register, contact Lisa Prcin, Lampasas River Watershed Coordinator, Texas A&M AgriLife Research Blackland Research & Extension Center. Phone (254) 774-6008 or email lprcin@brc.tamus.edu

"Best Management Practices for Bobwhites" & 6th Annual RPQRR Field Day

September 27, 2013

Rolling Plains Quail Research Ranch, Roby, TX

Results of several recent, and ongoing, research projects will be demonstrated. Two CEUs will be available for those holding Private Applicator licenses. The tour will feature such relevant topics as: enhancing useable space for bobwhites on post-CRP contracts; "brood patches;" "quail oases;" use of "camera trapping" in quail management; sculpting prickly pear habitats for bobwhites; shrub mortality response to prickly pear herbicides; translocation of scaled ("blue") quail into former ranges; key plants for quail; "shale & quail" - quail considerations in a pending oil boom; updates on "Operation Idiopathic Decline" and "Operation Transfusion" research efforts; and, more! Pre-registration is $10 until Sept. 20, then $20 thereafter, and at the door. Registration includes lunch, refreshments, and a copy of the field day abstracts. Students may pre-register for $5. Make your check payable to: "RPQRR Field Day" and send it to RPQRR, 7887 U.S. Hwy. 87 N., San Angelo, TX 76901-9714. In case of rain-out (hey, it happened last year!), the activities will be moved to the First Baptist Church in Roby.

Send your calendar items to Ricky Linex at ricky.linex@tx.usda.gov and Melissa Sturdivant at melissa.sturdivant@tx.usda.gov.

The Father of Texas Botany in New Braunfels

Carolyn Lindell

What do the Texas prickly pear, white guara, Texas yellow star and devil's shoestring have in common? It might help to know the scientific names of these plants: *Opuntia lindheimeri*, *Guara lindheimeri*, *Lindheimera texana* and the *Nolina lindheimeriana*. Notice something similar?

These plants, and more than 40 others, bear the name of naturalist Ferdinand Jacob Lindheimer, who lived in New Braunfels and devoted much time to collecting plants in the central and southern areas of Texas. He's known as the father of Texas botany. Today, his home and a garden with examples of plant species he collected are open to visitors.

Lindheimer's house in New Braunfels
Photo Credit: Carolyn Lindell

"Lindheimer is credited with the discovery of several hundred plant species, among them a milkweed, a loco weed, a mimosa, a prickly pear, and a rock daisy. In addition, his name is used to designate forty-eight species and subspecies of plants," according to the Texas State Historical Association's Handbook of Texas Online.

Despite hardships in the wilds — and low funds, as some of his writings reveal — he persevered in collecting thousands of specimens and sending them to noted botanists Asa Gray at Harvard University and George Engelmann in St. Louis. "Lindheimer became very well-known and respected for his collections, and scientific observations, that were then being distributed to institutions not only in the U.S. but abroad," said botanist Barney Lipscomb, of the Botanical Research Institute of Texas. "All botanists would probably recognize that name."

A large life

Lindheimer was born in Germany in 1801 and came to the United States in 1834 as a political refugee, according to the handbook. After spending time in Mexico, among other places, and serving in the Texas Revolution, he arrived in New Braunfels around 1844 and received a grant for land along the Comal River, the handbook said.

He had a bushy beard and was regarded as colorful in his day, but he was also a tenacious collector, overcoming many obstacles to perform the work he loved. "Life on the frontier was challenging. That's an understatement really," Lipscomb said. "To get your plants dry and then to package them, and then ship them …. One of the biggest challenges was getting paper to press the plant."

Lindheimer wrote many letters to Engelmann in German, which were translated by Minetta Altgelt Goyne into a 1991 book called "A Life Among the Texas Flora." In this correspondence, Lindheimer gave detailed descriptions of plants; for example, of a "*Yucca tenuisfolia*," he began a long paragraph: "Fruits almost regularly prismatic. Leaves at the bottom with shallow fluting, at the tip with edges that are rolled together …" He also discussed his difficulties: "I have only now recovered from three days of feeling sick as a result of working in the tent while the sun beat down on it. And I had to stay in the tent, after all, because otherwise the wind would have blown my papers away."

A busy man, Lindheimer also was editor of the German-language Neu-Braunfelser Zeitung newspaper, led a private school, and was the first justice of the peace for Comal County.

Museum and garden

New Braunfels is proud of this early resident. Lindheimer's home,(above photo), where he and his wife, Eleanor, raised four children, is a museum, open by appointment. The tiny house at 491 Comal Ave. is on the National Register of Historic Places and is a good example of German "fachwerk," a half-timbered framing. It has two, side-by-side front doors, with transoms above and a steep roof. Here, Lindheimer also ran the newspaper. (Rioters who disagreed with the paper's pro-Confederacy stance threw the printing press into the river, according to the present-day New Braunfels Herald-Zeitung website, but Lindheimer simply retrieved it and resumed publication.) He died in 1879.

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Rangeland Stewardship in Drier Times

Some practices that may help us through what could become a 'megadrought'

Mike Mecke

What's Up with all the Bad Weather News?

Our climate and ranching situation in recent years, now and as projected for the future, is **hotter and drier**! Not what we Texans want to hear or read.

"Droughted out!"
Photo Credit: Ricky Linex, USDA-NRCS

Folks in the ag industry, especially ranching, are used to hearing bad news like—"livestock prices are down," "brush is strangling ranch profits," "new endangered species found in Texas," or "drought hits Texas." But, now it seems we still hear much of the above, plus the constant dire predictions that extreme drought and higher temperatures will become a way of life—for just about all of us! In an August 2012 op-ed in the *New York Times* written by experts, "Hundred-Year Forecast: Drought," those in the know say:

> *Indeed, scientists see signs of the relationship between warming and drought in western North America by analyzing trends over the last 100 years; evidence suggests that the more frequent drought and low precipitation events observed for the West during the 20th century are associated with increasing temperatures across the Northern Hemisphere. These climate-model projections suggest that what we consider today to be an episode of severe drought might even be classified as a period of abnormal wetness by the end of the century and that a coming megadrought — a prolonged, multi-decade period of significantly below-average precipitation — is possible and likely in the American West. The current drought plaguing the country is worryingly consistent with these expectations. Although we do not attribute any single event to global warming, the severity of both the turn-of-the-century drought and the current one is consistent with simulations accounting for warming from increased greenhouse gases. The Northern Hemisphere has just recorded its 327th consecutive month in which the temperature exceeded the 20th-century average. This year had the fourth-warmest winter on record, with record-shattering high temperatures in March. And 2012 has already seen huge wildfires in Colorado and other Western states. More than 3,200 heat records were broken in June alone. And yet that may be only the beginning, a fact that should force us to confront the likelihood of new and painful challenges. A megadrought would present a major risk to water resources in the American West . . .*
>
> http://www.nytimes.com/2012/08/12/opinion/sunday/extreme-weatherand-drought-are-here-to-stay.html

How Will we Cope?

Well, there are quite a number of highly recommended and proven Best Management Practices (BMPs) which can not only improve management and profitability during droughts, but every day, too. Here are some (might keep that prayer line open, too).

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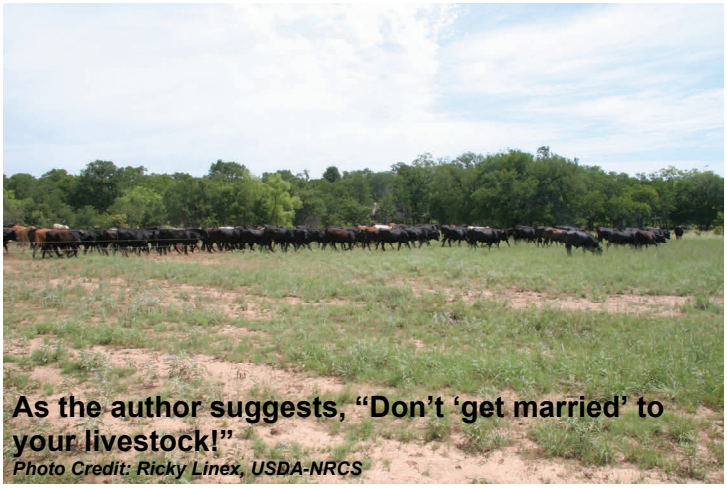
Develop and Use a Detailed Ranch and Range Plan—You can't get where you want to go unless you have goals and a map. If you have not done this, you can start putting info together, but it probably would be wise to develop the plan with either an experienced extension range specialist, or an NRCS range specialist or hire a range consultant. All of your resources involved need to be inventoried—livestock, ranges, water, pastures, corrals, riparian zones (creeks/rivers), soils data, maps, vegetation data, etc. If wildlife are in your plan, a qualified wildlife biologist needs to be part of your team.

***Plan and Stock for Drought*—**Drought has always been a part of life in Texas, and it has always been smart to plan for it. That's true now more than ever. A couple of my range management profs and advisors, along with a bunch of successful ranchers, advised to stock your base herd at drought forage production levels. In those (fewer) good years, you can add stocker animals to use the "extra" grazing. If drought is starting or is on, cull hard and mercilessly on less profitable animals. Don't "get married" to your livestock!



As the author suggests, "Don't 'get married' to your livestock!"
Photo Credit: Ricky Linex, USDA-NRCS

Diversify Your Ranching Business—As grandma said, "Don't put all your eggs in one basket!" There is always a better chance for at least one or two markets to be profitable, even during bad times. Consider a mix of livestock and sidelines, if it works for you and your resources, such as cow/calf, stockers, sheep/goats (meat or hair), hay, hunting income, recreation income, bird watching, or maybe even broilers or turkeys. Whatever works!

Study and Develop a Grazing Rotation System that Works for You—There are many kinds of grazing systems, all the way from a simple two-pasture rotation, the four pasture Merrill system, to a complex multi-pasture HILF or a Savory-type system. Done right, they all can work and this is where an experienced range professional can be valuable in providing choices, making suggestions and helping to implement it.

Rotate livestock as part of an effective grazing management plan.
Photo Credit: Ricky Linex, USDA-NRCS

If available, use of temporary or permanent pastures can be a great way to defer rangelands and give your better grasses a rest. Or, they may produce hay to supplement grazing. Deferred grazing and pasture rotation does a lot for your ranges—parasite levels drop; better grasses rest and make seed; roots can grow deeper; desirable broad-leaved plants and browse species rest, grow or make seed; seedlings have a chance to mature; ground cover is increased or maintained to prevent erosion, shade soils from the sun, heat or cold; soil moisture levels increase; and soil organic matter and important soil organisms can increase—improving the critical carbon cycle. Grazing rotations can be worked into your ranch breeding and herd management cycles.

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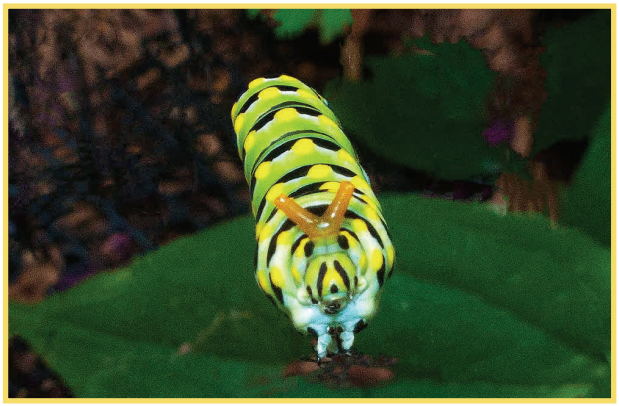

ARE YOU SCARED?

Black Swallowtail
Papilio polyxenes

You should be! It's a black swallowtail caterpillar (surprised) with his horns showing. You normally don't see these unless he is surprised. No, those aren't eyes below the horns—just spots resembling eyes.

Photo and Caption Credit: Troy Mullens.

Troy Mullens is a member of the Cross Timbers Chapter of Master

No horns—just antenna are strutted by this adult Black swallowtail.
Photo Credit: http://aggie-horticulture.tamu.edu/databases/butterflies/

How healthy is your rangeland soil?
To get more information, contact a Conservationist at your local USDA-NRCS Service Center or consult www.nrcs.usda.gov/wps/portal/nrcs/main/national/soils/health/

Eryngo—the Rattlesnake Master

(Continued from Page 1)

This plant receives its name from the historical evidence which suggests its medicinal use by American Indians and pioneers to treat snake bites. American Indians reportedly utilized this plant as a diaphoretic to induce sweating, and the roots have also been reported to be used to treat liver troubles.

Image Credit: http://exhibits.museum.state.il.us/

Among its unique characteristics, rattlesnake master is very attractive to insects. One species-specific insect is the *Eryngium* root borer moth (*Papaipema eryngii)* or the rattlesnake-master stem borer moth (photo at right).

This insect has declined significantly due to the loss of prairie habitats. The species probably once covered the entire historic range of the tall grass prairie, but is now known primarily as a Midwest species.

Rattlesnake master serves as this species-requisite host plant. The *Eryngium* root borer moth was just recently listed as a candidate for endangered species listing by the US Fish and Wildlife Service.

Rattlesnake master is popular in native flower gardens and prairie restorations. It has also been used extensively for erosion control and roadside plantings.

Management for this plant species includes prescribed burning to control woody plant encroachment into prairie systems and by including rattlesnake master in prairie restoration efforts.

Jason Hardin is an Upland Game Bird Specialist with Texas Parks and Wildlife Department in Oakwood, Texas.

POLLINATOR PLEASER

Tall Goldenrod
(Solidago altissima)

Sure to please many pollinators, this Goldenrod found along a fence row in Comanche County stands above many others and proves to be highly valued by various insect species.

Photo Credit: Brian Wilde, USDA-NRCS

Sometimes danger is waiting just around the corner...

Chris Helzer

Last summer, I wrote a post about annual sunflowers, including a short bit about how sunflowers secrete extra-floral nectar to attract ants. The ants eat the sweet substance and may help repel potential herbivores from the sunflower in return. As you might expect, however, an abundance of ants can also be a potential source of food for other predators - including crab spiders. When I was at our Niobrara Valley Preserve last week, I noticed several instances where crab spiders were hanging around on sunflowers. They probably weren't waiting specifically for ants, but apparently ants are an acceptable prey item if they happen to be available (large photo above).

A crab spider feeds on an ant it caught on an annual sunflower. This photo was taken a few minutes after the above photo, but it wasn't the same sunflower, spider, or ant shown in that first photo (inset photo).

...and that's life - and death - in the prairie.

Chris Helzer is an Ecologist and Program Director with The Nature Conservancy in Nebraska. He writes a weekly blog titled "The Prairie Ecologist" which is located at www.prairieecologist.com. Blog posting reprinted with author's permission.

Devil's-claw

Proboscidea louisianica

Jeff Brister

Devil's-claw (*Proboscidea lousianica*) is a native, warm-season annual found throughout Texas, and in a variety of soil types, ranging from loose sandy soils to tight clays. It grows to about 1-2 foot tall and wide (Image 1) and is closely related to the plant, sesame. Flowers are pink, with yellow mottling inside (Image 2). Leaves are somewhat round in shape, and both the stems and leaves have glandular hairs that exude a sticky, viscous liquid. The older leaves are typically alternate, while the younger leaves are more opposite in arrangement. The fruit, when mature, splits open and can get caught on the legs or in the hair of grazing animals scattering seeds throughout a pasture.

The seeds are edible and were historically used by American Indians. The fruit, when young and tender, can also be eaten much like okra. Early pioneers often consumed the fruit by boiling, stewing, frying, or pickling. Its edibility also makes it a good forage for various wildlife species.

Jeff Brister is a Soil Conservationist with the USDA-NRCS in Waco, Texas.

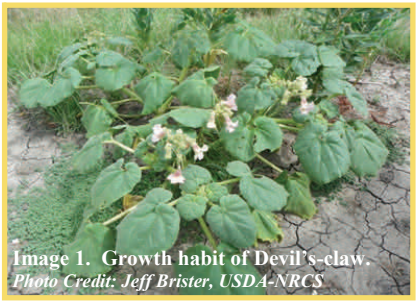

Image 1. Growth habit of Devil's-claw.
Photo Credit: Jeff Brister, USDA-NRCS

Image 2. Flower of Devil's-claw.
Photo Credit: Jeff Brister, USDA-NRCS

THE DIMORPHIC JUMPING SPIDER

Ann B. Mayo

Photo Credit: Ann B. Mayo

Field work is hard work. You are out in the elements and your organism, the weather, and the equipment may or may not cooperate. It is physically demanding and can be mentally grueling and frustrating. It also takes incredible effort and time to get the data. I am always amazed by how hard the work is and how much work I do for so little data.

Despite these challenges and frustrations, there are certain pluses. One plus is the chance to see and interact with nature — organisms other than the one or ones I am working with that day.

Recently, I was conducting some behavioral work with the Comanche harvester ant (*Pogonomyrmex comanche*) at the Fort Worth Nature Center in Fort Worth. When I had finished a series of these interactions, this beautiful, small (about 5 mm), male jumping spider landed on my hand and distracted me from my work. I managed to shake him off my hand and onto a plastic cup, and get a few photos.

Jumping spiders are in the Family, Salticidae—a name which derives from the Latin *saltare*, to jump or bounce, which suits these spiders perfectly. Unlike most spiders, the salticids (another name for jumping spiders) do not use webs to catch their prey; they pounce on them instead. In order to do this, also unlike most spiders, they have excellent, color vision. They have four color pigments (not three as we have). Their two large eyes (the AME or anterior median eyes) are the ones most important for their vision. These eyes look a bit like headlights.

One of the difficulties for spiders is that because they have an exoskeleton, the lens is hard and cannot be reshaped to focus — it is part of the exoskeleton. However, the jumping spiders have overcome this problem by having moveable retinae. They have muscles which move the retinae up and down and all around — so they can focus and look around without moving their heads or rather their carapace. Quite amazing.

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The Father of Texas Botany in New Braunfels

(Continued from Page 3)

In the 1960s, a granddaughter, Sida Martin, gave the home to the New Braunfels Conservation Society. "We were formed in 1964 to accept this house," said Martha Rehler, director of the society. "It is a worthy, worthy structure because it shows how life was early on."


Photo Credit: Carolyn Lindell

Visitors also can wander the small adjacent garden (left photo), which is landscaped with many plants that bear his name, such as Lindheimer's muhly, a grass frequently used in landscaping. The garden, maintained by the Comal Master Gardeners, is enclosed by a rustic wooden fence and has an unused flagpole in the center. When the sun warms up the day, butterflies flock to many of the plants. "We tried to plant a lot of things they might plant back when he was here," said Germaine Tuff of the gardening group. "Not all the ones he collected are ones you would want in a garden because some of them are just weeds, and it's hard to find them as well."


Mural honoring Lindheimer's work
Photo Credit: Carolyn Lindell

Family lore

Lindheimer, who stood more than 6 feet tall, was a man of determination, said great-great-granddaughter Kay Mrazek, 72, of Corpus Christi. She attributes some of Lindheimer's success to his heritage. "He got into an argument with one of his buddies..... He was going to prove to him that there were flowers in Texas that were different from any place else, which he did prove," Mrazek said. "He got started to prove a point. That's typical German."

She said Lindheimer's character also helped him to get along with the American Indians; a Comanche chief is said to have visited Lindheimer's home. "Word was sent out that they were to leave the big man and his little white cart alone," she said. "That's how he was able to start his collections during that time." Mrazek said her family is proud of her ancestor, although she did not inherit his botanical skills. "I have a brown thumb," she said.

Honoring Lindheimer

Lindheimer's legacy also has been honored in New Braunfels with a mural (above right), dedicated at a grand celebration of his 200th birthday in 2001. Located at 165 S. Seguin Ave., on one side of the Hoffmann Building, the roughly 28-foot by 125-foot mural was painted by Alex Brochon of San Antonio, said Wayne Rahe, president and co-founder of the Historic Outdoor Art Museum. (Bonus for visitors: The mural looks onto Naegelin's Bakery, touted as the oldest bakery in Texas.) The mural shows a composite of Lindheimer's life, including a large portrait of Lindheimer holding a Texas yellow star (*Lindheimera texana*).

"It is probably the one that is associated the most with him," Rahe said. Lindheimer was an obvious choice for such a tribute, he said. "My gosh, you could just go on forever and ever," he said, "because he had so many talents and did so many things."

The Lindheimer House is located at 491 Comal Ave. in New Braunfels. Arrange a tour by calling 830-629-2943. Find more information at www.nbconservation.org.

Carolyn Lindell is a freelance writer who writes regularly for "The Statesman.com" and other publications. This article originally appeared at the Statesman.com in January 2013, and permission to reprint was granted by the author and "The Statesman.com."

Nature Abhors a Vacuum

Ricky Linex

Photo points are often recommended as a visual gauge to judge the effectiveness of management over time or to record changes over time. Normally these photo points are fixed in location with known markers such as using a single tee post so that someone can return to the exact same location for future photographs to capture the change in the location.

Picture yourself pointing a camera at a patch of spring wildflowers and snapping a photo, freezing that moment in time. When you think about a landscape photograph these are actually single use photo points frozen in time. How many times have you taken a photo of a river, old homestead or other feature and wondered what it would look like if you could return and take another photo from that spot? More times than not, we aren't fortunate enough to follow up with additional photos of the same location in order to answer that question.

Photo Credit: Ricky Linex, USDA-NRCS

I work within 51 counties of north central Texas and get to look at a lot of landscapes through the windshield as I travel from county to county.

On July 19, 2013, I was passing through a Rolling Plains county noting that the area had recently received some much needed rainfall. Sadly, I also noted that the predominant green vegetation visible across the horizon were mesquite leaves. The grasses were very short and brown. The reasons for the paltry grass and forb condition stems from the drought which began in 2011 and continues in many counties; it is also partly due to over-grazing and partly due to desert termites consuming dormant as well as green vegetation. I also noted that although water could be seen standing in low places in the rangeland, there had been a tremendous amount of water that had flowed across the land and had already gone downstream. All that remained to show for the decent rain was a line of debris two barb wires up on the low water crossing. The majority of rainfall that fell that day ran off of the land and carried precious topsoil into the creeks, rivers and eventually into the nearby reservoir. Photos taken on this date at this location, such as the top photo shown here, became a photo point frozen in time.

Photo Credit: Ricky Linex, USDA-NRCS

Almost six weeks later, on August 29th I travelled that same road and noticed that the grasses were greening up at that location and also some unusual weeds that I wasn't expecting to see on this rangeland site.

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Rangeland Stewardship in Drier Times

(Continued from Page 5)

If crucial riparian areas are on your place (creek and river bank "green zones"), be sure to manage and graze them properly. Ideally, these riparian zones will be fenced separately and grazed only briefly when best for those plants. A healthy riparian zone has numerous benefits for your livestock, wildlife and water resources. If access is needed to water stock, build logically located, fenced lanes down to the water and into it. You probably will need to consider gravel on the slopes to prevent soil erosion and fouling of the water. Build enough access points to handle your stock and to distribute grazing in the pasture. Yeah, I know those will be sometimes a problem after high water, but the protection of your riparian system makes it worthwhile.

Use Good Grazing Management—Don't Overuse—Develop with your range specialist and management plan, the key grazing species to monitor for the types of livestock you have, and for big game, too. Taller grass equals stronger, deeper root systems and the ability to obtain water and nutrients from a deeper soil zone (photo at right). This means healthier grasses have the ability to survive drought and hard winters. The old range saying, "Take half and leave half," is often very true! With some grazing systems you may take over half of your key plants, but you graze less often and for a shorter period. As you have heard, you are really raising grasses and other forage and harvesting them with your livestock and wildlife. Better, high quality forage = better animal production and healthier ranch resources.

Image Credit: USDA-NRCS

A diverse mix of grasses (cool season and warm season), broad leaved plants (called forbs), and quality shrubs and trees for browse and wildlife cover is ideal for most ranching situations. Water is often a great tool for both animal health and to promote good livestock grazing distribution. Know how far your stock should go to water and plan for it. Water sites which may be fenced into a small corral or pasture can often serve two or more pastures and help monitor or to work stock. In large, dry pastures you may be able to construct rainwater harvesting sites to provide some "new water." Be sure to have large, covered storage tanks to prevent evaporation which is high in Texas. Ponds can also often be fenced and either a lane, or a pipeline with trough will provide clean water and leave a healthy natural area around tanks to filter runoff and attract quail or other wildlife.

Monitoring sites and plant transects, or paths on which plant progress is observed, need to be set up and used for all rangeland pastures in proper locations. This is another spot where the expertise of a good range specialist is probably needed. Learn to identify the key important range, riparian and wildlife plants in your pastures. It is a good idea to have an experienced wildlife biologist tour your ranch with you, learn your goals and plans and then help you set up a wildlife management plan for any big game species, gamebirds or even song birds which are important to your plan. *It all matters*, and the natural resources—plant, animal, or soil and water—are all vitally critical to your ranch's health and prosperity. It is better to plan for the worst, make it through bad times and enjoy better times, than crashing and to wish you had been prepared. Good luck, good planning and remember "**Water is Life!**"

This article initially appeared in Ranch & Rural Living, September 2012 (San Angelo, Texas). Permission to re-print this article was granted by the author and the publication.

Mike Mecke is a retired Natural Resources & Water Specialist at Kerrville, Texas.

THE DIMORPHIC JUMPING SPIDER

(Continued from page 8)

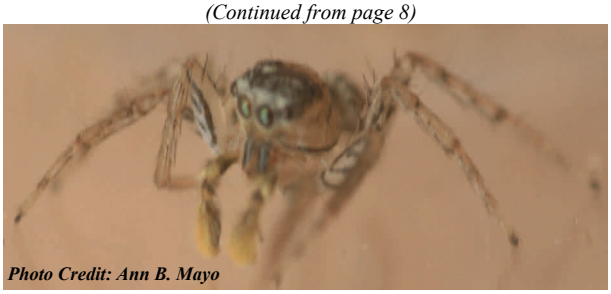

Photo Credit: Ann B. Mayo

These spiders also use their vision in courtship. The males perform dances that show off their coloration to court the females. The females look for the right moves that show off the right color pattern — one way to identify species.

To make this a bit difficult, the particular jumping spider which landed on me, *Maevia inclemens*, has males with two entirely different color patterns: a grey form and a dark form. Each color form has its own version of the courtship dance. The one I saw is the grey form. The males of the dark form are all black without other colors or patterns. The females look like the grey form in coloration. Now, if you were a female salticid, what would you think?

Ann B. Mayo is a PhD candidate in Quantitative Biology at the University of Texas at Arlington.

WHAT'S GROWING IN YOUR REGION?

Little bluestem in Coleman County.
Photo Credit: Melissa Sturdivant USDA-NRCS

Articles and photos related to the flora and fauna of our native landscape are welcome.

Do you have an interesting story or anecdotal record of a plant or animal in your region? Send your 300 to 500-word essay to Ricky Linex at ricky.linex@tx.usda.gov and Melissa Sturdivant at melissa.sturdivant@tx.usda.gov.

Photographs of plants can include a full-plant or landscape image; but, other photos can aid in the identification and study of our native plants. Send photos of the seedling or rosette stage; the root if it is perennial; and, a macro image of the leaves, flowers or fruits.

Photographs of fauna and landscapes are encouraged, too. We'd really like to hear from you; please share what's happening in your part of the state. *- Melissa Sturdivant*

Nature Abhors a Vacuum

(Continued from Page 10)

I stopped to take additional photos and this is where not having a fixed photo point sometimes means that you aren't standing in exactly the same footprints when you activate the shutter. But in this case you can see that the two photos were taken looking north at the same location, same fence posts on the left and same trees in the distance. What was surprising was the presence of Devil's-claw, *Proboscidea louisianica*, at this site. Now most of the time, we think of Devil's-claw as a weed in cultivated land and disturbed areas, seeing it commonly growing across this grassland reminds me of another old saying that would apply here: *patience is a virtue*. So, if nature abhors a vacuum, then it is clearly true that patience is a virtue when applied to the length of time seeds of Devil's-claw can lie in the soil and still remain viable. Though the land was being covered in vegetation that would not impress a rancher, nature was taking care of the land and attempting to re-vegetate the area. The seeds had germinated, producing plants which grew rapidly, producing flowers and even green fruits – in six weeks. These seeds produced in 2013 will likely lie dormant for many years waiting again on the opportunity to fill the vacuum. Makes you wonder if once again in a decade or so we will be facing the results of drought and overgrazing and again discussing the emergence of Devil's-claw upon the rangeland.

Seed pod of Devil's-claw.
Photo Credit: Patrick J. Alexander, USDA-NRCS

Seed pod split open to reveal fruits of Devil's-claw.
Photo Credit: Jeff Brister, USDA-NRCS

Ricky Linex is a Wildlife Biologist for USDA-NRCS in Weatherford, Texas.