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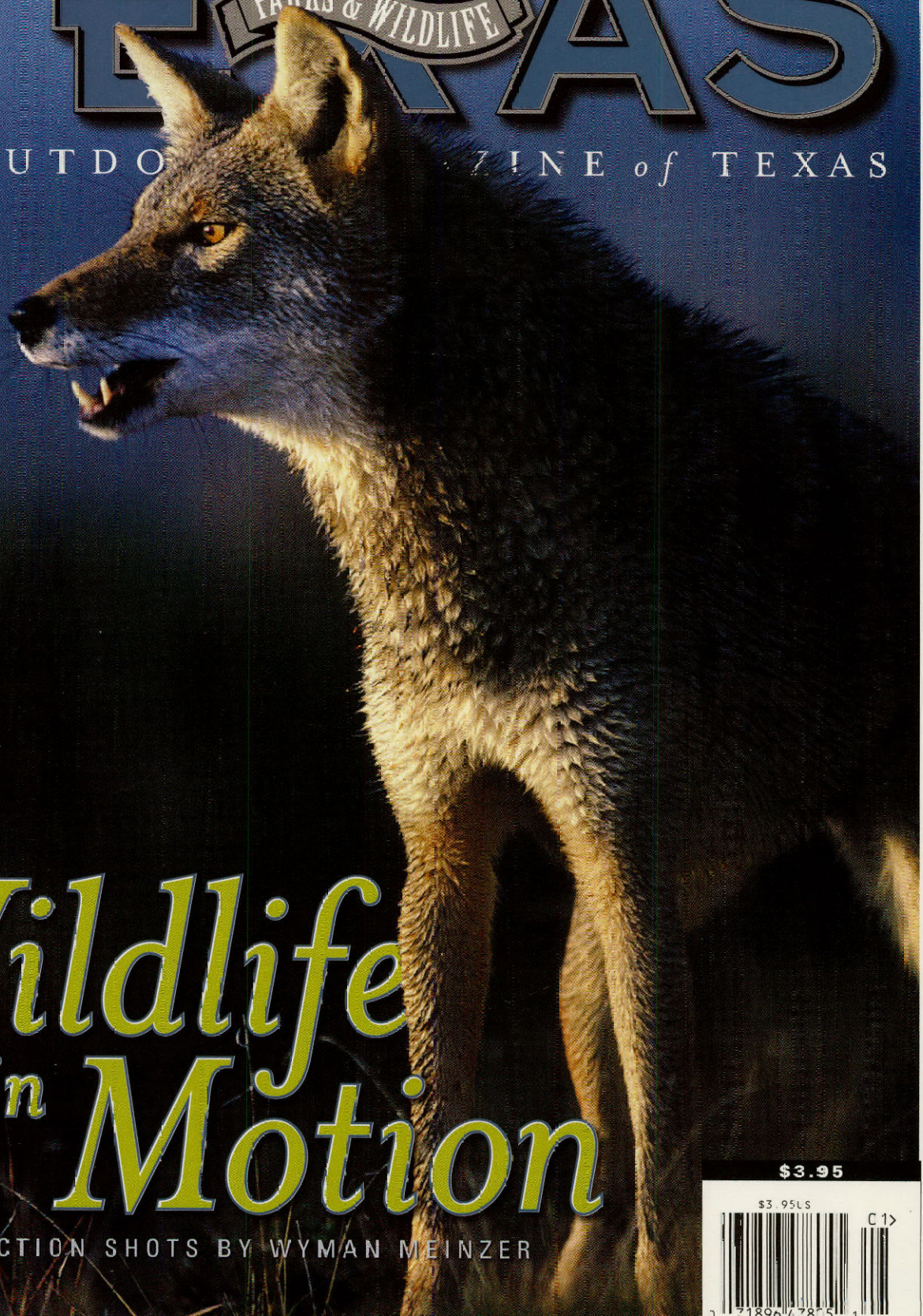
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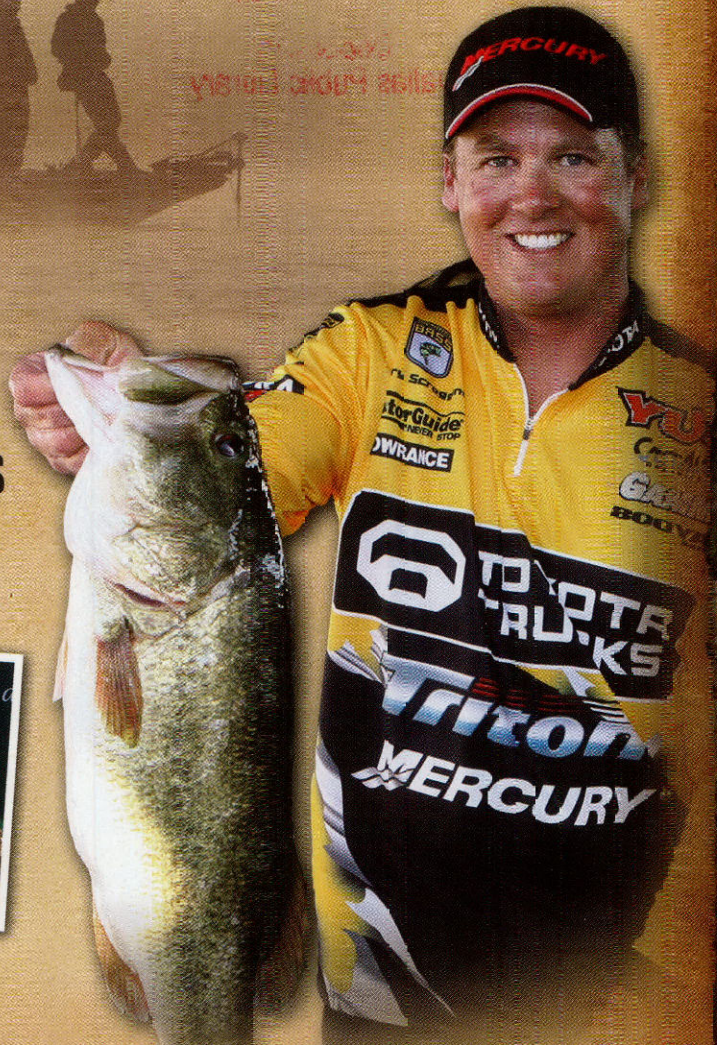
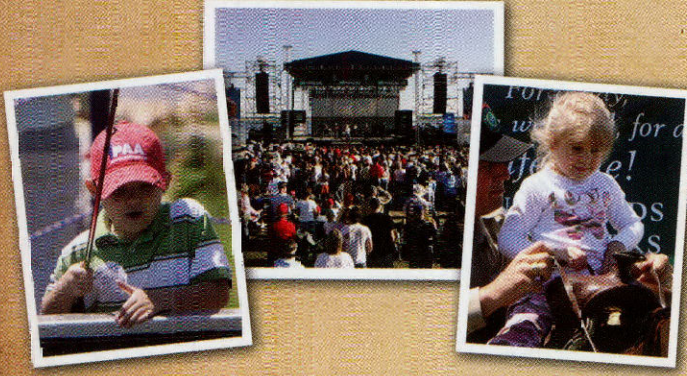
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# TEXAS

THE OUTDOOR MAGAZINE OF TEXAS

JANUARY 2008, VOL. 66, NO. 1

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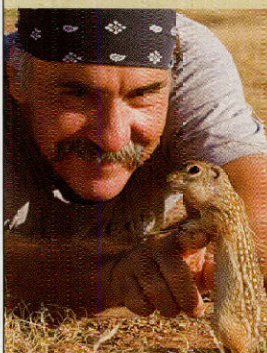
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# In the Field

## WYMAN MEINZER'S

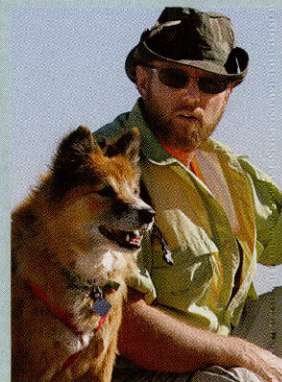
body of work encompasses more than 250 magazine covers and a dozen books over the past 25 years. The photo at left epitomizes the spirit that makes him such a skilled chronicler of the natural world, as seen in our cover story. Wyman wooed Earl the squirrel by throwing him mesquite



beans, then moved in closer for photos. "The little toot finally came to expect handouts and would come to meet me each day with a demanding expression on his face!" Wyman says. Currently, he is working on an array of books on topics such as working dogs, Texas ranch cooking and the El Carmen Mountains. His new publishing company will release *Inspiration Texas Style* this year.

## E. DAN KLEPPER

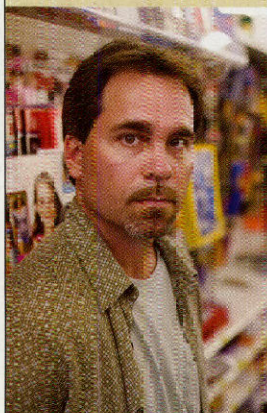
writes this month about the new rattlesnake vaccine available for dogs. "I was happy to hear about it from my local vet," says Klepper, whose dog, Maryjane, has been envenomated on three separate occasions by diamondbacks. "She's no fool," he explains, "but she's fast. I think she must run right over the top of them before she even knows what hit her. If she had the vaccine at the time perhaps the damage wouldn't have been so severe." Klepper hopes the information in his article will help dog owners to better prepare their four-legged companions for the trail. "When you are miles from help," Klepper says, "the vaccine may make a big difference in your dog's life." Klepper and Maryjane live and hike in Big Bend country.



## BEN REHDER

met Ed Theriot, the director of the Texas Natural Science Center, while doing research for his sixth Blanco County mystery, *Holy Moly*. The novel follows the saga of a televangelist whose plans to build a church/broadcast complex on the banks of the Pedernales

River are thwarted by the discovery of a dinosaur bone during excavation. As Theriot responded to the novelist's questions, a friendship grew, and during a personal tour of the museum, Ben decided to share the remarkable story of the rebirth of the Texas Memorial Museum with TP&W readers. Ben is a native Austinite and UT graduate who lives near Dripping Springs with his wife, Becky.



MEINZER PHOTO © JEROD FOSTER; REHDER PHOTO © WILL VAN OVERBEEK



# MAIL CALL

PICKS, PANS AND PROBES FROM OUR READERS

## FOREWORD

Before I landed here three years ago, I spent about seven years working for three Internet startups. I saw more bad ideas in those seven years than anyone should have to endure in a lifetime. Of those startups, the only one you may have heard of is Citysearch.com, an online entertainment guide. Actually, it was called a city guide at the time, and it was supposed to be a guide to *everything* in the city (yeah, right). Every day, someone would dream up something else to add to the site. At one point, we were publishing every school lunch menu and every Jazzercise class in town. I remember well the long hours it took for us to write, edit and publish about 1,200 restaurant reviews for the Austin site. Soon after we completed this gargantuan task, we realized the work had only just begun. Restaurants open, go out of business and change menus all the time. To be useful, the listings needed to be maintained — constantly.

Apparently, no one in the upper echelons of the company had thought of this. Soon, complaints poured in about inaccurate listings, editors struggled to keep up, then budget cuts and layoffs made it all the more impossible to keep everything up-to-date. Somehow, Citysearch has survived, but now they rely on users to write many of the reviews. That seems to be a theme among many Internet survivors: make the user do most of the work.

Sites such as YouTube, eBay and Facebook simply supply a set of tools and say, here you go, have fun. And fun really is the key. If it weren't at least somewhat entertaining to put together a video of a bulldog on a skateboard or a water-skiing squirrel, there wouldn't be thousands of people spending hours and hours to shoot them and share them.

But what does all this mean for the outdoors enthusiast? For those of us who spend the better part of the workday staring at a computer screen, the idea of spending non-work hours on the Internet doesn't sound all that appealing. However, there are a growing number of Web sites that are designed to facilitate and even enhance your outdoor fun.

In "Get Online, Get Outside," on page 42, writer Katie Armstrong explores several Web sites that are potential game changers in the way we plan and get information about outdoor activities. Some can even help you find a new fishing buddy or hiking companion. No, we're not talking about dating sites. These are online communities that truly help bring like-minded people together — and not just in a chat room. You should get to know this brave new world, but please don't forget to save a little time for reading magazines — or at least this one.

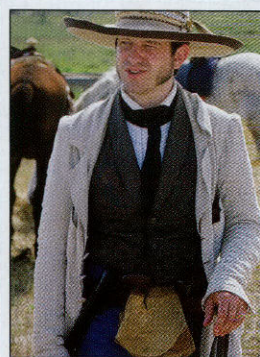
*Robert Macias*

ROBERT MACIAS  
EDITORIAL DIRECTOR

## LETTERS

### PROPS FROM PALO ALTO

Our compliments to Karen Hastings for her outstanding story ("The Forgotten War," November 2007). She walks the reader through with human interest and factual history in a most interesting way. Larry Ditto's photos are so well done. He's an old friend of



This is the best short story on Palo Alto and the Mexican-American War in recent times.

Walter Pitt  
Chairman, Palo Alto  
National Park Committee

preservation and conservation. This is the best short story on Palo Alto and the Mexican-American War in recent times. TPWD has been a partner since we began our battlefield quest nearly 30 years ago. Your magazine continues to provide a wonderful variety of articles and outstanding photography.

WALTER PITT  
Chairman, Palo Alto  
National Park Committee

### THE FIRE ANT FACTOR

Where there are no or few fire ants, there are quail ("What's Up with Quail?" November 2007). Where

there are fire ants in abundance, there are no quail. Regardless of habitat and/or weather. If we want our quail back, we are going to have to get rid of the fire ants. Saying it "ain't so" is ignoring the obvious.

BOB MIONE  
Garland

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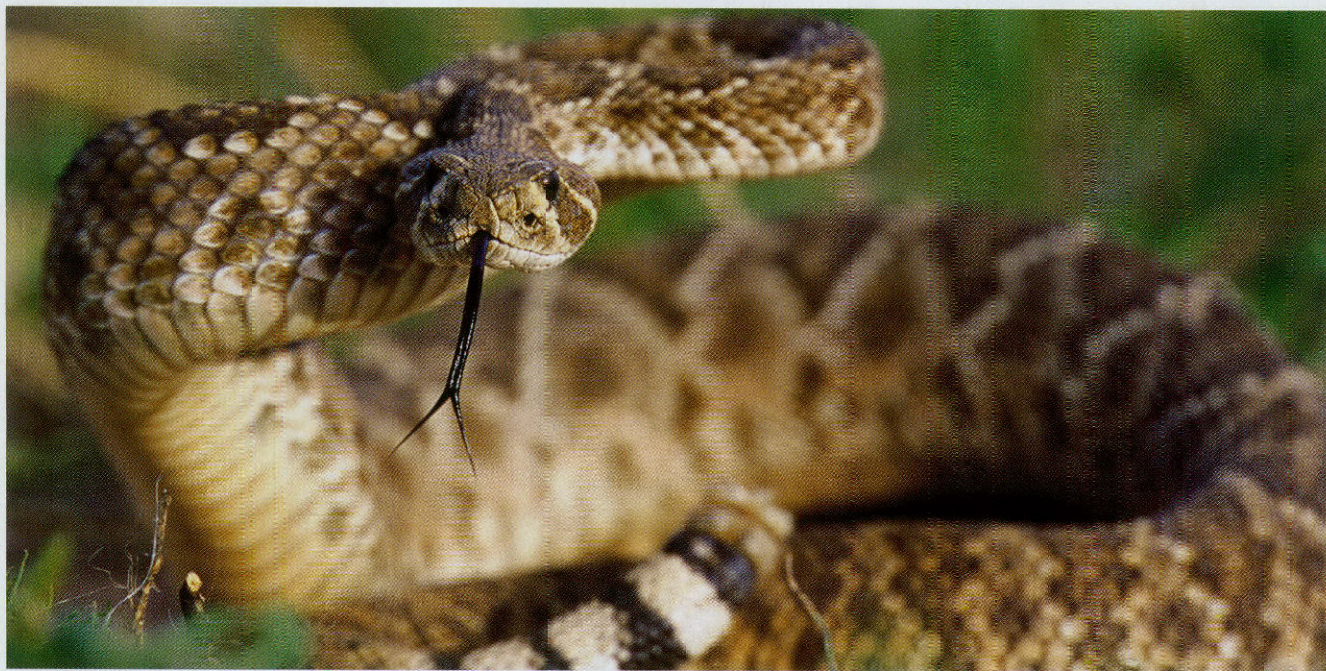


# SCOUT

NEWS AND VIEWS IN THE TEXAS OUTDOORS

## SNAKE VACCINE FOR DOGS

*While nothing can offer 100-percent protection from a rattlesnake bite, a new vaccine holds promise.*



**Dog owners who routinely bring their canines along to hike,** hunt or camp may already be familiar with the following scene: Cooter hits the brush wagging his tail and returns shortly thereafter yelping about a swelling nose or paw or something worse. Two small but nasty puncture holes mark his injury, a coiled rattler retreats nearby, and then a mad dash to the nearest vet for treatment completes the scenario. Some dogs survive the ordeal and some, unfortunately, don't. However, a vaccine now available through local vets may provide dogs with a certain amount of protection against rattlesnake venom. While nothing beats teaching a dog to avoid venomous snakes altogether, the new rattlesnake vaccine developed by Red Rock

Biologics of Woodland, California, may give dogs a hedge against the damage caused by a venom-injecting rattlesnake bite.

Here is how the vaccine works:

1. The vaccine contains a specific component found in rattlesnake venom. The component, however, has been inactivated.
2. Once the vaccine is injected into the dog, this "inactive component" stimulates the dog's immune system to produce special antibodies. Antibodies come in all forms and are produced naturally by the body to fight against infections and diseases.
3. These special antibodies remain in the dog's system for a period of time depending on the unique physiological characteristics of each dog. The average

**The damage to a dog from a rattlesnake bite is severe and permanent.**

period is around six months. In addition, the vaccine stimulates "memory cells," which also make antibodies over a longer period of time.

4. When a vaccinated dog is bitten by a rattlesnake and envenomated (injected with venom), the vaccine-induced antibodies present in the dog's system chemically bind to the venom and attempt to render it inactive. At the same time, the "memory cells" are stimulated to make more antibodies at a much faster rate than they did before. These antibodies also bind with the venom in an effort to neutralize the venom's harmful effects.



5. While the vaccine doesn't eliminate the danger from the venom, it may reduce pain, minimize tissue damage, and lower the risk of any life-threatening complications that may result from envenomation.

"Many veterinarians believe the vaccine really does make a difference," says Dr. Dave Taylor, rural Texas veterinarian and co-owner of Fort Davis Veterinary Services. "Even if there are, as yet, no challenge studies in dogs, the vaccine company has done extensive mice-model testing to show a definite benefit. Also, we cannot ignore the growing number of anecdotal reports of reduced sickness and death in animals that are vaccinated. This is not to say every dog that is vaccinated will survive a bite or will avoid getting sick from a bite. In fact, all vaccines protect only a certain percent of a population ... so that is not unusual. However, vaccinating, in most cases, seems like a very reasonable idea to help prevent the effects of a snake bite. I offer the vaccine to my clients for their dogs when I believe it might be useful. Dog owners should consult their own veterinarian if they want to learn more about it or see if it is recommended for their dog."

Even if a dog is vaccinated, dog owners should consider a snake bite an emergency and seek immediate medical attention for the dog. The rattlesnake vaccine is designed to reduce only the effects of envenomated bites from western diamondback rattlesnakes but may also help with other "hemotoxic" (meaning toxic to blood cells) envenomations from other rattlesnake species. But it does nothing for a Mojave rattlesnake bite. The Mojave's venom is a "neurotoxin," meaning it is toxic to nerves, and an envenomated bite frequently causes death.

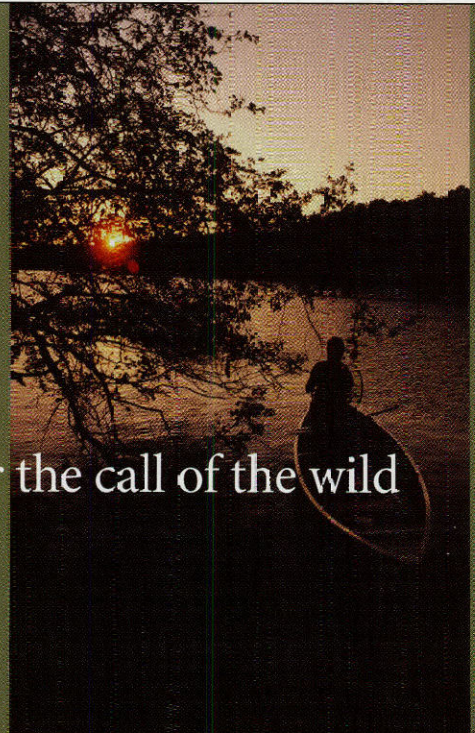
Just like the results of the vaccine, most of the evidence to date regarding dog/rattlesnake encounters is anecdotal. No doubt many readers have their own stories. Some dogs are bitten and have little to no reaction. Other dogs experience the worst possible reaction. But the damage envenomation can do is severe and permanent. Any chance of mitigating the results should always be considered. Dog owners, however, need to make their own decision about vaccinating their dogs. They should make an effort to become informed, read any available literature on the new vaccine and then discuss their dog's options with a trusted veterinarian. ★

—E. Dan Klepper

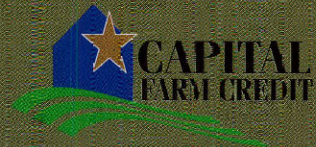


Even if vaccinated, dogs should receive immediate medical attention for a snakebite.

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# 59 Years Ago in Texas Game and Fish

*In 1949, readers first learned about a new revolution in outboard motors: the gearshift.*

**Most people don't remember** the time when a boater had to paddle his craft out from the dock before starting the motor, but before 1949, starting a boat meant the vessel started going forward — immediately. The invention of a motor with a forward/reverse/neutral shift made operation less hazardous and more accessible to non-anglers and the general populace. As a result, the popularity of informal boating for fun rather than just fishing took off, which led to the development of our modern boating safety laws and regulations.

\*\*\*

From the January 1949 issue of *Texas Game and Fish*:

## An Outboard With Gearshift

The Scott-Atwater line of outboard motors for 1949 will feature four new models with the Scott-Atwater shift, a gearshift that provides reverse speed and neutral as well as the conventional forward speed.

Heralded as the greatest outboard development in years, the shift offers obvious advantages of maneuverability, convenience and safety. The motors may be started in neutral and warmed up while the boat is tied to dock or shore. The reverse gear permits the boat to back away from dock or shore without necessity for using oars or paddle. The combination of neutral and reverse gives greater controllability and promotes safety at crowded landings and in heavy traffic. Starting the motor in neutral avoids the forward surge heretofore unavoidable in starting motors in forward speed at the traditional three-quarters throttle. Reverse is also useful in edging up to dock or shore under power and with full control of the boat.

Models having the Scott-Atwater shift will include the I-14, a 4-hp. single with a speed range of 1 to 14 miles per hour; the I-16, a 5-hp. twin, and the I-20, a 7 1/2-hp. twin. There will also be a larger, more powerful shift motor, the Scott-Atwater I-30, available later on in the spring. The Scott-Atwater line also includes three conventional models, without shift. These are a standard and a deluxe version of the 3.6-hp. single cylinder I-12 and a non-shift model of the 7 1/2-hp. I-20.

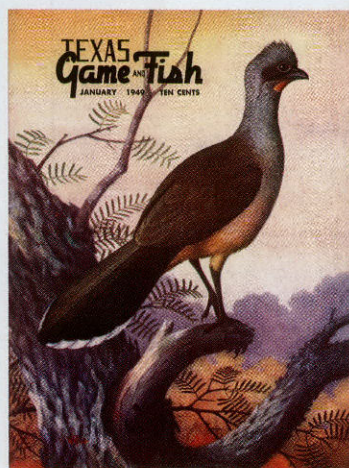
"Even the few skeptics will have their doubts satisfied when they know the Scott-Atwater shift adds less than two pounds to the weight of the motor, the three smaller, popular sized, shift models will retail at less than \$200, and the shift mechanism is amazingly simple in design, construction and operation."

The gearshift lever is located on the starboard side of the motors near the front and has somewhat the appearance of a short gearshift lever in an automobile. It moves forward and back through approximately a 45-degree arc. When the shift lever is upright, the motor is in the neutral position. The lever is moved back for reverse and ahead for forward.

Automatic stops acting on the throttle prevent shifting at high speed, racing the motor in neutral, and limit reverse speed, thereby promoting safety for the user.

**Editor's note:** This is the seventh installment in an eight-part series commemorating the 65th anniversary of *Texas Parks & Wildlife* magazine (formerly *Texas Game and Fish*). ☆

—Jon Luksinger



Cover of the January 1949 issue of *Texas Game and Fish* magazine.



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# El Paso's Little Secret

*The Franklin Mountains are home to hidden springs, mines and caves.*

In a high, rugged canyon at arid Franklin Mountains State Park, a natural spring flows near the roots of two towering cottonwood trees. Trail guide Nora Butler calls the secluded oasis "El Paso's little secret."

"Visitors are always surprised to find a spring up there," says the volunteer who's also a Texas Master Naturalist. "And the view is magnificent, too. A lot of people tell me they feel like they're on top of the world."

This month, lace up your hiking boots and follow Butler when she leads another group to West Cottonwood Spring. Along the rock-studded trail, you'll wind past yuccas, prickly pear, scrubby brush and lots of jagged cliffs. You may even glimpse some wildlife, such as tarantulas, badgers or mule deer.

Two weekends each month, six educational hikes highlight different areas at the 24,247-acre park, which preserves



The Franklin Mountains are the northern ramparts of the Paso del Norte (Pass of the North).

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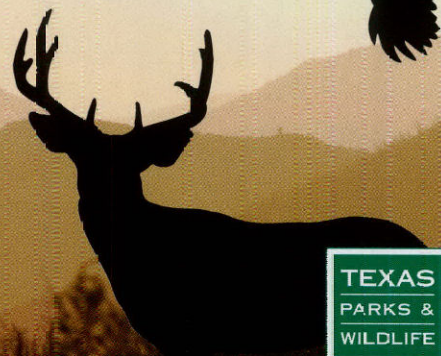
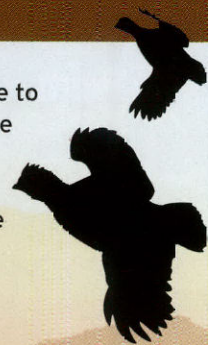
Coming together to restore springs and rivers; Fabulous fishing at Goose Island State Park; A home for unwanted exotic pets

#### January 20-27, 2008

Communities divided over profiting from water; Texas' big bass history; Watching woodpeckers

Tune in each week to learn where to fish, hunt, hike, camp or enjoy the nature and history of Texas.

Visit [www.tpwd.state.tx.us/tv](http://www.tpwd.state.tx.us/tv) to find the show schedule for the PBS station in your area.



This series made possible in part by a grant from the Sport Fish and Wildlife Restoration Program



PHOTO © LAURENCE PARRINI





↑ The West Cottonwood Mine Shaft (above) offers a history lesson about the only tin mine in the United States (1910-15).

37 square miles of the Chihuahuan Desert. For instance, when you trek up to the West Cottonwood Mine Shaft, you'll learn about a historic tin mine — the only one in the U.S. — located further east in the park. It operated from 1910 to 1915.

"For that trip, bring a flashlight so you can see minerals in the walls, such as green malachite and blue azurite," advises ranger Danny Contreras. "They're very beautiful and worth the time to see. Small children and older adults especially enjoy this trip because it's only a 15-minute walk from the parking lot to the mine shaft."

Other excursions — rated moderate to difficult — take visitors part way up a slope to Aztec Caves, through an isolated canyon on the Schaeffer Shuffle trail or along Smugglers Pass far up to a mountain peak. Tour destinations

vary; call ahead for schedules. "Pack plenty of drinking water because there's none available in the park," Contreras adds. "And don't forget a heavy coat, gloves and wool cap for winter hiking."

Tip: Save time for a lofty ride on the park's Wyler Aerial Tramway, which glides over a deep canyon on the way up to Ranger Peak. A one-way trip lasts four minutes. From the observation deck, you can see New Mexico to the north and across the Rio Grande River into Mexico.

Franklin Mountains State Park is located on the northern edge of El Paso. Guided tours are offered first and third weekends; reservations required. Tram closed Tuesday–Wednesday. For directions and more information, call (915) 566-6441, or visit <www.tpwd.state.tx.us/franklin>. ★

—Suzyl Smith-Rodgers

# MCALLEN

McAllen International  
Birding Festival  
April 10-17, 2008

Monterrey, Mexico  
Birding Festival  
April 6-9, 2008

Great Outdoors Nature Series  
October 2007 - March 2008

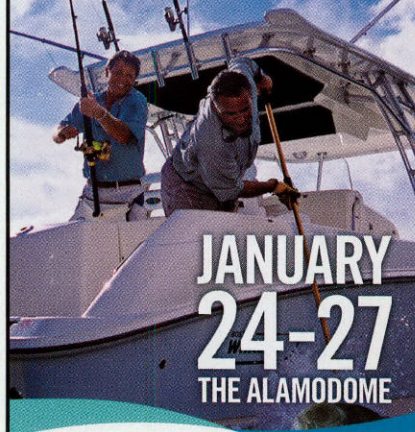
Fall Birding Festival  
October 1-13, 2008

Wild Walk Outdoor Adventure  
October, 2008

For registration information, please contact  
McAllen Chamber of Commerce

1-877-MCALLEN  
[www.mcallencvb.com](http://www.mcallencvb.com)

M-F: ACCOUNTANT.  
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# The Neighbor Squirrel

These busy fluffballs have lost their fear of most predators — and they help plant pecan trees.



## Texas Fishing, Hunting & Outdoors Show

January 10-13, 2008  
Arlington Convention Center



Celebrity Appearances  
including Mr. Crappie

Tips from the Pros  
Show-Only Discounts  
Hard-to-Find Items  
Cattish Tank for the Kids  
The Raptor Project

Adults: \$8 Children (6-12): \$3  
Children under 5 Free

FREE PARKING!



**Have you ever watched** an eastern fox squirrel (*Sciurus niger*) bury an acorn or pecan? A nuzzle here, another there, then he hurriedly pushes the leaves and grass over the site before scampering up the closest tree. Minutes later, he's back with another nut.

Over the course of three months, that industrious squirrel can bury several thousand pecans. Come winter, when food's scarce, he'll find them again with his excellent sense of smell. Some will escape his appetite, though, and sprout into saplings, which is how many native nut trees get planted.

Eastern fox squirrels — the state's most common and wide-ranging squirrel and a popular game animal, too — occur in forests and riparian habitats. They also easily adapt to cities and neighborhoods, where they've lost most of their fear of natural predators.

"Playing the call of a red-tailed hawk

Over the course of three months, an industrious eastern fox squirrel can bury several thousand pecans.

didn't phase squirrels on campus," reports Bob McCleery, a wildlife lecturer at Texas A&M University, who has studied urban squirrels in College Station. "When we played a coyote call in the Navasota river bottom, a squirrel immediately flattened itself in the crotch of a tree for a good five minutes."

When agitated, fox squirrels — whose fur closely resembles that of a gray fox — bark and jerk their long, bushy tails, which they use for balance when scampering on utility lines and other high places. Tails provide warmth and protection, too. "In the summer, I've seen them lying down with their tails over their heads to block the sun," McCleery says. ★

— Sheryl Smith-Rogers

PHOTOS © ROLF NUSSBAUMER





# Berry Bonanza

*Mockingbirds love possumhaw berries — and will fight to protect them.*

**Every January**, gads of lustrous red berries cover the bare branches of possumhaw trees (*Ilex decidua*) that grow in Tom Spencer's garden in Austin. It's not long before the skirmishes begin.

"We always have a pair of mockingbirds that rush around and defend their berries," laughs Spencer, host of KLRU's *Central Texas Gardener*. "They chase the titmice and chickadees, too, which don't even eat fruit. Then they go nuts when the cedar waxwings arrive."

Songbirds, as well as bobwhite quail, catle, deer and small mammals, relish possumhaw drupes, more so after they've been repeatedly frozen. Opossums — hence the name — especially love the berries.

Also called deciduous holly, possumhaw — Texas' most wide-ranging native holly — grows as shrubs and trees in East Texas pineywoods westward to the Edwards Plateau. Unlike most evergreen hollies, such as yaupon and American holly, possumhaw drops its leaves, revealing a

spectacular shimmer of crimson in winter landscapes.

Only female possumhaws bear fruit, and most experts believe that males must be available for that to happen. However, "no nurseries sell male possumhaws," Spencer says. What's more, "I don't have any males in my garden, and my possumhaws put on fruit just fine." ★

—Sheryl Smith-Rodgers



Possumhaw trees drop their leaves in autumn, leaving a better view of the crimson berries.



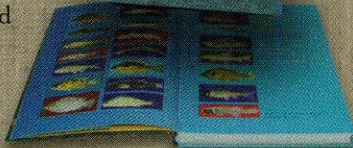
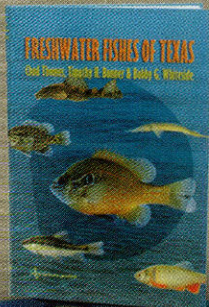
## TEXAS READER

### Freshwater Fishes of Texas

*No more "fishing around" for a positive ID.*

"The first comprehensive, illustrated field guide to the freshwater fishes of Texas," publisher Texas A&M University Press claims of their new *Freshwater Fishes of Texas*. Lone Star anglers, both old hands and new, will appreciate the conviction in that statement once they thumb through the results. The guide, and it is a true field guide, is simple, concise and informative. In fact, the only thing fishy about this first-ever field guide is, well, the fish. The photos are crisp, the habitat mapping is a helpful feature, and the text is clear and easy to understand. Best of all, the guide is well-organized, saving the sportsman from the frustrations of "fishing around" for identification.

Some outdoor folks may already be familiar with the guide's key for identifying fish. Traditionally used in many of the more detailed biological field guides, the dichotomous key navigates anglers through a series of yes/no questions designed to narrow possibilities. This type of key is simple to follow and anglers will find the easy-to-use sequence of couplets in the key extremely



helpful in clearly identifying fish families (although it would have been even more useful if the key went all the way down to the species level). The couplets are based on the presence or absence of morphological characteristics inherent to, in this case, fish. Differences among the characteristics of fish families are relatively straightforward and recognizable. Features such as paired fins, a snake-like body, scales, paddle-shaped snouts, and head barbells are all criteria used in the dichotomous key to help anglers focus in on specifics. Then, once anglers are confident in having identified the family name of the fish they are trying to look up they can find the species using the additional details and photographs provided in the corresponding family sections.

The guide's photographs are vivid, often providing examples of the various color phases that indicate sexual differences and breeding periods. The visual details are distinct, aiding anglers in identifying what's hanging out in the shallows or off the tip of their rod.

Texas anglers will appreciate the addition of *Freshwater Fishes of Texas* to their wildlife library. It also makes great fish camp reading or even a helpful addition to the boat gear. However, avoid sending the book overboard. Much like a noisy fishing companion, it's not waterproof. ★

—E. Dan Klepper



# Dressing for the Cold

Your body is a furnace, but it needs fuel — and layers help, too.

**The outdoors can be deadly.** Even in Texas, where the winters are comparatively mild, storms and cold temperatures are enough to kill if you aren't prepared. Hypothermia occurs when the body's core temperature begins to cool. At a core temperature of only 95 degrees, the symptoms of hypothermia, such as uncontrollable shivering set in. The onset of hypothermia usually occurs at very cold temperatures, but the condition can be initiated in temperatures around 40 degrees. Hypothermia aside, being cold in the outdoors is downright uncomfortable.

## Care for the core

The key to staying warm is to take care of your torso, or core. The concept is simple: if you keep your core warm, the blood going to your extremities flows freely. If the core cools, the body redirects blood away from your extremities to feed vital functions like circulation and respiration. That's why your hands and feet often get cold first.

Wearing layers is the best way to dress your core. Start with a base layer that is made of a polypropylene or microfiber. These undershirts work better than cotton because as you sweat, moisture is wicked away from your core. With cotton, the fabric becomes wet and draws heat away from the body.

Next, wear a lightweight fleece shirt. A fleece half-zip or hoodie adds a layer of warmth to the undershirt and is light enough so that your arms stay mobile.

For the next layer, add a vest insulated with wool or another material. Choose a vest that isn't overly thick and bulky. While wool is a great insulator when the weather is wet, manufacturers now offer high-tech options.

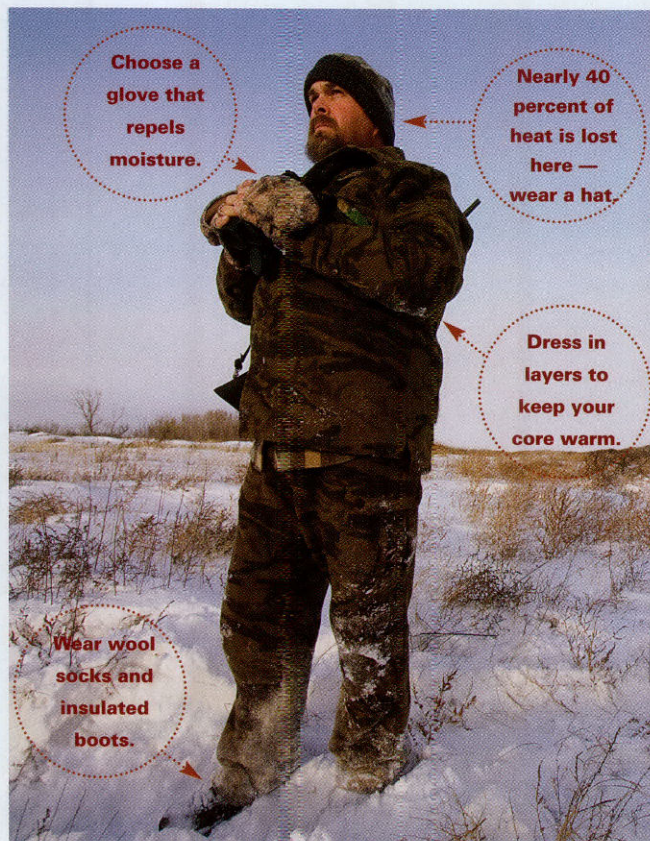
"Thermolite insulation is a good alternative when you need a lightweight garment," says Anne Lindberg, director of public relations for Columbia Sportswear Company. "The material maintains a minimal thickness but has exceptional moisture resistance and is perfect for active use."

Lindberg explains that goose down inside a waterproof shell is a great alternative to wool. "Goose down provides superior warmth and breathability while maintaining lightweight properties. Microtemp is another insulation that is made from tiny synthetic fibers that produce millions of small air pockets to trap heat. This material is a good alternative to down — especially in wet climates."

For the outer layer, choose a jacket with a breathable inner liner. Make sure the outer shell is water resistant yet breathable. The key is to get moisture away from the body while holding heat in.

## Extremities

If you layer and insulate your core properly, you'll be surprised at how little insulation your extremities need. For



your arms, all you'll need is a microfiber undershirt, a fleece layer and an outercoat. For hand and finger protection, choose a glove that is water-repellent and Thinsulate-filled to ease the bulk.

For your feet and legs, microfiber underpants and wool or water resistant outerpants should be enough to keep your legs warm. For your feet, try wool or polypropylene socks and insulated boots filled with thinsulate or some other lightweight material.

## Heads up

Estimates vary, but as much as 40 percent of the body's heat loss is through the top of the head. The key to staying warm in the winter is managing heat loss, and failure to wear an insulated toboggan or hat results in your body losing too much heat. Remember, as the core cools, your extremities become colder. Help keep your core warm by layering and covering your head, your feet and hands.

Your body is a heat-making machine. Through internal chemical reactions and activity, your body is like a furnace. Like a furnace, though, you have to feed it. Therefore, if you plan on being out in the cold for a long time, eat foods like energy bars and eat often. Eating will take your mind off the cold and provide your body the fuel it needs to keep going. ★



# Texas Lids

Whether you're looking to make a fashion statement or just protect yourself from the sun, we've got the hat for you.

**The traditional western hat** has helped shape the popular image of Texas and Texans for more than a century. Worn to function like a hands-free umbrella, the wide brim is intended for protection from the intense sun, rain, wind and cold in hostile climates.

## Felt hats

In the fall and winter, it is traditional to wear a felt hat in off-white, black or gray. The quality of these hats is determined by the amount of fur content indicated on the interior hat-liner by a series of X's. The higher the X-count, the better the grade of hat. The best felt hats, in years past, were of pure beaver fur, which has become very expensive. Most brands are now made with blends of soft beaver and rabbit fur. The **Stetson "Bowie"** is a fine 6X western felt classic and is appropriate wear for formal occasions or the most rugged outdoor activities. At the time of purchase, it should be steamed and carefully shaped by a skilled hatter for custom styling. (\$235, Bowie Felt, Stetson, (972-494-7116, [www.stetsonhat.com](http://www.stetsonhat.com))

Stetson Bowie



## Straw hats

For the warmest days of spring, summer and early fall, a wide-brim hat made of tightly woven straw is the most popular. The lighter body and color reflects heat and is more comfortable when not tightly fitted. To prevent loss, attach a chin lanyard with sliding keeper for windy conditions. Originally they were constructed of natural toquilla straw and misnamed "Panama" hats. These were handmade in the Monte Christi region of Ecuador. Now, they are mostly woven in Mexico or Asia of a smooth fiber known as shantung. Many people believe that shantung hats are of natural straw. It is actually made from a high-performance paper that is sealed and rolled into a flat yarn to imitate straw. One such hat, assembled in the United States, is the distinctive cowboy style **Stetson Jackson Straw**. It features an 8X quality body, eyelet crown vents, bound edge 4-inch brim, and smooth water resistant finish. The newest Stetson for 2008 is a **Breezeway**

Stetson La Brea



**50X Shantung** with an open-weave Milan crown that rapidly discharges heat. Also adding comfort is its special wick-away sweatband of soft Dri-Lex material. This is an ideal hat choice for keeping a "cool head" even on the hottest days. (\$72, Jackson 8X Straw. \$105, Breezeway 50X Straw, Stetson)

## Fashion hats

Texas hats of the "third kind" are correctly known as "fashion hats." In recent years they have become popular with fans of country music, rodeo crowds, sportsmen and tourists. They may be purchased in either wool felt or rough woven straw that is often made to look well worn from the start by artificially soiled sweatbands, dents and stains. They are inexpensive to medium priced, with lots of personality provided by fancy hatbands of feathers, conchos, bone or bead decorations. Their wire-framed brims are easily shaped and bent to taste. These funky fashion statements are sold in a myriad of colors and styles. The one shown is the **Stetson La Brea** of ventilated Mexican Raffia. It has a 3-1/2-inch brim, pinch-front crown and thick grosgrain ribbon band with a silver longhorn medalion flanked by three bone beads on either side. (\$44, La Brea Raffia Straw, Stetson)

Stetson Jackson Straw



Bill caps have become such universal outdoor wear that it is difficult to identify any as distinctly Texan unless you read the logo. Shown

## Bill hats

is one from the **Texas Parks and Wildlife Department Operation Game Thief Program**. The purchase of a basic membership includes the hat, with all proceeds going to the preservation of Texas wildlife. A second is the **ExOfficio Buzz Off Bill Cap** made of light fast-drying nylon with a neck-cape for sun and bug protection. The flap can be tucked inside when not needed or worn dipped in water for extra cooling on the neck. (\$25, TP&W Member Cap, Color: Beige, (512-389-4800, [www.tpwd.state.tx.us](http://www.tpwd.state.tx.us)) (\$28, Buzz Off Cap, Color: Cigar, ExOfficio, 800-644-7303, [www.exofficio.com](http://www.exofficio.com)) ★

TPWD Operation Game Thief bill cap





# 3 Days in the Field / By Barbara Rodriguez

DESTINATION: GRAHAM

TRAVEL TIME FROM:

AUSTIN — 4.5 hours / BROWNSVILLE — 9.75 hours / DALLAS — 2.25 hours

HOUSTON — 5.75 hours / SAN ANTONIO — 5.25 hours / LUBBOCK — 4 hours / EL PASO — 8 hours

## Prairies and Pines

*North Texas trail leads to painted birds, dumplings, dead outlaws and one huge oak tree.*

**Just over an hour northwest of Fort Worth**, the Texas Prairies and Pineywoods Trail buckles up into mesas with long-view bragging rights to big oil, big cattle and big history. It is a landscape that witnessed the cowboy and Indian dramas celebrated in Technicolor classics like *The Sons of Katie Elder* and *The Searchers*, the blazing of the Goodnight-Loving partnership and trail, the birth of the Cattle Raisers Association, wagon raids, jail breaks, massacres and more than one trail of tears. The vistas that sweep from the high buttes to muddy bows in the Brazos have been sporadically broken by the boom and bust of oil towns. But since 1871 the town of Graham, with its gigantic square and broad-shouldered pride, has shored up a county population once decimated by the Civil War. History aside, our family weekend was about the birds and the trees (at least one whopping big 'un) and all the steak we could eat — and, of course, the movies.

### Day One

We pack boots and lawn chairs — essential gear for a stay that promises to include a one-two punch of firsts for my husband and son: horseback riding and a drive-in movie. Scarcely underway, we pull in at Weatherford's Downtown Café, where a good year for peaches means a very good chance at cobbler. The mural featuring cattle brands makes a nice introduction to the drover's landscape ahead (Oliver Loving is buried in the Weatherford cemetery), but the cobbler, alas, is sold out. We settle for chicken and dumplings then head for the roller coaster hills outside Mineral Wells and the Boudreau Herb Farm. The Herb Lady, as Jo Anne Boudreau's radio persona is known, proves to be the Texas answer to Professor Sprout — she's colorful, knowledgeable and, like Harry Potter's botany teacher, somehow magical.

The farm store overflows with dried local herbs as well as exotic imports. And while hand-penned signs promise that "counseling" will cost you \$100 per hour, throughout our visit she dishes out gardening tips and herbal remedies freely. We leave with a bottle of comfrey oil liniment labeled: "For the cowboy, his horse, his dog and his cows." That's what I call all-purpose.

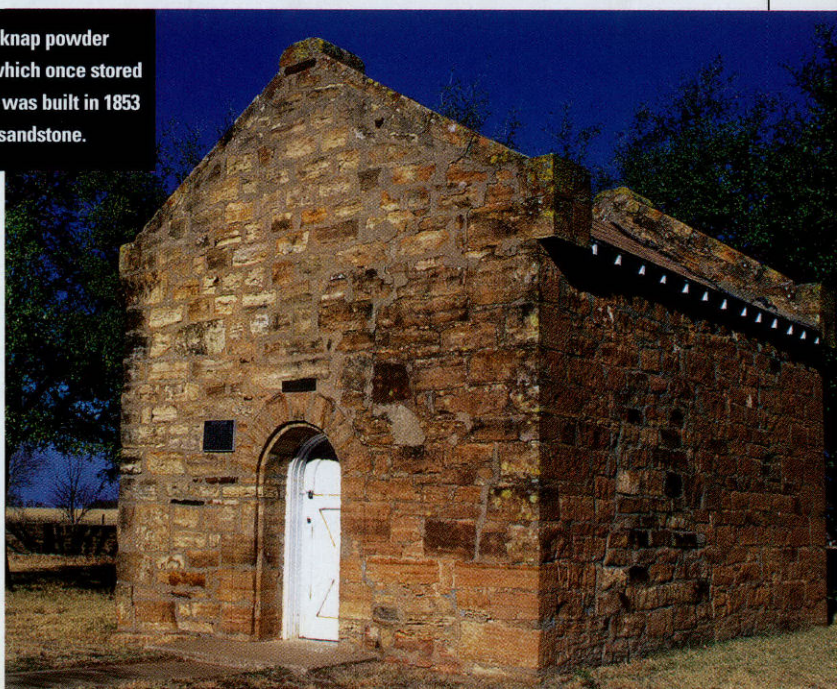
In a blink we are at the gates of the Wildcatter Ranch,

the spectacularly situated guest ranch — long on history and views (with a much-lauded steakhouse) — that is to be our headquarters. Rocking chairs and hammocks, horseshoes and tetherballs might win some guests' hearts, but the minute he spots the staccato sign reading "Danger Rocks Snakes," my son Elliott is quite sure we've crossed the great divide into boy heaven. The saltwater pool that seems to pour over the horizon cinches the deal. "My life is complete," he sighs. We settle into the Butterfield Stage room — each room tells a local story through photos and paintings of boomtowns, Indian chiefs, wildlife and in our case stagecoach lore (our mile-high beds are fashioned from wagons, complete with wheels). Toss in dozens of suede pillows and a gas log fire and the comfort factor is light years beyond that awarded early stage passengers.

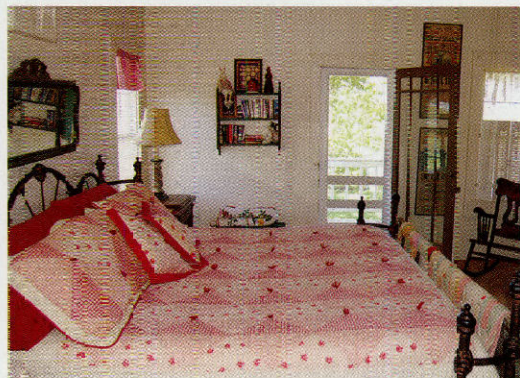
Before splashing into the pool we check out the ranch "scavenger hunt," a set of laminated sheets assigning points to sightings of featured wildlife and flora. We play at this game all weekend, starting with my husband Jurgen's whoop of glee at spotting a roadrunner in full strut.

After a few minutes of roping practice on stubbornly elusive hay bales with horns we head for the river, scraping along a road that makes Jurgen (who for some mad reason has had his car detailed for the trip) cringe. After weeks of record-setting rain, the red

The Fort Belknap powder magazine, which once stored gunpowder, was built in 1853 from native sandstone.







The National Champion Texas live oak tree, towering at 48 feet tall and sporting a 30-foot girth, can be found at the Atwood Ranch (left). The Hockaday Ranch (right) offers a splendid view and cozy guest quarters.

scales of mud along the Brazos look deceptively solid. Within minutes, much to his father's dismay, Elliott is knee deep in muck. I join him in a slip-sliding exploration of the banks, trying to disguise the fact that in the chase of a dragonfly I have lost a shoe to the sucking mire. Much German engineering goes into the scraping of shoes before the boy and I are banished to the car's far back.

On what might have been a sullen ride to our room, the sudden sighting of not one but two painted buntings has us all yodeling "Woohoo!" In years of birding I'd seen only one feathered rainbow before; to see two on the same day, in the same minute, is a treasure. Muddy shoes and all, we're comrades again and even the turkey buzzard lordling over a rusty oil tank seems party to our joy.

Once we've cleaned up, we belly up to the Wildcatter Steakhouse for a dinner of Bob Bratcher's hand-cut, best-steaks-ever — including a plate-lapping 2-pound porterhouse — that makes Jurgen the happiest carnivore alive and Elliott too catatonic for apple strudel. Cook Bob's food is served up in manly-man portions that promise the kind of leftovers that are fought over in midnight raids.

As evening unspools, we sit on the porch, listening to the wind murmuring the news of the gloaming, as it has for hundreds of years in war and peace. Soon our shores are less gentle than the wind.

### Day Two

A rosy day dawns to the cascading calls of whippoorwills and canyon wrens, but the first point-scoring sighting of the day is my rufous-sided towhee. Snagging a trio of the mountain bikes avail-

able to guests, we ride to the ranch house for breakfast before mounting up for a 90-minute trail ride my husband and son have begun to dread. I don't understand how guys who will hurl themselves down a 130-degree rock ledge on two wheels fear straddling something with four stout legs and an instinct for self-preservation.

Thankfully their confidence is restored by the trail boss, a lover of lolling cow dogs and sturdy quarter horses, who takes his time in sizing us up before assigning us each a horse. My Ted is easy to manage, if tender-mouthed and slightly dazed by the amount of clover he is to be derided on this ride. Jurgen's fears are quickly quelled by the surefootedness of his paint, Buddy — as sweet and plodding as he is enormous. Slightly skittish on the sleek but stubborn Lignite, Elliott complains at his lack of control. "I think there's something wrong with the reins." He squawks when a downhill pitch shifts him dramatically in the saddle. Jurgen saves the day by reminding him to distribute his weight as he would on his mountain bike. By trail's end we all feel far more accomplished than we are. Then Elliott asks a question I'd never before considered: "Why do horses have to stop to pee but not to poop?"

After a side trip for ribs at the Dairy Land Drive Inr in Jacksboro (I love that they serve darnap washcloths with the barbeque), we make a fruitless search for the graves of the ill-fated Marlow brothers (recast as the sons of Katie Elder in the John Wayne classic) before heading to Fort Belknap. Built in 1851 as one of eight frontier forts along the Texas Forts Trail, Belknap guarded the Butterfield Overland mail route. Before the fort was abandoned in 1867, the Army spent its spare time killing buffalo, a sanctioned approach to driving the Kiowa onto reservations. In



1866, the first Goodnight-Loving cattle drive thundered forth from here, pounding out a trail that would move more than 5 million cattle, supplant the Chisholm and inspire *Lonesome Dove*. Today the grounds make a great place for a picnic. A small museum's eccentric collection includes old spellers, civil war bullets, long rifles and peace pipes. A brontosaurus tooth gains Elliott's favor, but for me the trip is all about the truly spectacular grape arbor, so dense and dark the temperature drops noticeably within the cavernous cover of vines.

Back in Graham, we walk the expansive town square — the nation's largest — around the 1932 Young County Courthouse and check out the Depression-era oil boom murals on the Old Post Office Museum and Art Center. A Second Street mural honors the Texas and Southwestern Cattle Raisers Association, begun in 1877 to combat rustling. On Oak Street, don't miss a visit with the fabulous owner of Frances' Fabrics, still stitching up the satin pillow cases Grandma used to keep her beehive smooth.

When the sun sets it's time to queue up on the shoulder of the Old Jacksboro Highway for the Graham Drive-In, one of few left in the state. It's no night for spreading out in lawn chairs — lightning flashes and driving rain compete with the big screen — but the guys are thrilled by the retro-craziness of the crackling speaker and ranks of steamy car windows.

### Day Three

We sleep in, bolt for breakfast on our bikes and ready ourselves to stalk a tree — the largest live oak in America, to be exact. But first we're to visit the Hockaday Ranch, where Kent and Nancy Pettus rent the comfortable, isolated ranch house to guests. Kent, who owns a car dealership, picks us up in a classic red convertible Eldorado that begs a stretch of longhorns across the grill. Invited to drive, Jurgen, who harbors a secret ambition to own such a "yank tank," transforms into the James Dean of *Giant* — give or take 5 inches and 100 pounds.

One hundred and fifty years ago the 1,000-acre Hockaday was part of the Brazos Indian Reservation, and despite the oil pumps now bucking across the horizons, it's easy to imagine little about the juniper-oak woodlands has changed. A history buff and witness to three local petrochemical booms, Pettus spins loosely linked stories of mineral rights, natural history and local legends with charming aplomb. The homey comfort of the Hockaday is antithetical to the well-padded indulgences of the Wildcatter, but its appeal, not the least of which is a splendid view, is genuine. To slouch high above a double bend of the Brazos in a lonely cliffhanging metal chair is to gain privilege to a solitary musing that is hard won these days. In addition to sloth, guests are encouraged to bump around the acreage, birdwatch and fish for bass and panfish in a 50-year-old tank.

At the end of our visit, Pettus escorts us off the ranch and to the resting place of the Marlow brothers (whether they were truly outlaws or merely ne'er-do-wells remains in hot debate). As it turns out, the elusive Finis Cemetery was established by his great-grandfather. The original Marlow marker, hidden beneath a laurel and washed almost smooth by time, is not nearly as poignant as the sentiment captured on a nearby pre-Civil War marker: "She hath done whatever she could."

But now, like the White Rabbit, we're late, we're late and we've kept the blue-eyed and passionate Jay Burkett waiting far too long. A scrapbook thick as a phone book under his arm, Burkett

has cut short a family reunion to tell us the best tale of our visit: how one man dedicated himself to winning honor for a tree long denied its due. From the day he first saw the tree sprawling above a cow pasture on the Atwood Ranch, its limbs splayed with age, Burkett knew the live oak to be a giant among, well, live oaks. The tree was long known by locals to be a monster, but while rancher Jack Atwood lived he'd broach no strangers ogling it. When Jack died, Marie Atwood at last gave Burkett full access to the tree, and that was when, as he says, "I got after it."

Burkett made countless phone calls to the Texas forestry office in Abilene suggesting someone should come and see this tree. The calls were met by incredulity. As he recalls, the attitude was that if there were a giant tree in Young County, someone would already know about it. The tenacious Burkett didn't give up. He made phone calls until at last a new forestry employee, happy for an excuse to learn more about his territory, agreed one icy-cold day to drive over for a look-see. It was a whim that cost him some sleet in the teeth as his measurements proved (and three full revolutions of the tree just to be sure) that Jay Burkett was right. Several official measurements later, it was confirmed. At a height of 48 feet and a circumference of 357 inches, the Atwood Ranch tree was deemed the largest Texas live oak, a title officially bestowed in 2002. The tree officially became the National Champion two years later.

Everything about the tree seems extra large, from the bower of ivy that drapes it to the monumental splotches of cow pies that act as its first line of defense. In the droning heat, time seems to stand still as we stare up at the arthritic limbs and try to imagine what this tree might have seen in its estimated 500 to 750 years of life. No longer elegant, split and deformed by its own weight, it is more reminiscent of a dinosaur's appendage than a tree. And yet it commands the respect it has now been given, thanks to Jay Burkett. And it confirms that if everything is bigger in Texas, it's bigger yet in Young County. As a matter of fact, in addition to the champion live oak, three other Atwood Ranch trees were found to be larger than the Uvalde County tree formerly awarded the title.

We leave the county in the hero light that makes everything better, flowers glowing, the temperature perfect. Sad to leave the birds and the trees behind, we all agree that we carry one part of the landscape home with us and make a pact to go out later and look at the stars. ★

### Details

- Boudreau Herb Farm (940-325-8674)
- Graham Chamber of Commerce (800-256-4844, [www.grahamtexas.com](http://www.grahamtexas.com))
- Graham Convention & Visitors Bureau ([www.grahamtexas.net/cvb](http://www.grahamtexas.net/cvb))
- Hockaday Ranch Guesthouse (940-549-0087, [www.grahamguests.com](http://www.grahamguests.com))
- Wildcatter Ranch (940-549-3500, 888-462-9277, [www.wildcatterranch.com](http://www.wildcatterranch.com), [www.wildcattersteakhouse.com](http://www.wildcattersteakhouse.com))
- Old Post Office Museum and Art Center (940-549-1470, [www.opomac.org](http://www.opomac.org))
- Fort Belknap (940-846-3222)
- National Live Oak Tree Champion, Atwood Ranch, by appointment only (940-549-6510)
- Graham Drive-In, first-run movies Friday, Saturday and Sunday evenings during the summer months (940-549-8478)



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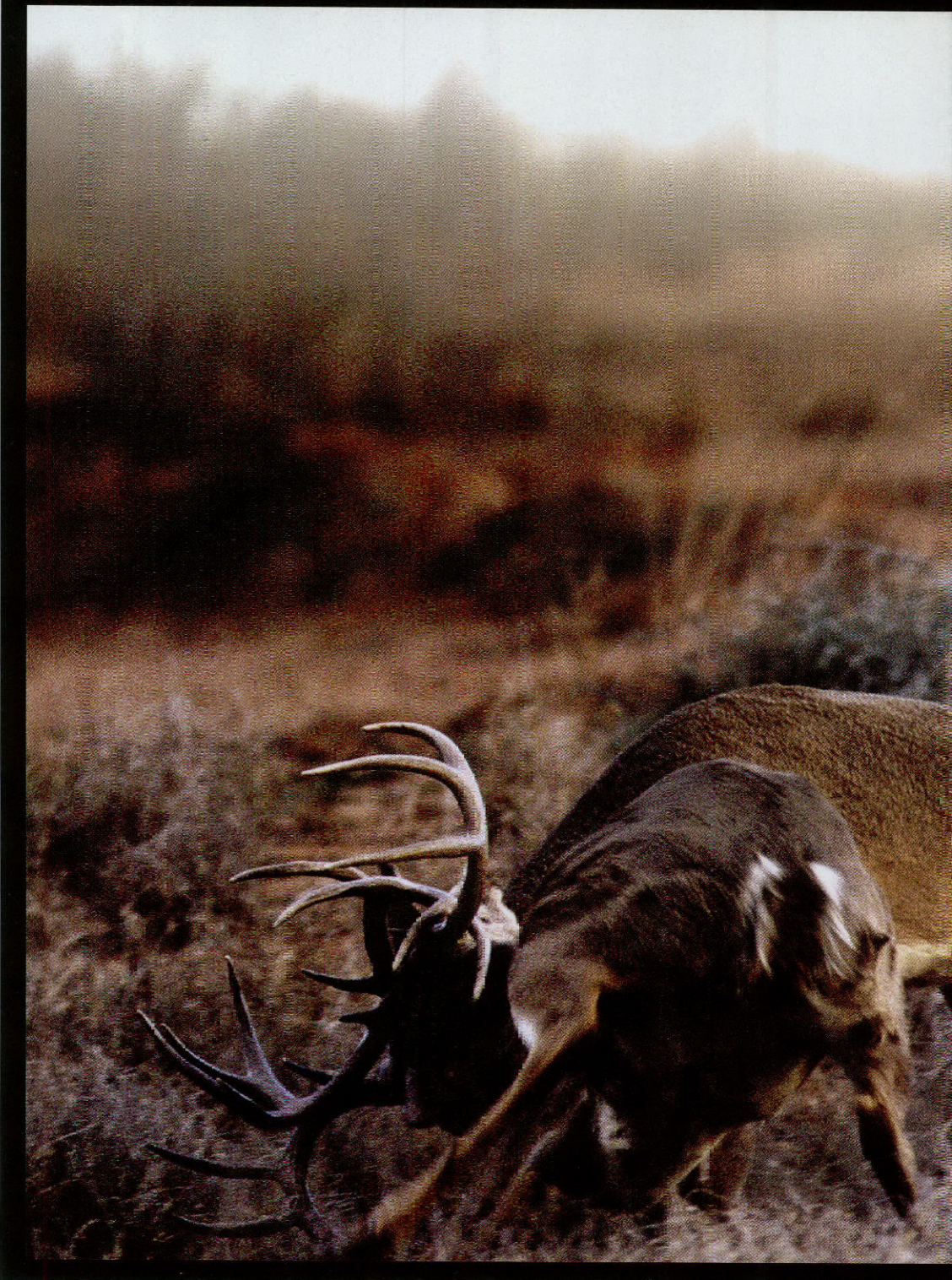


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# Action!



*A selection of  
Wyman Meinzer's  
best shots of Texas  
wildlife in motion.*

Text and photos by  
Wyman Meinzer

The headlights of my truck swept the rolling plains grassland, exposing a light snow that had fallen in the early morning hours. I dreaded leaving the pickup to face the cold morning wind, but to increase my chances of getting the action photos I needed, remaining mobile and away from the vehicle was my only viable option. The conditions were right for some exceptional images, but first I had to make contact with

one of the most elusive creatures on the Texas plains. Warming my hands for one last time I grabbed my camera and trudged into the cold predawn gloom.

Despite the popularity of portrait photos so prevalent in wildlife photography today, the ultimate goal in my personal work has been to communicate, where possible, the dynamics of wildlife behavior through action. My philosophy dic-





*A pair of mature whitetail bucks duel it out in the gloom of a winter evening on the open plains in King County.*

Canon F1N with Canon 500mm F4.5L lens and Velvia 50 film pushed to 100 ISO.



tates that action lends to a tangible realism that more successfully brings the reader into the world of the wild ones. Whether I am focusing my lenses on reptile, insect, mammal or avian subjects, I continue to explore the possibilities of action as a tool for presenting a natural history perspective of my subjects to the reader.

With numb fingers grasping the heavy camera and lens, I crept to the ridge line just as the sun spilled its

warm rays over the frozen landscape. On a distant hill and standing in the first ray of morning light was the form of a coyote facing the eastern horizon and scanning the vast landscape before him. This photo alone was worth the freezing effort already exerted but before I could focus the lens and shoot, the coyote sent forth a quavering howl across the open plains, giving me an opportunity I could not have imagined only mo-

ments before. That photo proved to be a crowning achievement in my career up to that time, and it was the beginning of a passion for action that continues to influence my work to this day.

Over the next few pages I offer the reader a rare glimpse into a realm of wildlife photography least traveled. Through words and images, join me in a study of wildlife behavior in the natural state of motion. ★



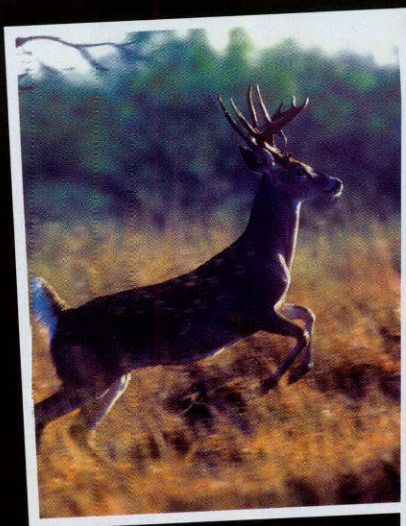


*A rare patternless diamondback checks his options via heat detection with its tongue as it inches quite close to the front element of my camera lens.*

Canon DigitalIS<sup>II</sup> and Canon 70-200mm F2.8L with extender tubes. ISO 100.

*A free-ranging trophy whitetail dashes to the cover of brush as I pan the action.*

Canon F1N and Canon 500mm F4.5L with Velvia 50 film.







*A large male coyote tracks directly to my position, licking his chops in anticipation of a prospective meal.*

Canon Digital Mark IIN and Canon 400mm F5.6L ISO 100.



*A large western diamondback exposes the tools of its trade by flexing its jaws in an awe-inspiring show of defiance.*

Mark IIN and Canon 400mm F5.6L with extension tubes. ISO 100.



*A rare glimpse of a Texas roadrunner killing a collared lizard by beating it to death on a stone. The roadrunner crushes the skeletal frame to make it easier to consume.*

Canon F1N and Canon 300mm F2.8L with 50 filter.





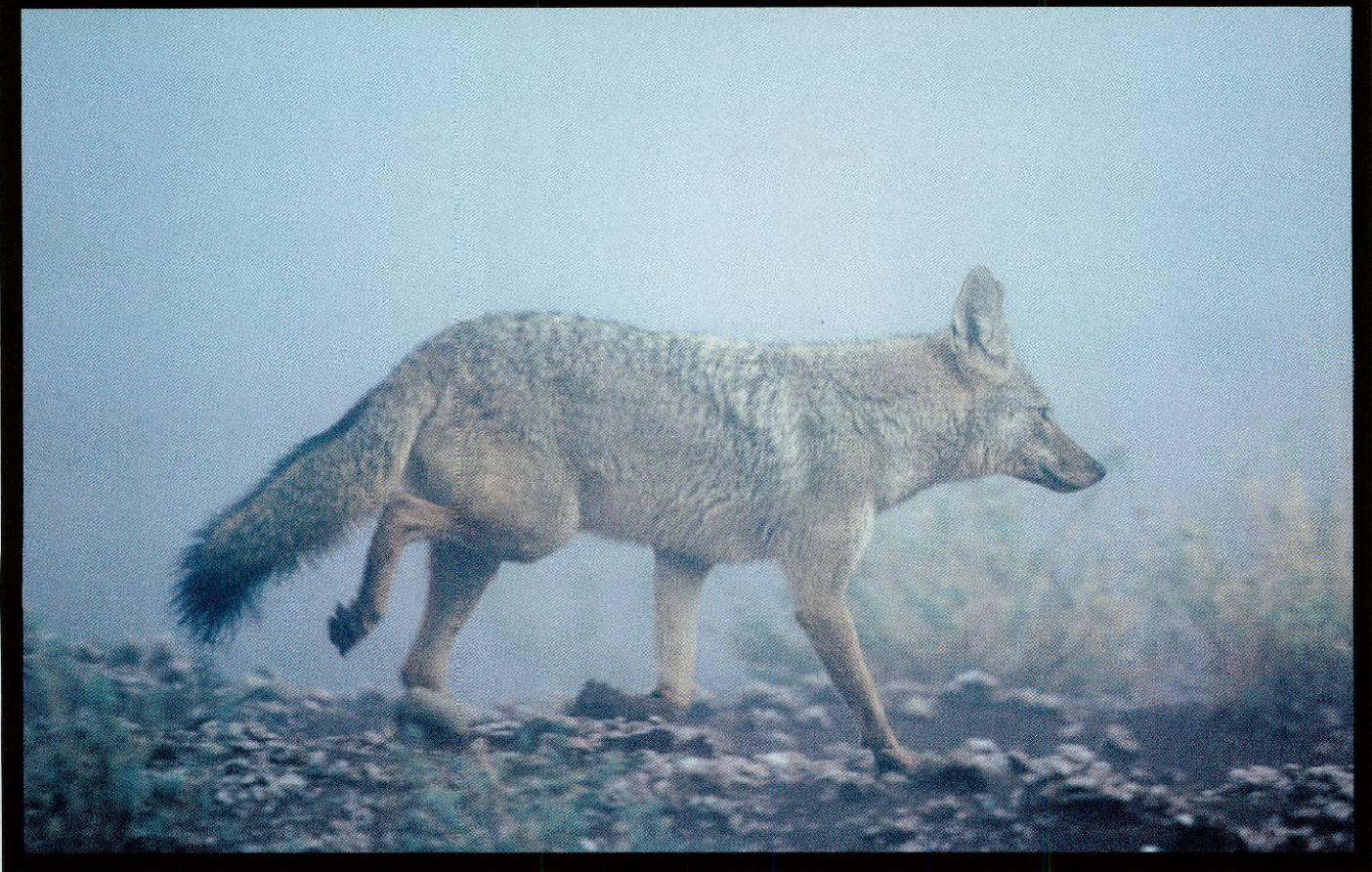


*A red-tailed hawk feeds on a cottontail rabbit in the North Texas badlands.*

Canon ECS 1N and  
Canon 70-200 F2.8L  
with Velvia 50 film







*A Rolling Plains coyote uses the cover of a winter fog in an attempt to escape detection.*

Canon F1N and Canon 500mm F4.5 with Velvia 50 film.

*A harrier hawk with blazing eyes banks abruptly over the Texas plains.*

Canon EOS 1N and Canon 70-200 F2.8L with Velvia 50 film.







*A young bobcat thinks he is out of danger some 10 feet up in a small mesquite tree near Fort Davis.*

Canon Mark IIN and Canon 70-200 F2.8L 100 ISO.

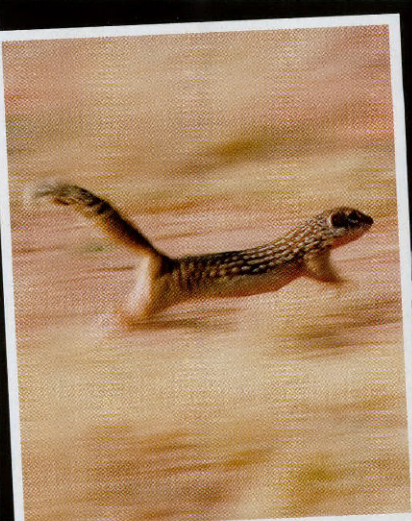
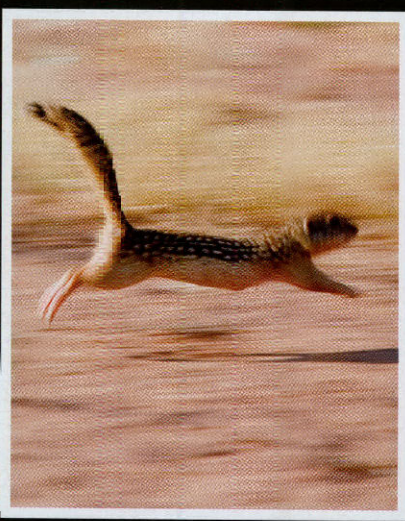
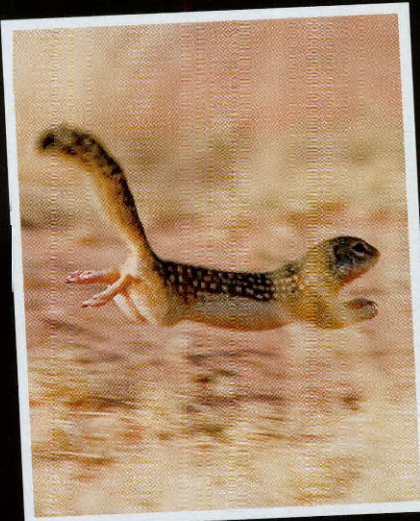


Canon F1N and Canon 500mm F4.5L with Kodachrome 64 film.

*A coyote rejoices at the dawn of a new day on this frosty winter morning in King County.*

*A Mexican ground squirrel scampers toward his den on a summer morning in Knox County.*

Canon Mark IIN and Canon 70-200 F2.8L 100 ISO.







△  
.....  
Canon F1N and Canon  
500mm F4.5L with Velvia  
50 film.

*An immature prairie  
dog tries out his teeth  
on a spring flower in  
the Rolling Plains.*





PHOTO © LAURENCE PARENT

LOST MAPLES STATE NATURAL AREA



IN SEARCH OF

# Bigtooth

BY ROB MCCORKLE

*Though difficult to find and hard to grow from seed, the bigtooth maple matures into a colorful, hardy, disease-resistant beauty.*

THE ANCESTORS of modern bigtooth maples were thriving in Texas during the last Ice Age some 10,000 years ago, when ice sheets advanced across North America before retreating. Scattered stands of the trees still survive in sheltered canyons in Central and West Texas.

As the continent's ice sheets shrunk northward during the beginning of the Holocene Epoch at the end of the Pleistocene, and Mexican seas retreated from what is now Texas, the climate began to warm up and dry out. Pockets of the relict tree species were left behind primarily in the cool, moist, shaded canyons of the Sabinal and Frio rivers in Bandera, Real and Uvalde counties, and the mountains of West Texas. There are also bigtooth maples along Cibolo Creek in Kendall County, as well as woodlands where bigtooth maples are common at Fort Hood in Bell County.







GUADALUPE MOUNTAINS STATE PARK

*Bigtooth maples, once established, are hardy, drought-tolerant, practically disease-free and moderately fast growers.*

Patches of the bigtooth maple (*Acer grandidentatum* Nutt.) are also found in western Oklahoma, northern Mexico and the mountains of the western U.S., with the largest concentration of bigtooths covering large swaths of mountain forests east of Salt Lake City, Utah.

A state natural area near Vanderpool — Lost Maples — pays tribute to this tenacious hardwood whose colorful fall foliage draws tens of thousands of leaf-peepers each fall. A good explanation of the bigtooth maple's geographical distribution and botanical classification can be found inside the exhibit hall of Lost Maples' visitor center.

Before the Pleistocene Ice Ages, the maple's ancestral stock — from which sugar maples would evolve — had already appeared.

It spread across the northern part of the continent, with a western type in the mountains and eastern type in the forests. As ice advanced, North American forests migrated southward and maples migrated also. The western type became the bigtooth maple. During one of the advances, it reached the Balcones Escarpment and Sabinal Canyon.

The bigtooth maple is a distant cousin of the eastern sugar maple, from which sweet syrup is derived, but is more closely related to the chalk, black, Florida or Southern maple and the Guatemala and sugar maple. All are species of the genus *Acer* that includes more than 150 species of maple trees, shrubs and vines.

The bigtooth maple also is known by a handful of other names, including the canyon maple, Sabinal maple, Uvalde bigtooth maple, Southwestern bigtooth maple and Western sugar maple.

The state natural area provides easy public access to a number of old-growth bigtooth maples, but the showy tree also is quite prolific on private ranches, where they have survived to maturity without succumbing in earlier years to roaming armies of browsing white-tailed deer that find the foliage a sweet snack. Though the bigtooths prefer the cooler, wetter climate at higher elevations, they have done well in the Sabinal Canyon country, where the highest elevation is around 2,000 feet.

Jesus Rubio, park ranger at Lost Maples





SNA, likes to point out to visitors the state champion bigtooth that rises 40 feet from the Sabinal Canyon floor at the head of the park's popular Maple Trail. In 2006, the Texas Forest Service recorded the tree as having an 85-inch trunk circumference and 45-foot crown spread.

"The maples begin to color in late October if we get some cool, crisp nights," Rubio says. "They'll usually peak out the first half of November. That's what draws the crowds, upwards of 80,000 people in the span of six weeks."

The Maple Trail is one of the easiest trails to access in the park — and with giant boulders, soaring limestone canyon walls, springs and the idyllic Sabinal River — one of the most scenic pathways. A wayside exhibit at the trailhead points out how to easily identify the prehistoric tree, which some people confuse with the common sycamore that has much larger leaves and lobes, or "teeth." Contrary to its name, don't expect the bigtooth maple, the sign reads, to have "big leaves or very many teeth."

Farther down the trail lies the Maple Grove. An interpretive panel explains why the maples



LOST MAPLES STATE NATURAL AREA



thrive in the mostly shaded and cool environment blessed with fertile soil and limestone-sweetened groundwater.

"The environment down in these canyons is like a terrarium," explains Rubio, pointing to small openings in the canyon walls where springs seep through during rainy spells. "You can walk into some of these areas when it's 100 degrees up on the flats and immediately feel the difference in temperature."

As a small, savvy group of Texas nurserymen are discovering, bigtooth maples, once established, are hardy, drought-tolerant, practically disease-free and moderately fast growers that add as much as three feet of growth annually. But it is the tree's autumn foliage, ablaze in hues of yellow, orange and red, that is making the bigtooth an increasingly popular landscaping choice in all but the coastal plains' salty environment.

Given enough cold nights and sunny days in early fall, these Texas natives can light up a suburban yard or countryside. Just ask Baxter Adams.

His love affair with the bigtooth maple began shortly after moving to a ranch on Love Creek west of Medina in 1981 to grow apples, which quickly turned into a profitable operation. However, it was the colorful bigtooth maples that turned out to be an eye-popping surprise for the Waco native.

"I woke up one morning," Adams says,

"and looked out across the countryside, and said, 'Jesus, what is this?' I'd never seen a maple tree in color before. I was amazed."


But when the retired oilman-turned-farmer tried to find someone to sell him some of the maples, he found nobody was really growing them commercially. When winter arrived, he and his wife, Carol, waited until the hundreds of little maple seedlings inside a fenced area went dormant, dug them up and transplanted them to containers.

After years of trial and error with different fertilizers, varying amounts of watering and the like, Adams discovered he could grow the bigtooths by giving them moderate care and the right fertilizer, a timed-release product called Osmocote.

He soon found the sale of the bigtooths to builders, landscapers and individuals eclipsing his popular Medina-grown apples. Adams, now one of the largest growers of bigtooth maples in Texas, struggles to meet the demand for the maples, which he transplants from fertile farmland on State Highway 16 in Medina when they reach four to five feet.

In 2006, Adams sold out of his 7- to 14-footers grown in cloth containers, called grow bags. Big trees were in short supply the following year. "The tree has really gotten popular, and there's a reason for it. It's turned out to be a terrific tree," he says.

Though the bigtooths' foliage won't be as



*Contrary to its name, don't expect the bigtooth maple to have big leaves or very many teeth.*



PHOTOS © LAURENCE PARENT

LOST MAPLES STATE NATURAL AREA



## WHERE TO BUY BIGTOOTH MAPLES

dazzling in warmer climes, such as Houston, they will grow like gangbusters given ample rainfall and fertile soil. But in the cooler, drier limestone hills of central Texas, bigtooth maple fever is spreading to cities such as Boerne, located close to the native tree's easternmost range.

Adams' Love Creek Nursery has sold more than 100 field-grown bigtooths each of the past two years to the Boerne Chapter of the Native Plant Society of Texas. The organization launched a "Bigtooth Maples for Boerne, Texas" campaign in 2006.

Backed by a grant from the Lende Foundation and with support from others, including the Cibolo Nature Center and the Boerne Parks & Recreation Department, the native plant organization "adopts out" trees to qualified businesses, civic groups and individuals, who pledge to take care of the maples and plant them inside the city limits.

"We want to reintroduce the bigtooth maple to Boerne, where trees have been negatively impacted by deer and development," says Suzanne Young, who manages the two-year-old bigtooth project designed to put the town on the fall foliage tour map. "You know, everyone goes to New England for autumn color, but they need to realize we have beautiful fall colors here in Texas, too, just a little later in the season."

And, Young adds, once a person hears the story of the bigtooth maple's history, "How can you not want to plant one?" ☆

One of the greatest challenges of growing bigtooth maples is trying to find a place to buy the trees. That paucity speaks to the difficulty of trying to propagate the hardy tree from its delicate, double-winged seed pods, or samaras.

The trees don't normally seed every year, but when they do, the foliage won't produce good color. Seeds can germinate many years after they fall, not all in one year.

Love Creek Nursery, a leading producer of the trees for more than 20 years, is still struggling to crack the seed's germination code, but is enjoying continued success at raising tiny saplings to maturity for sale to both wholesalers and individuals.

Love Creek maples retail from \$40 for a 5-gallon container to \$125 for a 20- to 25-gallon tree. They are sold from mid-December through mid-March. The nursery and Cedar Mill restaurant/gift store are located in Medina, the "Apple Capital of Texas." Call (800) 449-0882 or visit online at <[www.lovecreekorchards.com](http://www.lovecreekorchards.com)>.

A few Hill Country growers, however, are enjoying some success collecting and germinating the tiny one-inch, rose-colored seed that matures in September.

Chuck Zanzow, a science teacher at Boerne High School, has been propagating a small quantity of the bigtooths from seeds for a number of years. He operates Green Cloud Native Plants, a small wholesale nursery. Call (830) 249-3844.

David Winningham has been selling bigtooth maples at his Natives of Texas Nursery on Highway 16 between Medina and Kerrville for about 10 years. His retail nursery specializes in a host of native plants and trees, including the Texas madrone, another Ice Age relict species.

Nursery manager Pablo Cruces, a native of Guanajuato, Mexico, tends to his hot-house of tiny seedlings sprouted from the seeds he has collected. It doesn't take a rocket scientist to raise the native bigtooths, though Winningham is just that, retired from NASA. But it does take patience and perseverance.

Maples are hard to grow in quantity, but aren't as labor intensive as the madrone, according to Winningham, who says maples will always be a specialty item.

During the summer of 2007, the largest bigtooths he had in stock were 5 to 6 feet tall, selling for \$110. He'll sell you a one-footer in a one-gallon pot for as little as \$10. Call (830) 896-2169 or drop by the nursery in a gorgeous Hill Country setting.

Winningham champions the bigtooth because it is a part of Texas history.

"They come from a time when our climate was a lot cooler. It's an example, like the madrone, of a plant that can survive climate changes. When the climate changes again, and it gets cooler, they'll come back out of the canyons, repopulate and become a more dominant species."

Watson Farms on U.S. Highway 290 in Stonewall also sells bigtooth maples. Though Sam and Jo Ann have been raising the trees for 10 years, 2006 was the first year the trees flowered. They have about 900 maples planted on their 15-acre farm on Old San Antonio Road just east of Fredericksburg.

"When we first started growing them," Jo Ann Watson says, "it was a landscaper tree. Now we're having a second run of customers who bought the trees six years ago and decided they are wonderful trees — attractive, hardy and relatively fast growing."

Watson Farms sells most of its bigtooth crop locally, with Austin being a strong customer base. "They're in tremendous demand," says Watson, who along with her husband start field-digging the trees each January to prepare for sale.

For more information about Watson Farms and bigtooth maple tree availability, call (830) 644-2616.

Retailers who might have bigtooths in stock include: Covington Nursery in Rowlett, (972) 475-5888; Barton Springs Nursery, (512) 328-6655; Skinner Nurseries in Manor, (512) 278-0997; Texas Grown Plants, (512) 288-0806; Ted's Trees in Austin, (512) 928-8733; Rainbow Gardens, (210) 680-2394; Milberger's Landscaping and Nursery in San Antonio, (210) 497-3760; Dodds Family Tree Nursery & Florist in Fredericksburg, (830) 997-9571; and Hill Country African Violets and Nursery in Boerne, (830) 249-2614.









By Sheryl Smith-Rodgers

# WEB

**SPIDERS SPIN A MYSTERIOUS  
MASTERPIECE AT LAKE TAWAKONI — AND  
IGNITE A MEDIA FRENZY.**

# MANIA!

AS SOON AS THE NEWS MADE HEADLINES ACROSS TEXAS — and around the globe — I fired off an e-mail: I want this assignment! Though sent as a joke, I was serious, too. Imagine my surprise when I read the reply: Hightail it up there! The next morning, long before sunrise, I jumped in my car and hurried north to Lake Tawakoni State Park east of Dallas, where massive amounts of spiderwebs enshrouded trees and other vegetation on a remote hiking trail.

Along the way, I followed Mike Quirn, an invertebrate biologist with the Texas Parks and Wildlife Department, who'd been watching the webs via online photos. He wanted to look at the scene firsthand and collect specimens. Like other biologists and arachnologists, he was baffled. Had scores of spiderlings tried to disperse? Or had social spiders taken up residence in the park? Why had so many spiders — which by nature are normally solitary — congregated in one area? What species would he find?

As for myself, I couldn't wait to see the web. Spiders have long fascinated me. Several years ago, I bought a plethora of spider books and read all I could. I'd kept an assortment of live spiders, raised three tarantula spiderlings and shared my passion with anyone who'd listen. Today — the last day of August — I would witness a genuine spider phenomenon that had the whole world talking.

PHOTO © TOM PENNINGTON/FORT WORTH STAR-TELEGRAM





## REMARKABLE DISCOVERY

No one's quite sure when construction began on the park's giant web. But Kim Feuerbacher of Rockwall and her son Trent saw something in early summer. While biking on a trail on the park's north side, they braked when they came upon thousands of silvery strands, strung high and glistening in several post oaks. "It was beautiful, but we couldn't get off that trail fast enough!" recalls Feuerbacher, who mentioned what they'd seen only to her husband.

In the following weeks, endless rains and muddy conditions kept most visitors off the trails. Finally, a dry spell came August 6, which meant park ranger Freddie Gowin could get back on a mower. While on a nature trail, he rounded a curve, then gaped dumbfounded. "The web was plumb across the trail and all over the trees!" he says. "I had to drive through it to finish mowing."

Nine days later, superintendent Donna Garde photographed what she called a "white fairyland" of gossamer that enveloped six trees, underlying vegetation and the ground. The photos were e-mailed August 24 to TPWD biologist Mike Quinn and other entomologists. Stunned and befuddled, he forwarded the startling images to several more spider experts across the nation.

Reponses boomeranged back. Some speculated that the web belonged to a social cobweb spider (*Anelosimus studicus*) known to coexist in colonies, where females cooperatively capture prey and care for young. Others theorized that spiderlings had attempted a "mass dispersal," behavior associated with "ballooning" (when spiderlings release strands of silk into the air and float away to a new location).

Meanwhile, news of the web broke August 29 in the *Fort Worth Star-Telegram*. Quickly, other print and broadcast media from across the country—and around the world—jumped on the story. Reporters as well as curious visitors streamed into the park; staff fielded relentless inquiries by phone. Over Labor Day weekend, more than 3,300 people hiked the trail to see the web, damaged by recent rains but still active with spiders.

## SPIDERS COLLECTED

The media frenzy had slowed only slightly by the time Mike Quinn and I arrived Friday, August 31. A newspaper reporter who'd made the quarter-mile trek (one way) numerous times led the way. He escorted us down the dirt trail, which cut across a small grassy prairie, then through thick woods. The path continued across a clearing; from there, we could see Lake Tawakoni. We rounded a clump of shrubs, then joined a small group of people standing beneath an eerie canopy. Around us, foliage drooped beneath dark gauze littered with debris and bug bodies. Brown and deteriorated, some long, thick webs hung like Spanish moss. Sunshine filtered through holes and tears in the webs, casting a hazy light on the strange scene.

Beneath hackberries, junipers and post oaks that reached at least 25 feet high, more webs covered saplings, vines, grass and fallen limbs. The musty odor of decay permeated the hot, humid air. "This is like nothing I've seen before!" Quinn declared. Then he and Joe Lapp, a spider enthusiast from Austin, examined web after



QUINN PHOTO © SHIRLEY SMITH-RODGERS. OTHERS BY TPWD

web, identifying spiders and insects as they worked. "The predominant species is definitely a long-jawed orbweaver," Quinn concluded.

Indeed, countless numbers of tetragnathids—a long-legged spider with an elongated body—clustered within inches of one another in the dense webs. I looked up and saw more on locusts, tangled webs strung high between branches and from tree to tree. Many were folded in a characteristic lengthwise position, their bodies silhouetted against the blue sky.

Typically, tetragnathids singularly spin and catch prey in round "orb" webs, often built horizontally





Clockwise from top left: Live and dead insects — grasshoppers, mosquitoes, gnat-like midges and other insects — were stuck to the giant web. As it deteriorated, the web turned brown and hung from the trees like Spanish moss. Funnel-shaped webs indicated the presence of funnel weaver spiders. TPWD biologist Mike Quinn used a “beat sheet” to collect spiders from the web.

near water and in close proximity to other long-jawed orbweavers. As its name suggests, this species has a long pair of jaws (chelicerae) equipped with fangs that inject venom to paralyze insects. (Only the venom of black widows and brown recluses is harmful — but not fatal — to humans.)

At Lake Tawakoni, though, tetragnathids had changed their behavior. Very few had built normal orb webs. Why? Experts would later try to answer that question and more.

“There’s certainly a lot of food here,” Lapp observed as he peered at one tangled web. “Look, that jumping spider got a cricket!” Everywhere, carcasses of grasshoppers, mosquitoes, gnat-like midges and other insects — including live ones and dead spiders, too — stuck to the webs. Excessive rains had evidently caused an explosion in mosquito and midge populations.

Other spiders inhabited the area, too. In some poison ivy, I spotted a female wolf spider carrying a mass of tiny spiderlings on her back. Within a jungle of high weeds, a yellow garden spider hung upside down on her orb web. Tubular-shaped webs on tree limbs indicated the presence of funnel weaver spiders. Numerous species of jumping spiders — which stalk their prey like a cat — lurked nearly everywhere.

### EXPERTS WEIGH IN

After several hours, I headed home, exhausted. Quinn and Lapp, though, stayed until well past dark, collecting spiders and observing their behavior. On Saturday, Quinn delivered 250 specimens to Allen Dean, a research assistant in the Texas A&M University Insect Collection. Dean, who specializes in spider taxonomy, spent most of the next day analyzing spiders under a microscope. His findings: tetragnathids — specifically *Tetragnatha guatemalensis* — comprised 60 percent of the sampling. Jumping spiders accounted for 18.4 percent and orbweavers, 7.6 percent. In all, Dean identified 12 different families and at least 16 genera.

“Since the world was waiting to find out what spiders were there, I took my time because I had to be certain of the identifications,” says Dean, who later visited the webs in September. “Once you release a list, you can’t make corrections.” By Monday (Labor Day), Garde had hard data to share with reporters and visitors alike.

### SOLVING THE MYSTERY

Bolstered by the identifications and activity reports from the site, experts could better explain Lake Tawakoni’s giant web. According to John Jackman, professor and extension entomology specialist at Texas A&M, a bumper crop of bugs can trigger massive webbing and even affect spider behavior.





"It seems to be documented in the literature that if you have an abundance of food, spiders throw out additional webbing and even crawl into each other's webs," says Jackman, author of *A Field Guide to Spiders and Scorpions of Texas*. "Then they just sit there and eat the abundant food, so they're not regulating each other by feeding on spiders. We've had other reports similar to this, and they seem to occur near a lake or a light."

Norman Horner, emeritus biology professor and spider expert at Midwestern State University, visited the state park September 14 with assistant biology professor Roy Vogtsberger. Like Jackman, Horner believes that food plays a key role in understanding spider dynamics at Lake Tawakoni.

First of all, ample food at the start of a spider's life cycle can lead to higher spider numbers. That's because females lay hundreds of eggs within a sac, but only a few survive, Horner says. In nature, they're eaten by one another or by larger spiders and other predators. If there are more food sources to go around, then more spiderlings survive and molt into adults (spiders "grow" by shedding their hard exoskeletons).

High survival rates coupled with still abundant food kept long-jawed orbweavers (and other species) busily spinning at Lake Tawakoni. "Normally, tetragnathids are a solitary spider that will get in close association to one another but not share a web," Horner says. "Spiders will feed on one another, even if they're the same species. But we didn't notice any cannibalism there at all. Based on what I saw, these tetragnathids have moved from a solitary existence into a semi-social communal web."

Another observation: "Interestingly enough, it appeared that the spiders at the state park were not using the webs to trap prey but to grab it as it came by," Horner says.

## WORLDWIDE ATTENTION

Quinn — who posted and regularly updated a Web site on the giant spiderweb — was not only intrigued by the rare phenomenon but also how the story and related photographs fascinated the entire world. Media called and e-mailed from Australia, England, Norway, Germany, China and even the Middle East. American markets ranged from *Time*, *Today Show*, CNN and National Public Radio to *Ranger Rick*, *Scholastic News* and Martha Stewart's TV show. On the *New York Times* Web site (August 31), the Texas web ranked "number one e-mailed story of the day."

In subsequent weeks, other researchers, too, spent long hours at Lake Tawakoni. Though the spiders and web have since died off, forthcoming documentary programs, scientific papers and magazine articles will keep interest stirred. "I love how this is bringing a lot more data into the scientific community," Garde says. "And the publicity for our park has been incredible."

## HOW UNIQUE WAS THE TEXAS WEB?

"That was a big question people asked," Quinn reflects. "The fact that the story went wall to wall (around the world) and few reports came back on similar occurrences, well, that says something!"

As for the future, "It will be interesting to see what happens next summer," Horner muses. "Nature has a way of bringing things back in line."

## EPILOGUE

The saga continued October 1 when reports came of similar webs spread across trees at Wind Point Park across Lake Tawakoni. While surveying the state park site that day, Joe Lapp and Hank Guarisco (adjunct curator of arachnids at the Sternberg Museum of Natural History at Fort Hays State University in Hays, Kansas) drove to the privately owned park. There they found mostly long-jawed orbweavers but also social cobweb spiders, too.

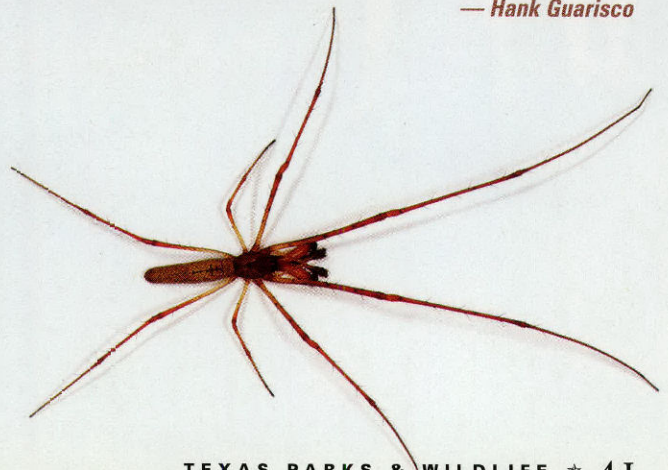
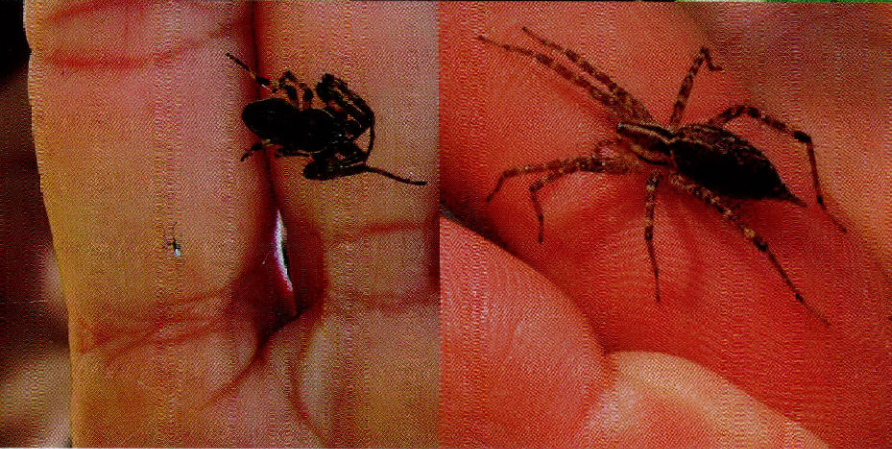
Three days later, Lapp confirmed another large tetragnathid web — this one near Lake Travis. For a detailed timeline, and ongoing updates, visit [texasento.net/Social\\_Spider.htm](http://texasento.net/Social_Spider.htm). For more information about this web and similar webs around Texas, see a multimedia journal at Joe Lapp's Web site, [www.SpiderJoe.com](http://www.SpiderJoe.com). ★



PHOTO BY EARL NOTTINGHAM/TPWD

Above: Nature photographers flocked to Lake Tawakoni to capture images of the spiderweb spectacle. Opposite, from the top: atop poison ivy, a female wolf spider carries a mass of tiny spiderlings on her abdomen; funnel weaver spiders like this one were among species found on the web; female funnel weaver; a yellow garden spider hangs upside-down on her orb web; a long-jawed orbweaver.





## ON THE NIGHT WATCH

*Spiders became more aggressive — even cannibalistic — after dark.*

I spent about 10 days camping in Lake Tawakoni State Park during September and October, observing the giant web and its resident spiders. The main actor in this somewhat surrealistic arachnid play was a species of long-jawed spider (*Tetragnatha guatemalensis*), which was often found in great numbers resting in the web during the day.

Although I saw mating and prey capture during the day, the real action on the giant spiderweb began after the sun went down. After dark, three supporting actors — other species of orb-weaving spiders that remained hidden while resting in the vegetation during the day (*Larinioides cornutus*, *Metazygia wittfeldae*, and *Neoscona crucifera*) — came on stage and joined in the hurried web-building activity of the female long-jawed spiders. Each spider built a circular orb web to catch the hordes of small flies that rose into the trees after sunset. Space was limited, so the spiders attached their webs to any available structure, including their neighbors' webs. Under normal conditions, they are very protective of their personal space, but with the almost unlimited food supply, they became much more tolerant of one another.

As male long-jawed spiders wandered in search of food and females, they frequently invaded the outer edges of newly constructed orbs without triggering aggressive reactions from their owners, which were usually too busy eating to mind the disturbance.

As food became scarcer, however, this arachnid play took a darker turn. The densely packed long-jawed spiders became very aggressive and scenes of cannibalism became commonplace on the giant web. Females attacked other females, males and juveniles. Spiders became an important part of their diet at this stage.

One of the three supporting actors (*Neoscona crucifera*) was responsible for some of the large silk streamers suspended among the trees. This spider built large orb webs in open spaces between trees that are often 15 to 20 feet apart. Before sunrise, the spider ate its own orb web but left the framework of silk suspended between the trees. Long-jawed spiders and others traveled across this silken "super highway," laying down their own dragline silk as they went. Eventually, the heavy traffic created a wide silk band between the trees.

— Hank Guarisco

TOP & MIDDLE RIGHT © SHERYL SMITH-RODGERS; MIDDLE LEFT & BOTTOM LEFT BY TPWD; BOTTOM RIGHT © JOE LAPP



# Get Online,



Bogart Cooper © 2007

ILLUSTRATION BY BOGART COOPER/TPWD



# Get Outside

BY KATIE ARMSTRONG

SAVVY OUTDOORS ENTHUSIASTS USE THE INTERNET TO CONGREGATE, NOT ISOLATE.

WHILE WORKING FROM HIS AUSTIN HOME, Brian Greenstone can openly do what many cubicle dwellers have to do in secret: search the Internet for fun stuff to do. When he finds an interesting outdoor activity, from spelunking at Loughorn Cavern to touring the scenic gorge at Canyon Lake, he logs in to [hillcountryoutdoors.com](http://hillcountryoutdoors.com) and posts a brief description of the event. Then other club members can sign up and simply show up at the appointed time and place. Anyone who has ever tried to get three friends to agree on a movie, a restaurant or an outdoor activity will quickly learn to appreciate the convenience of online scheduling.

As a member of Hill Country Outdoors, Greenstone and others like him are discovering that the Internet is a tool that brings people together — in real life, not just online. Instead of keeping people isolated and inside, outdoor-oriented Web sites and listservs are helping birders, anglers, hunters and hikers get together to enjoy the Texas outdoors.

Whether you're passionate about casting for bass or spying on the blue jays in your backyard, you'll be sure to find a community of like-minded folks online. Here are five services that help you find people who enjoy the outdoors as much as you do — and you don't have to be an Internet whiz to take advantage of them.

## ( GENERAL OUTDOORS | HILL COUNTRY OUTDOORS )

Austin-based Hill Country Outdoors is an outdoor-oriented social club that schedules a variety of events every week. Members can hike, tube, kayak, camp and participate in organized sports. More adventurous outings include special trips to Big Bend and other national parks and travel outside the U.S.

"A lot of people are trying things they would never try, like windsurfing, caving, skydiving," says Kieve Garner, who's been an event leader for about a year. "It offers them the opportunity to stretch their comfort zone."

HCO started as a club with a Web site in 2001 and now has up to 550 members, says Bill Talbot, the club's owner.

"We try to introduce people to different activities, and a lot of our events have the beginner in mind," he says. "It's done well in Austin because we've got the greenbelt in our backyard and there's so

much to do within an hour or two."

Members can participate in as many activities as they choose, using a calendar on HCO's Web site to register for events. Members can also post personal profiles on the Web site with information and pictures, and e-mail other members. There are also active message boards geared toward specific activities, like team sports and camping.

HCO is affiliated with the American Outdoor Network, and HCO members can participate in other clubs' activities. Other Texas outdoor clubs are Bayou City Outdoors in Houston, DFW Outdoors in Dallas/Fort Worth and Adventure Club S.A. in San Antonio.

Five to 10 events per month are open to the public. Basic membership costs \$24.95 per month, with options for semi-annual and annual membership rates.

<[www.hillcountryoutdoors.com](http://www.hillcountryoutdoors.com)>



PHOTO BY TPWD





Texas Fishing Forum bills itself as the “best place in Texas to talk fishing.” More than 25,000 registered members do just that. TFF hosts forums dedicated to everything to do with fishing: there are forums about boats, tournaments, freshwater fishing, salt-water fishing, fly fishing, bass, catfish, crappie and even kayak fishing.

Members can post pictures within forums, as well as link to sites like <www.myfishingpictures.com> and <www.photobucket.com> to share photos of the big ones that didn't get away.

Registration is free, and after signing up users can trade tips, share stories and ask questions. Members can also have profiles on the Web site and send messages to each other.

Two fishing buddies, Ben Moore of Grapevine and L.J. Bybee of Azle, met through TFF's partner-finder function. Bybee usually fished with co-workers, but after retiring he needed a new way to find fellow anglers. Moore was looking for someone to share his boat and expenses with. A posting and a reply later, the two set up an initial fishing trip and have been floating the waters of Lakes Texoma and Tawakoni for strong fighting fish nearly every weekend since.

“It has worked out great with Ben,” says Bybee. “He has become a good friend and I enjoy fishing with him.”

TFF even has a tournament for trash-talking anglers, which began when moderator Bob Smith noticed that anglers were fighting and complaining through

the forum during the rainy 2005-06 winter. Looking to channel that energy into something constructive, he created the Match Play tournament. Participating anglers are grouped into five two-person squads. The rival teams are then “matched” to each other, and over the forum they make a connection, pick a lake and start trash-talking.

“We like calling it the art of being a smart-arse,” says Smith. “Everyone else can chime in on the fun as well.”

Then the rivals meet and compete with each other to see if they bagged as much as they bragged. The tournament concludes with a “fish-off,” where the top two teams compete for the title and

all the anglers can meet each other face to face.

“The thing that makes this so great is the opportunity to release a lot of frustration in a fun way, but more importantly you get to meet a lot of people in a low-key, low-risk setting,” says Smith. “There have been great friendships that evolved out of this game.”

<www.texasfishingforum.com>

### One to Watch: Angling Masters

Launched in early 2007, Angling Masters is a freshwater fishing-oriented social networking Web site, similar to MySpace. The site is the project of co-founder Dave Abbott, a lifelong fisherman who envisioned an easy way for anglers to share fishing stories and compare their catches.

It's free to become a member, or “build a cabin,” in Angling Masters-speak. Cabins consist of personal profiles, pictures and a fishing blog where members can share their “I-caught-one-this-big” stories. Members can also create and manage a list of online fishing buddies. Businesses and clubs can also have profiles, called “marinas.”

A unique feature of Angling Masters is its fish calculator function, which allows members to type in the variety and measurements of their catches. Using information about the typical size of each fish in different locations, the fish calculator awards points and rankings so anglers can compare their catches.

<www.anglingmasters.com>





Texas Lease Connection is designed to help hunters find leases and landowners find hunters. Landowners can post detailed profiles of their properties, including pictures. One Central Texas listing boasts that hunters can find “fish, hogs, varmints and whitetails” on the property.

Hunters can match their exact hunting preferences and search for leases by county, zip code, region of Texas, and game. Then they can narrow down their selections by price range, driving distance and amenities.

Texas Lease Connection also gives members the option of creating a personal profile and joining a members’ directory. A

partner-finder function helps hunters find new buddies to hunt with. The Web site also provides links to Texas hunting dates and resources like sunrise/sunset information and hunting tips.

A six-month membership with the Web site costs \$29.99.

<[www.texasleaseconnection.com](http://www.texasleaseconnection.com)>

TPWD is preparing to launch a similar service in May that will be free to use for all landowners and hunters. Landowners will be able to post detailed information about their leases, such as game available, allowed weapons, number of acres and the number of hunter positions available.

Hunters will be able to search by a vari-

ety of criteria, such as county, lease type, game, the number of hunters in the party and cost per hunter.

“The intent is to give people a free way of finding out where the land is, and helping landowners list their properties,” says Kathleen Martin, a Web administrator for TPWD.

<[www.tpwd.state.tx.us](http://www.tpwd.state.tx.us)>

Other hunting resources:

<[www.texashuntfish.com](http://www.texashuntfish.com)> — allows members to post journals and read hunting news and has product reviews.

<[www.texashuntingforum.com](http://www.texashuntingforum.com)> — has the same open-forum format as Texas Fishing Forum, only with a hunting focus.



Texbirds is an e-mail distribution list (or “listserv”) that reaches about 1,500 birders across the state. Founded in the mid-1990s, Texbirds is sponsored by the University of Houston. By keeping discussion focused on birds, Texbirds has built a solid reputation as a reliable and up-to-date source of information for birders of all levels.

“Some want to chase rare birds, some are working on conservation issues,” says list manager David Sarkozi. “Some of the world’s experts are members, some have just learned their first few birds. There is room for all of them.”

Some expert Texbirds users include Joshua Rose, program director at Bentsen-Rio Grande Valley State Park, Jennifer Owen, a natural resource specialist at Estero Llano Grande State Park, and John Arvin, research coordinator of the Gulf Coast Bird Observatory.

Using Texbirds is just like spreading birding information by word of mouth, only it reaches hundreds of Texas birders instantly. Subscribers can enlist the aid of fellow birders to identify birds, share their sightings and organize outings. Susan Schaezler, co-owner of Warbler Woods in Cibolo, uses Texbirds to alert birders about rare bird sightings in the preserve.

“Using Texbirds shares our sightings and excitement over our birds,” she says.

“Spontaneous birding trips is who we are and why the listserv exists,” says Barbara Ribble of Austin.

It is an understatement to say that birders will go to great lengths to see rare birds.

Instant communication from Texbirds provides the quick turnaround time that birders need to spot elusive species.

Birders from all over Texas and the U.S. descended on Big Bend National Park in August and September to glimpse the secretive fan-tailed warbler, which had never been seen in Texas before. Gail Morris of the Fort Worth Audubon Society made the nine-hour drive two weekends in a row to see the bird.

“We have even driven to Oklahoma to see a rarity,” says Morris. “Any rarity within nine hours is worth the drive!”

Wireless Internet keeps traveling birders connected with Texbirds. Wi-Fi access is available at all Texas safety rest areas and travel information centers. Many Texas RV parks also offer wireless Internet. Go to <[www.rvtravel.com/wifi.html](http://www.rvtravel.com/wifi.html)> for a list.

Subscriber Carol C. Ferguson says using Texbirds makes her feel like part of the birding community.

“Before finding Texbirds, I birded on my own, going to places that I knew were good for birds and where I had good experiences,” says Ferguson. “However, Texbirds not only put me in touch with places where certain birds were seen, but I received the benefit of debate and discussion between very knowledgeable Texas birders about bird behavior, bird physiology, migration, habits, whatever you can think of relating to birds.”

It is free to subscribe to Texbirds, and users need only an e-mail address to send and receive messages.

<[www.Texbirds.org](http://www.Texbirds.org)> ☆



# B R I N



Onion Creek Mosasaur  
*Mosasaurus maximus*

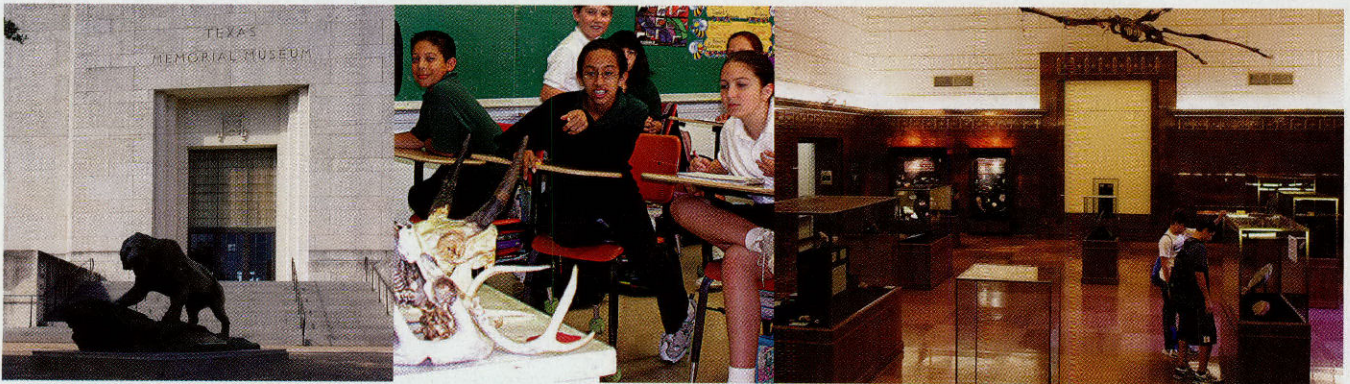


# GOING BONES TO LIF E

Renovations and a refocused mission signal a new beginning at the Texas Memorial Museum.



By Ben Rehder



**THE FOLKS AT THE TEXAS MEMORIAL MUSEUM** — the exhibit hall of the Texas Natural Science Center at the University of Texas in Austin — knew what they were doing when they designed the layout. As you enter through the main doors into the Great Hall on the second floor, the first thing you notice — how could you miss it? — is the skeleton of a giant birdlike creature soaring high above you. Suddenly you understand how a mouse must feel when being shadowed by a hawk. Thus are you introduced to the Texas pterosaur, a prime specimen of the largest flying animal ever found and rightly considered one of the greatest discoveries in the history of paleontology.

“It’s the thing people really remember,” says Ed Theriot, director of the TNSC since 1997. “Kids come in and they immediately notice it, and you hear them screaming about the big bird, and of course they want to know if it could eat you.” It couldn’t. What’s more, it wasn’t a bird, it was a reptile. More on that later.

First, a little background on the museum is in order, starting with the fact that its mission has been refined in recent years. For much of the museum’s 68-year history, its collections included a modest number of items related to cultural history: Navajo rugs, antique firearms, pre-Columbian pottery, Mex-

ican folk art and more. Today, those holdings are gone, and the emphasis is solely on the natural sciences. The changes began five years ago, under Theriot’s watch, and he calls the decision a “no-brainer.”

“Frankly, we didn’t have very much in the way of a cultural history collection in terms of numbers or one that told the story of Texas,” says Theriot. “With the advent of the Bob Bullock Texas State History Museum almost next door and the Center for American History collections here at UT already, we had become redundant. Our natural history collections, on the other hand, were extensive, with specimens or

objects from at least 95 percent of the counties in Texas, and we were very active in Texas natural science research. We didn’t change so much as our mission statement caught up with the reality of who we really were.”

The changes continued in the summer of 2007, when museum staff took advantage of a closing for fire- and life-safety improvements to reorganize and update many of the dioramas and to implement a new service that delivers on-demand exhibit information directly to visitors’ cell phones. But some things stay the same, as repeat visitors will notice. The museum is still divided into four distinct display areas, each with its own unique story to tell.





Sea urchin fossil  
*Archaeocidaris*



Ice Ages exhibit

The Hall of Geology and Paleontology, arguably the showiest of the exhibit halls, features more than 5,000 square feet of fossils (from dinosaurs and other prehistoric creatures), as well as an impressive array of native meteorites, rocks and minerals. The displays are presented in chronological fashion — from the earliest days of the planet to the age of dinosaurs up to the present day. Theriot points out that the land we call Texas has been home to some of the world's strangest and most spectacular creatures, and this hall certainly backs that up.

The Onion Creek mosasaur, for instance, immediately calls to mind a mythical sea serpent. With a slender 30-foot-long body (the head alone measures nearly 5 feet), whale-like flippers, and a flat, powerful tail, the mosasaur moved with speed and agility through the shallow seas that covered much of present-day North America during the late Cretaceous period. A loosely hinged jaw, like that of a snake, allowed the mosasaur to swallow large prey. The museum's specimen was found, as the name implies, on the banks of Onion Creek, four miles outside the Austin city limits, in 1934, by UT geology students.

An eye-catching, albeit headless, example of a glyptodon anchors the Ice Age display, where it shares space with a giant ground sloth, a Colombian mammoth and a saber-toothed cat, among others. The glyptodon was a large, armored mammal related to the modern-day armadillo, and one might liken its size, shape and weight to a Volkswagen Beetle. Unfortunately, it moved much more slowly — only a couple of miles per hour — which made it vulnerable to ambitious predators, including the native human population. Other highlights include *Eryops megacephalus*, an amphibian whose 6-foot-long skeleton reminds a casual viewer of an alligator, though they are not related; the dimetrodon, a long, lizard-like animal with a distinctive spinal fin or "sail" and two rows of teeth; and an interactive computer station that will answer all your questions about meteorites.

The Great Hall is home to Natural Wonders: Treasures of the TNSC, an aptly named exhibit. The theme that binds this diverse collection together is that each item is truly a wonder of nature, and each provides insight into the history of the natural world. Take the aforementioned Texas pterosaur. Consider the fact that its wingspan was as broad as a small airplane, and you'll understand why pterosaurs, the first vertebrate to take flight, ruled the skies from the late Triassic period to the end of the Cretaceous period (228 to 65 million years ago). This specimen was found in Big Bend National Park in 1971.

Also on display is an extensive collection of gems and minerals bequeathed to the museum in 1969 by Col. E.M. Barron, a former Texas legislator. Recent acquisitions include a dazzling 1,778-carat blue topaz, roughly the size of a man's fist and heavier than a full can of soda.

Did you know that one-quarter of all animals on Earth are beetles, with more

Did you know that one-quarter of all animals on Earth are beetles, with more

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### BONE LAB

Want to see how fossil specimens are properly prepared, catalogued and studied? Found a fossil, bone fragment or gem you'd like to identify? Then visit the Paleo Lab on the Texas Memorial Museum's first floor. There, you can watch a working paleontologist in action, ask questions and handle a variety of "touch specimens." Discovery Drawers presents fossils from the museum's collection and provide a range of informational resources, such as how to plan a field trip and how to care for and display your own specimens. "It's not so much an exhibit as an actual working lab," says TNSC Director Ed Theriot. The lab is staffed during regular museum hours, including special event days.





## TRACK DOWN DINOSAURS

To view world-class examples of dinosaur footprints, make tracks to the small building just outside the museum's main entrance. There, you'll find two trackways: one from the broad hind feet of a sauropod dinosaur that could have weighed up to 30 tons, the other from a carnivorous theropod, which, despite its much smaller size, might have been stalking the sauropod as prey. Both creatures lived during the early Cretaceous period, more than 100 million years ago. The internationally famous trackways were collected from the limestone bed of Paluxy Creek near Glen Rose, Texas, in 1939. Unfortunately, the footprints are deteriorating. "Years of constant exposure to moisture have taken their toll," explains TNSC Director Ed Theriot. "We have begun plans to restore and move the tracks and are awaiting an estimate from an accredited stone curatorial company to do the work."

than 350,000 species described to date? You won't doubt it after seeing the artfully presented scarab beetle collection, on loan from research associate John C. Abbott.

Colors of Nature alternates the brilliant color photographs of Greg Lasley and John Ingram. The current exhibit, Antarctica: Life at the Bottom of the World, features Lasley's vivid shots of Antarctica's incredibly varied and abundant wildlife, including penguins, seals, whales and birds.

Of course, a visit to the museum wouldn't be complete without a stop at the Great Hall's gift shop, where you'll find everything from fine jewelry to T-shirts to educational posters, books and games.

The Hall of Texas Wildlife brings you face to face with some of our state's most interesting native fauna — bison, javelinas, snakes, turtles, ringtail cats and prairie chickens — while showcasing the ecosystems in which they live. Most memorable is the diorama of a cougar protecting its downed prey, a white-tailed deer, from coyotes looking for an easy meal.

Texas boasts more than 266 species of fishes, and the renovated Fishes of Texas exhibit brings them to you in style, via a video guide, an interactive multimedia display and mounted specimens from the TNSC's collection. The star of the show is "Splash," a replica of the Texas-record blue catfish caught in Lake Texoma in 2003.

Night Shift gives you a glimpse into the world of animals that come out after sundown and explains how they are physically suited for their nocturnal ramblings. For example, many of the mammals on display have a reflective layer, called the *tapetum*

*lucidum*, in the back of the eye. This layer increases the amount of light caught by the retina, improving vision in low-light conditions. Additional sensory input comes by way of specialized whiskers called *vibrissae*, which play a role in the detection of obstacles.

The Hall of Biodiversity houses the museum's newest exhibit, Explore Evolution, which "gives a modern shine to Charles Darwin's 146-year-old theory of evolution." Indeed it does. Here, several galleries investigate evolution in organisms ranging from the smallest to the largest. You'll learn how research into evolution is fundamental in advancing modern medicine, agriculture and biotechnology. For example, one gallery addresses the rapidly evolving HIV virus that causes AIDS and how scientists are striving to understand it in order to develop a vaccine and a cure.

This is a hands-on area — more of a learning center and less of a traditional static exhibit," says Theriot — with a variety of interactive displays. You can measure the beaks of finches from the Galápagos Islands and discover that physical changes occur in response to environmental pressures and food availability. Play a round of "fly karaoke," in which you listen to a fly's courtship song, then attempt to record a duplicate version. Use a microscope to study core samples of a newly discovered single-celled diatom found deep beneath Yellowstone Lake. Analyze fossil evidence from Pakistan that links modern whales to their four-legged ancestors. Compare human

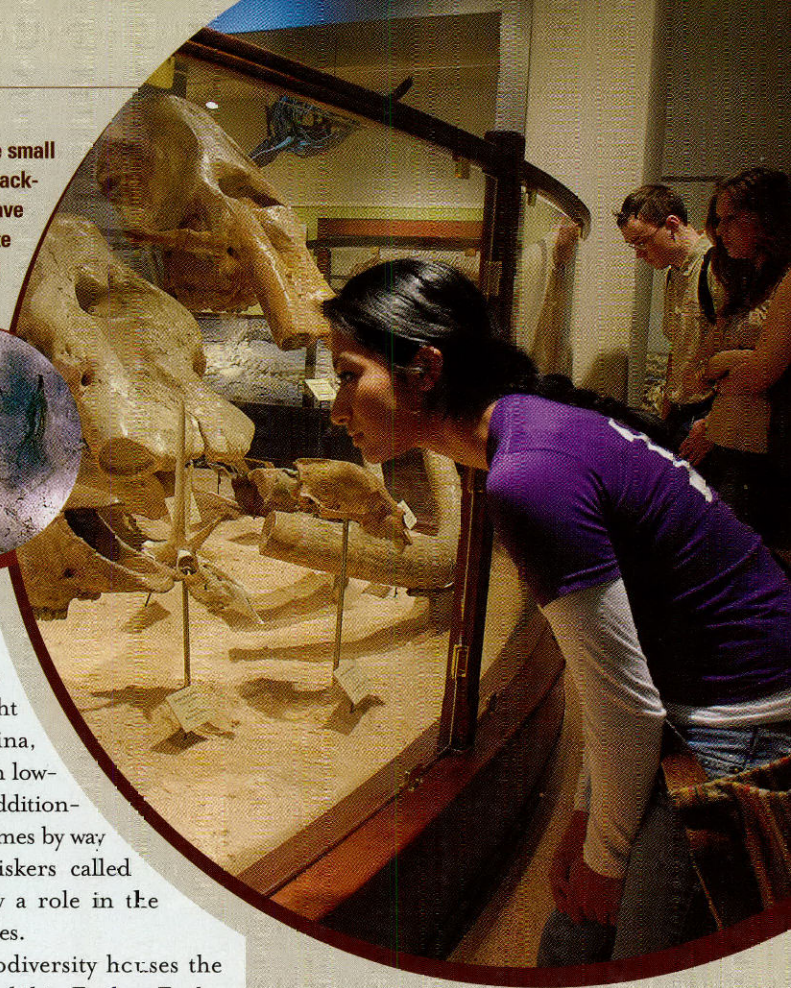


Exhibit in the Hall of Geology and Paleontology



and chimpanzee DNA and understand the key differences. Or take a video tour of an ant fungus garden.

Theriot says, "We want people to come to the museum, look around and say 'Wow.' We hope they come away inspired and wanting to learn more."

Mission accomplished. ★

### DETAILS

The Texas Memorial Museum (512-471-1604, [www.utexas.edu/tmm/](http://www.utexas.edu/tmm/))

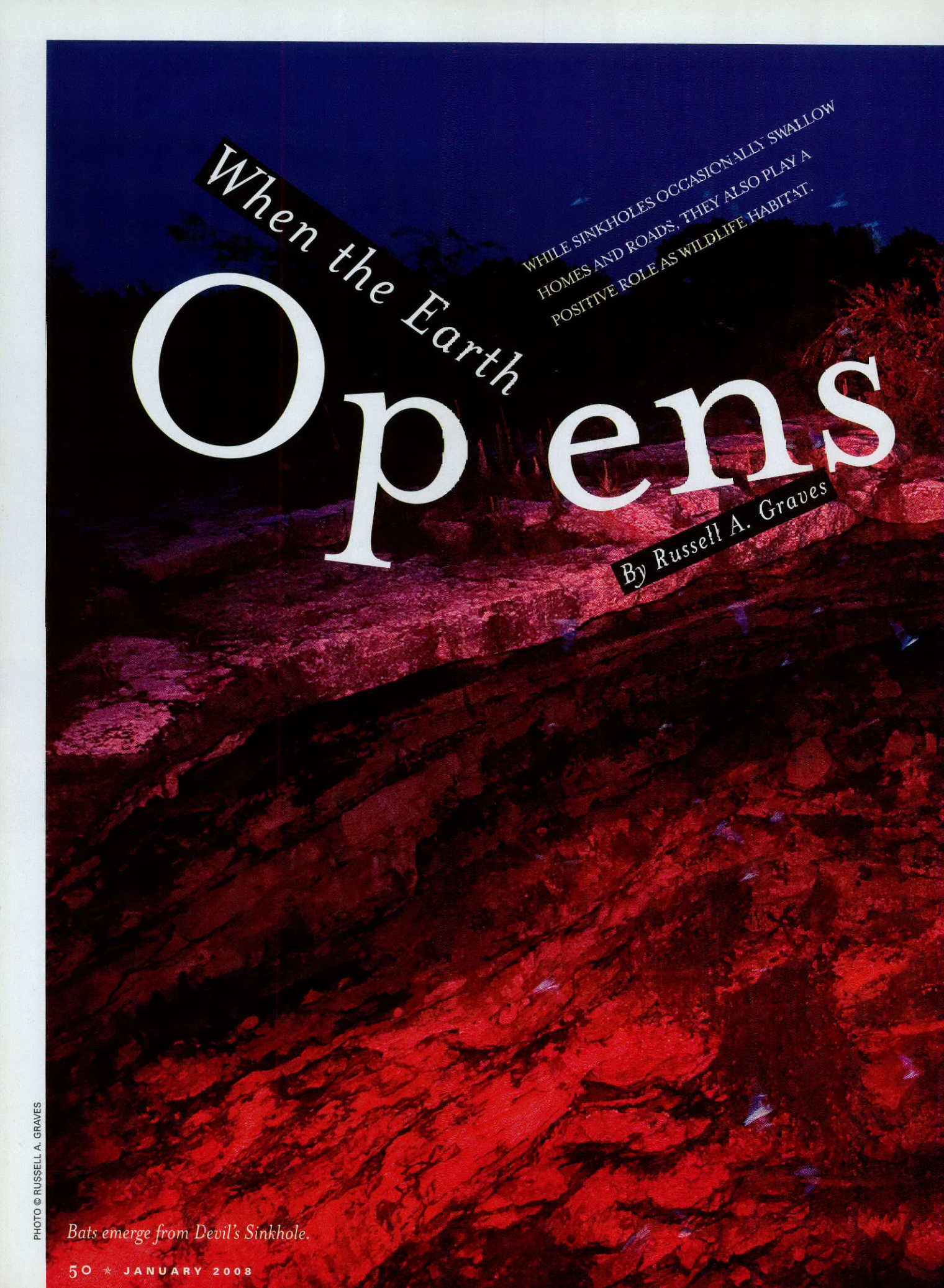
2400 Trinity Street, on The University of Texas at Austin campus

Hours: Monday through Friday, 9 a.m.–5 p.m.; Saturday, 10 a.m.–5 p.m.; Sunday, 1–5 p.m.

Admission: Free

Parking: Available (for a fee) at the U.T. parking garage, located at 2500 San Jacinto Blvd., just north of the museum





When the Earth

# Opens

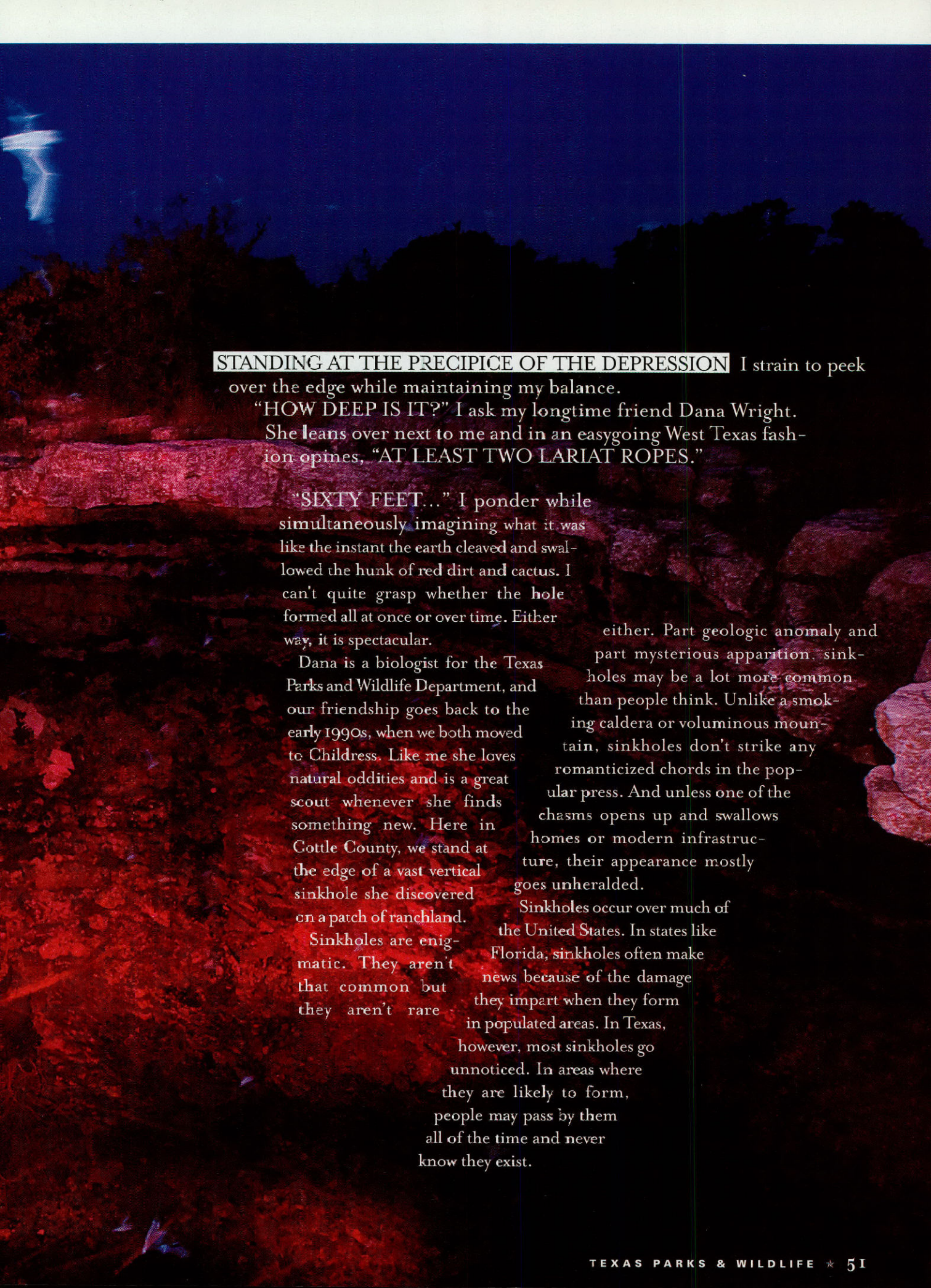
WHILE SINKHOLES OCCASIONALLY SWALLOW  
HOMES AND ROADS, THEY ALSO PLAY A  
POSITIVE ROLE AS WILDLIFE HABITAT.

By Russell A. Graves

PHOTO © RUSSELL A. GRAVES

*Bats emerge from Devil's Sinkhole.*





**STANDING AT THE PRECIPICE OF THE DEPRESSION** I strain to peek over the edge while maintaining my balance.

“HOW DEEP IS IT?” I ask my longtime friend Dana Wright. She leans over next to me and in an easygoing West Texas fashion opines, “AT LEAST TWO LARIAT ROPES.”

“SIXTY FEET...” I ponder while simultaneously imagining what it was like the instant the earth cleaved and swallowed the hunk of red dirt and cactus. I can’t quite grasp whether the hole formed all at once or over time. Either way, it is spectacular.

Dana is a biologist for the Texas Parks and Wildlife Department, and our friendship goes back to the early 1990s, when we both moved to Childress. Like me she loves natural oddities and is a great scout whenever she finds something new. Here in Cottle County, we stand at the edge of a vast vertical sinkhole she discovered on a patch of ranchland.

Sinkholes are enigmatic. They aren’t that common but they aren’t rare

either. Part geologic anomaly and part mysterious apparition, sinkholes may be a lot more common than people think. Unlike a smoking caldera or voluminous mountain, sinkholes don’t strike any romanticized chords in the popular press. And unless one of the chasms opens up and swallows homes or modern infrastructure, their appearance mostly goes unheralded.

Sinkholes occur over much of the United States. In states like Florida, sinkholes often make news because of the damage they impart when they form in populated areas. In Texas, however, most sinkholes go unnoticed. In areas where they are likely to form, people may pass by them all of the time and never know they exist.



## A PERFECT MIX OF GEOGRAPHY AND GEOLOGY

A sinkhole is a natural depression that's formed when subsurface limestone, salt or gypsum is slowly eroded away by groundwater. As surface water infiltrates the soil, it percolates downward and moves deeper into the soil. Over time, the water eats away at the rock layer until voids, or caves, form in the rock. As these voids grow, ultimately the spaces between the rocks become too big and the weight of the earth on top of the rock causes the chamber to collapse.

Natural sinkholes most commonly form in the karst regions of Texas. Karst is an area of irregular limestone in which erosion has produced fissures, sinkholes, underground streams and caverns. In Texas, high concentrations of karst rock occur in the soluble limestone areas of the Hill Country and the gypsum-rich Rolling Plains of northwest Texas.

It is possible, however, for unnatural sinkholes to form. In urban areas, water main breaks can erode the subsoil and cause the earth above to cleave.

Sinkholes are also formed when groundwater or oil is removed from the subsurface, leaving a void in the ground. Because of excessive water extraction and unstable soil in Mexico City, a sinkhole opened up in the summer of 2007 and killed one man.

Perhaps the most heralded human-caused Texas sinkhole occurred in 1980 near the West Texas town of Wink. On June 3, residents woke to find a 370-foot-wide, 110-foot-deep hole had formed 2 1/2 miles north of town. Geologists suspect the sinkhole, also known as the Wink Sink, formed as a result of historic oil production practices in the Permian Basin that pumped saltwater from below the surface, leaving a void beneath. In May 2002, a second sinkhole opened up nearby. The new sinkhole dwarfed the first one, at 900 feet wide and more than 300 feet deep.

While the huge sinkholes that seem to instantaneously swallow the earth around them get most of the media attention, most of the depressions form more slowly. Geary Schindel, chief technical officer for the Edwards Aquifer Authority, says that scientists classify natural sinkholes based on their means of formation.

*Sinkholes are enigmatic. They aren't that common but they aren't rare either. Part geologic anomaly and part mysterious apparition, sinkholes may be a lot more common than people think.*

"The most common that occur in Texas are formed from a couple of processes," says Schindel. "They form when the overlying soil collapses or is washed into a cave — this is usually a gradual process or more rarely a catastrophic event. They also form through the dissolving of bedrock with water entering a closed depression." Schindel explains that they can form when the roof of a cave collapses, although that type of formation is relatively rare. Schindel is a man who knows his sinkholes. As part of his job with the water authority, he's studied caves and sinkholes for the past 30 years and has traveled to 35 states and five countries.

## NATURAL CONDUITS

In July 2007, pilot Jason Smith and I flew to Lakeview to photograph a naturally occurring sinkhole that suddenly appeared about 10 years ago along the edge of a cotton field in Hall County. The cotton field isn't too far from the Red River and is rich in salt layers just below the soil surface. Though neither one of us knew where the sinkhole was located, we easily spotted it as we cruised in a helicopter 500 feet above the cotton fields.

Like the Wink Sink, the Lakeview sinkhole was of significant size. At more than 400 feet wide, the circular sinkhole enveloped 3.25 acres when it collapsed. What made the sinkhole easy to spot was the water glistening in the depression. In this semi-arid climate, it was apparent that groundwater — not surface runoff — filled the hole. Although nearly at capacity, striation marks were easily spotted in the dirt, signifying where the dirt sloughed off into the hole.

As we flew away from the sink, it struck me how the sinkhole served as a direct conduit to the underground aquifer.

"Most of the recharge occurring in the Edwards Aquifer occurs in the beds of streams. These streambeds contain conduits into the aquifer, but most of them are not apparent, as they have been covered by stream cobbles and gravels. However, these would technically be buried sinkholes," Schindel explains.

As beneficial as sinkholes are to aquifers, there are potentially negative impacts on underground water as well. According to Schindel, sinkholes are under the constant threat of contamination by outside influences.

"Since they are often considered nuisances and unproductive land by some, they have commonly been used for disposal of household trash and appliances, agricultural products such as herbicide and pesticide containers, old cars and dead animals," he says. "Considering they provide a direct link to the groundwater system, they also are a likely source of contamination."

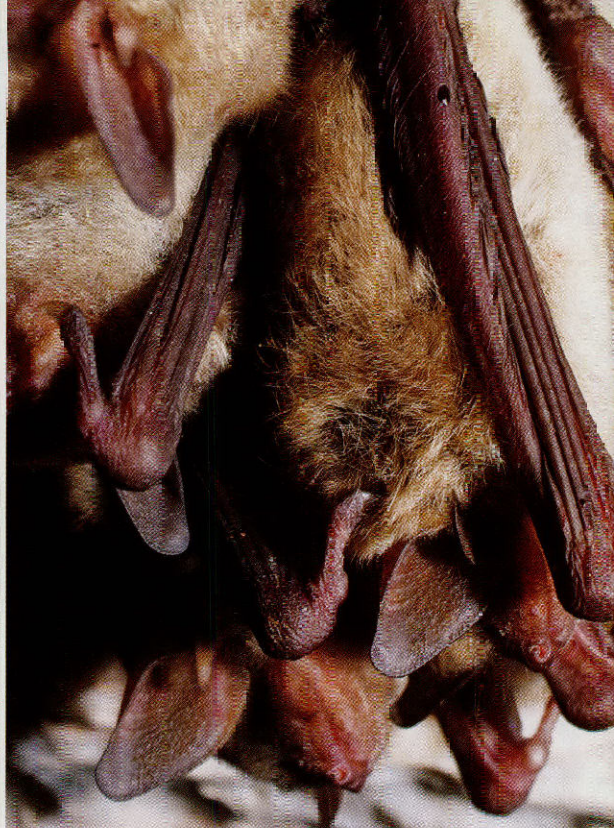
**Left: An aerial view of the Lakeview Sinkhole, a 400-foot-wide chasm in Hall County. Below: Devil's Sinkhole in Rocksprings, designated as a National Natural Landmark.**







**Above:** Mexican free-tailed bats emerge from the mouth of Devil's Sinkhole at sunset to forage for insects such as moths, beetles, flying ants and June bugs. **Right:** Cavers rappell into the 351-foot depths of Devil's Sinkhole, opened with limited access in 1992. **Far right:** Mexican free-tailed bats hang in tight clusters.



#### A UNIQUE WILDLIFE HABITAT

On my tour of Texas sinkholes, I felt it important to see the most prominent natural sinkhole in all of the state — the Devil's Sinkhole. So in July 2007, I took my family to witness the nightly bat flight and see the sinkhole firsthand.

At the Devil's Sinkhole Visitors' Center in Rocksprings, we boarded a bus painted in a bat motif to take a tour of the Texas Parks and Wildlife managed property. On the way out, tour guide Ben Banahan gave us a brief rundown on the history of the sinkhole and how a local rancher discovered it in the late 1800s. We arrived at the property well before sunset and had a chance to explore the area around the sinkhole. The landscape was typical of the Edwards Plateau — plenty of juniper, prairie grasses and cactus. Heavy rocks rimmed the sinkhole, and as I walked onto the observation deck, I was amazed how deep the hole plunged straight down.

The sinkhole is 351 feet deep, although I could see only about 200 feet down. The smell of moist cave air and bat guano belches up from the sinkhole's depths. Undersandably, the sinkhole is a source of local lore, and it almost became a source of wealth also. Guano miners tried to harvest the abundance of bat droppings that were once a valuable source of fertilizer as well as an ingredient in gunpowder. Mining the guano proved too difficult and the effort was abandoned.

Right at sunset, I noticed the first flicker of bat wings emerging from the sinkhole. A few minutes later, thousands exited and streamed to the agricultural fields to the southeast. In only about a half hour's time, more than 3 million bats emerged from the sinkhole's depths.

Randy Rosales, superintendent of the Devil's Sinkhole State Natural Area, understands the importance of sinkholes as wildlife habitat. "Sinkholes provide a unique environment which can

*These bats can consume up to 30 tons of beetles and moths per night, many of which are agriculture pests. That's the weight of about 20 mid-size cars or 15 elephants!*

support life for important plants and wildlife," he says. "These bats can consume up to 30 tons of beetles and moths per night, many of which are agriculture pests. That's the weight of about 20 mid-size cars or 15 elephants!"

Rosales says that other types of wildlife live in the sinkhole as well. About 3,000 cave swallows nest in the hole, as well as a myriad of beetles and insects that feed on dead bats and guano. At the bottom of the sinkhole, where a small subterranean lake formed, you'll find a small shrimp-like creature known as the Devil's Sinkhole amphipod (*Stygobromus hadenoecus*). It lives only in this one spot and nowhere else on earth.

"The bat flights at night attract many predators as well, some that even roost inside the sinkhole, like the great horned owl. Oftentimes you can see owls catching bats as they exit the cave," he explains.

Sinkholes all over Texas, both big and small, provide habitat for skunks, raccoons, snakes, salamanders and a host of other creatures. Ferns and other plant life can thrive in sinkholes as well. Archaeological records show that the Bering Sinkhole in Kerr County was used as a cemetery by people 5,500 years ago.

In August 2007, Jason Smith and I again headed to the Lakeview sinkhole to take some pictures. I scanned the ground below as Jason piloted the helicopter. From our bird's-eye view, I spotted numerous sinkholes. In fact, Jason has an oval-shaped one on his ranch atop a big hill.

As we circled the Lakeview sink, I noticed two more sinkholes in close proximity. While they probably won't grow to the size of the big sinkhole, their presence alters the way the farmer cultivates his land. It seems that no matter how much man manipulates his surroundings, he never is in complete control — especially in sinkhole country. ★

OPPOSITE LEFT © RUSSELL A. GRAVES, RIGHT BY TPWD; THIS PAGE LEFT BY TPWD, RIGHT © RUSSELL A. GRAVES.





ILLUSTRATION © ROBERT ROCKETT



# Fire & Rain

*The short life and violent death of a town called Indianola.*

By Larry Bozka

**Blanketed today by a shallow veil** of subsidence-induced bay water, the town that would have been Galveston died many years before it drowned. If Indianola taught us anything, it's that Mother Nature does not gladly suffer arrogance.

Relatively few Texans have ever heard of the ill-fated port first known as "Indian Point." Located on a narrow wedge of land between Matagorda and Lavaca Bays, Indianola was, in its heyday, a virtual beacon of human determination. With waters deep enough to accommodate shipping traffic, it held significant strategic value during both the Texas Revolution and the Civil War.

Indianola represented a gateway to West Texas and far beyond. It was, during the period from 1847 to 1887, arguably the most promising port in the nation.

The Mainzer Adelsverein at Beibrich am Rhein (Society of Nobles for the Protection of German Immigrants in Texas) was founded on April 20, 1842. Germany was in economic and social turmoil. Inspired by letters sent from the area's first pioneers and the opportunity to procure farm land via grants managed by the Adelsverein, German citizens departed their homeland in eager droves. One family after another, they packed their possessions and money inside the holds of miserably crowded wooden sailing ships. Then, answering the summons of competing empresarios, the intrepid Germans and a smaller contingent of French crossed the Atlantic Ocean and Gulf of Mexico to stake a claim in the Republic of Texas.

They paid the Adelsverein for travel and property rights, roughly \$240 per head of household and \$120 per individual



passenger. For that, they got transportation to the colony and housing upon arrival, a literal ticket to the American dream.

For many, it became a nightmare.

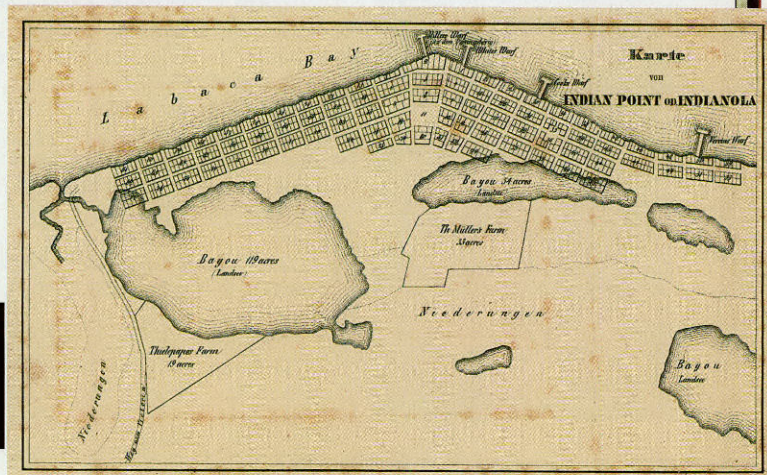
New Braunfels was at the center of the immigrants' universe, a modern-day Promised Land. Sadly, relatively few made it that far before succumbing to calamities and ailments that would have altogether wiped out people of lesser fortitude.

The cost in human life was staggering. Traveling overseas in the mid-1850s was easy for no one. The gritty, mosquito-infested salt flats of what is now Calhoun County were particularly hostile terrain — a sobering piece of reality that many of the overzealous, immigrant-luring empresarios of the era conveniently chose to downplay.

Photos of Indianola in its heyday, in ruins and today (left). Historical map of Indian Point, later Indianola.

In May of 1844, Prince Carl of Solms-Braunfels, Germany, was appointed Commissioner General by the Adelsverein for the planned coastal port of Indianola.

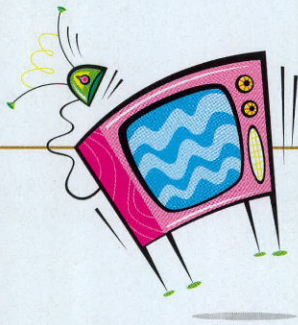
(Continued on page 58)



WITH THE FIRE STILL RAVAGING THE TOWN, THE FULL FORCE OF THE HURRICANE DESCENDED UPON INDIANOLA. INDIANOLA'S FATE WAS SEALED, THE TOWN DECLARED DEAD.



# SIGHTS AND SOUNDS



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(Continued from page 55)

Indian Point. He immediately set sail for Texas to assume his duties. Unfortunately, Prince Carl was frightfully unprepared when the first of many waves of German settlers arrived a mere two months later.

He was joined on his trip by several other empresarios (essentially, land agents). Authorized by Republic of Texas President Sam Houston, Prince Carl and his companions were promised generous allocations of land in exchange for successful efforts to bring as many newcomers to Texas as quickly as possible.

Empresario Henri Castro (the namesake of Castroville), for example, signed a contract stating that he would settle 600 immigrants in Texas, with an option, if successful, to increase that number to 1,000. There was, as usual, a stipulation. The contract required that the entire number be in place within three years, one-third of those within the first year. It was a tall order that required some serious salesmanship. Yet, Henri Castro, Prince Carl, Frenchman Bourgeois d'Orvanne and others of their ilk could only envision that most precious of assets, the same one that motivated their followers.

Land.

Challenges they either could not foresee or chose to ignore manifested themselves soon enough.

On February 3, 1845, the Republic of Texas apportioned \$1,500 for the acquisition of land at Port Calhoun on Matagorda Island to accommodate a lighthouse. By spring of 1846, more than 5,000 German settlers had watched the town's lights grow brighter as they excitedly approached the shores of Indian Point.

Despite the promising glow, Indian Point was cruelly indifferent to the settlers. Due to a severe shortage of wood, they were forced to camp in crude, hastily erected shelters on the beach. Hearing of this, Heinrich Huck, a New Orleans merchant, loaded a ship to capacity with lumber and medicine and set sail for Indian Point. Upon arrival, he created the town's first lumberyard. Many similar enterprises soon followed, from banks to newspapers to the area's first churches.

Nonetheless, many immigrants continued to go without shelter and medical care. Cerebro-spinal meningitis, typhoid, cholera, yellow fever and a host of other life-threatening ailments took a vicious toll on the newcomers, many of whom were buried in mass, unmarked graves.

By late 1846, some 3,000 immigrants had stepped ashore at Indian Point. On February 19 of that year, the Republic of Texas became the 28th state of the United States of America. While coping with a relentless onslaught of diseases, many brought ashore by recent arrivals, the early settlers also faced the challenges of the Mexican-American War. Little did they realize that the Civil War would soon make the war with Mexico seem a mere skirmish in comparison.

Then again, they had very little time to reflect on such possibilities. Survival was best approached on a daily basis. For the residents of Indian Point, renamed "Indianola" in February of 1849, visions of flourishing New Braunfels homesteads abruptly yielded to simply eking out an existence. Within a few miles of the wharves, roughly a thousand of the 1846 arrivals died as a result of disease, overexposure and

even starvation. Those who set out often died en route to their land grants. The relative few who made it to New Braunfels were on the whole an ill, malnourished and despondent lot. Still, their fate was to be far better than that of those who stayed.

There were indeed compelling reasons to stay. Indianola was blossoming, attracting ever more immigrants and the commerce that inevitably followed. Coach services arrived to assist travelers heading inland from Indianola to Victoria. Postal service was established. By early 1848, Indianola was a bustling commercial hub. Traders brought animal hides, pecans and cotton to exchange for food supplies, hardware, clothing, furniture and lumber.

Wealthy Indianola merchant John Eckhardt contracted with John A. King to survey and create a public road from Victoria northwest through Yorktown and New Braunfels. "Eckhardt's Trail" whittled 26 miles out of the trip to New Braunfels.

Shipping magnate Charles Morgan added Indianola as the Matagorda Bay endpoint for his New York-based steamship line. Indianola was outranked as a port only by Galveston. Competition, especially for planned rail lines, was fierce between the two communities.

In 1856 and 1857, under the direction of Secretary of War Jefferson Davis, the first of several shiploads of camels were brought to Indianola as part of an experimental program to investigate the creature's potential to replace horses for the transportation of military supplies. Though it created a fascinating chapter in Texas history, the camel experiment was ultimately unsuccessful.

Almost 20 years of prosperity passed before September 16, 1875, when Indianola was assaulted by a catastrophic hurricane. The storm left behind numerous casualties and staggering destruction of property. After tearing a watery path from Barbados through Haiti, Jamaica and Key West, it destroyed Indianola's wharves and killed a large number of people, many of whom had come to witness the trial of accused murderer Bill Taylor.

Saltwater inundation ruined locomotives' water supplies and flooded the tracks. Roads became impassable. The people of Indianola were trapped.

The eye of the hurricane passed just after midnight. Believing the worst was over, residents ventured out onto the streets only to be met by the fury of the receding storm surge. By sunrise, three-quarters of Indianola's structures were gone. The town's remaining buildings were severely damaged.

Victims' bodies lay exposed across 20 miles of shoreline. Exact numbers will never be known, but the death toll was estimated to be at least 300. Most were buried where they were found.

Although many residents relocated as far away as San Antonio, a resolute few stayed behind to salvage the town and resurrect its position as "Texas' Dream Port." The hurricane, after all, had come and gone.

The courthouse was repaired. Most of the rail lines were refurbished and reopened. Ominously, though, on January 12, 1883, the competition to become Texas' premier coastal rail destination concluded in failure with the driving of the final spike into the southern transcontinent-



tal rail line's junction with the Galveston, Harrisburg and San Antonio Railway.

Still, Indianola was situated at the eastern end of the Southern Chihuahua Trail. Stretching all the way from Matagorda Bay to San Diego, after the Civil War, the trail continued to provide the shortest route for military transportation and a whole new flood of inland-bound immigrants.

Albeit on a smaller scale, Indianola was rebuilt. Its founders remained optimistic. Many were even prospering.

But they had little time to celebrate their success.

The final nightmare began on August 19, 1886, when U.S. Signal Office telegraph operator Isaac A. Reed received warning of an approaching hurricane. Those who believed the 1875 storm was literally the "storm of the century" soon learned otherwise.

Reed and his partner, Dr. H. Rosencranz, were among the first to die. After screwing down an anemograph and exiting the building, the duo was struck by falling timbers. Both men drowned.

Worse yet, Reed left behind a burning kerosene lamp during his hurried retreat. Amid the growing wreckage, the lamp exploded and sparked an inferno. Fed by 102-mph winds, the fire quickly leapt from one building to the next on both sides of Indianola's main thoroughfare.

The next day, with the fire still ravaging the town, the full force of the hurricane descended upon Indianola. Two-and-a-half miles of railroad track disappeared. All that remained of Huck's lumberyard was a still-standing safe. The depot,

the stage line and most other business buildings were either burned or washed to sea.

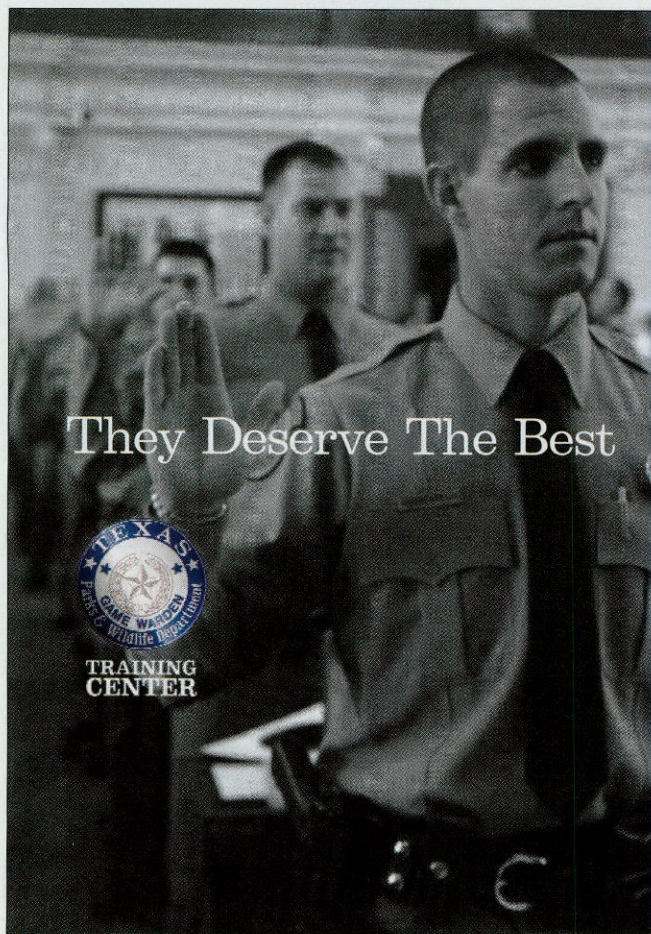
Indianola's fate was sealed, the town declared dead. John Mahon, Indianola postmaster, permanently closed the post office on October 4, 1887.

Meanwhile, up the coast in Galveston, a cautious contingency of residents pleaded with the town's council to fund and create a seawall. Nevertheless, opponents of the idea went so far as to suggest that the repeated hits on Matagorda Bay were proof positive that Galveston Island was inherently immune to hurricanes.

In August of 1886, a powerful storm that skirted Galveston presaged an event still 14 years in the future. People drowned, property was destroyed and yet an islander who called himself "An Old Galvestonian" wrote a blatantly apathetic letter to the editor of the *Galveston Daily News* on August 27. It read, in part, "It (the recent hurricane) simply demonstrates the fact that we are the safest place on the Texas Coast and that we are out of the line of these winds and waves. It further demonstrates that Galveston cannot be overflowed."

Indianola's tragic legacy and lesson were perversely twisted into justification for arrogant indifference on Galveston Island. On September 8, 1900, the "Old Galvestonian" and others like him learned the error of their thinking.

The Great Storm of 1900 claimed an estimated 8,000 to 12,000 lives. Construction of the Galveston Seawall began on October 27, 1902. ★



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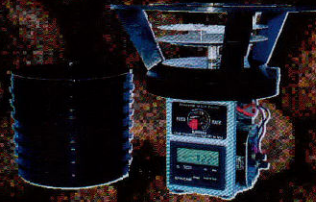


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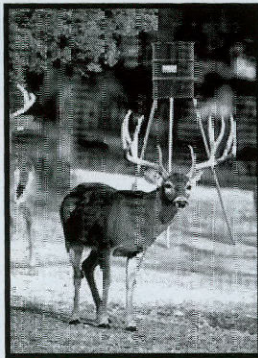
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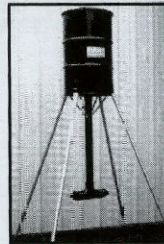
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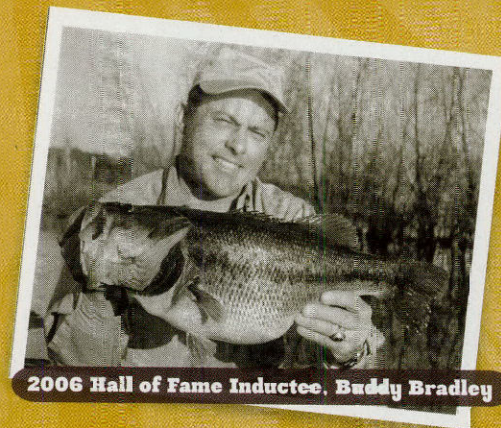
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**IMAGE SPECS:**

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