

# Phry'•no'•so'•ma•tics

noun, 1. people enthusiastically dedicated to reversing the decline and supporting the conservation of horned lizards. From the genus Phrynosoma – the horned lizards.

March/April 1992

The Newsletter of the Horned Lizard Conservation Society

## Bart's Notes — by Bart Cox

Wasn't Sunny Dooley wonderful! There were over 100 people attending our February meeting to hear Ms. Dooley tell the Navajo creation story. It was the first time I'd heard the story and I was fascinated. I was particularly surprised by the many similarities between the Navajo story and the one found in Genesis. Both center around First Man and First Woman. In both stories, the two people are able to converse with the animals. One of the animals plays the role of tempter, trying to get the people to disobey a rule laid down by the god(s). In both stories there is a sacred plant which bears forbidden food.

In the Navajo story, the forbidden food is the sacred corn which is intended for the Gods only. In both stories the animal which has attempted to lead the people astray is punished. But, wonder of wonders, in the Navajo story "horned toad" plays the role of savior. I always knew our little friend was held in high esteem by many of the Indian tribes. I have always relied heavily (too heavily) on my left brain, which means that many of life's spiritual flowers blush unseen by my Philistine eyes. In my horny toad work, however, I have regularly sensed a powerful spiritual component, something like the "unseen spirit" which Socrates said guided him.

George Perry has resigned from our temporary Board of Directors. Jack Morse (who, as you know, replaced Deborah Denner) and I voted for Wendy Donaldson to replace George. I don't want to drone on and on here, but I feel I simply must pay tribute to the work George has done for us. I am completely inexperienced at forming or leading an animal protection group. George Perry is an old hand at it. He formed the Austin Animal Rescue Shelter. He's been a board member of Bat Conservation Inc. He worked with Lea Stone in founding the Austin Nature Center, etc., etc

Whenever I had a question about which path we should take, George was always there with a similar experience from another group to enlighten us. He frequently made predictions about what certain

*continued on page 6*

## A Horned Toad Tale

by Colleen Sweeney and Lynn Virta

Sunny Dooley, of Window Rock, Arizona, came to the Austin Nature Center to tell a story February 11, 1992. "We' came to Austin," said Sunny, as she introduced herself in Navajo language, because Navajo don't travel alone, they travel with their ancestors. They need a lot of personal space.

Sunny, a former advertising executive, turned to storytelling full



Photo by Terri Davis

time when she realized her people were losing touch with their culture. Her mother told her stories, and now we and our guests were fortunate to hear a version of the Navajo creation myth with "the lizard that is like brown," which is translation for horny toad.

In a field of white corn, with crystal set between black clouds

*continued on page 3*

## Upcoming Events

**GENERAL MEETING—**  
Tuesday, April 14, 7 p.m. at the Austin Nature Center. Susan Garry, of the Manor Area Neighbors Organization, will discuss the history of the Manor area and a road relocation project that could threaten horned lizard habitat around Manor. Also, Nominees for the HLCS Board of Directors will introduce themselves and describe what they can contribute to HLCS as a board member.

**RESEARCH AND RECOVERY MEETING—**  
Wednesday, April 22nd, 6p.m. at the home of Lea Stone, 3503 Lafayette. We will order pizza.

# Research and Recovery Committee News

by Wendy Donaldson, Chair

## High Hopes for 1992

The Research and Recovery Committee adopted four goals for 1992 at our January committee meeting. I want to outline these goals to the general membership in this edition of *Phrynosomatics*. I hope that some of you reading this will be interested in helping the Research and Recovery Committee reach our goals. We meet every 3 to 4 weeks at the home of a member, and I mail out notices to everyone interested. If you would like to be notified of our meetings via mail, call Wendy Donaldson, 499-0158 or write me at: Department of Zoology, University of Texas at Austin, Austin, TX 78712-1064.

### Goal #1: Complete Phase One of the Partnership Program

The Partnership Program is a voluntary association between land owners and the R & R Committee. Phase One of this project involves producing a series of pamphlets that provide general information about horned lizards and more specific information about each species of horned lizard starting with the three found in Texas. Phase One will also include information about habitat descriptions and general practices that promote maintenance of horned lizard habitat.

### Goal #2: Increase Public Awareness with the Sighting Survey

I am sure everyone has seen and passed out the sighting survey. Our goal in 1992 is to continue distributing this survey and the smaller newspaper version to all Texas counties. We will focus on those areas which are proposed in the Texas horned lizard status survey (see next paragraph).

### Goal #3: Begin a volunteer program to survey additional sites for the Texas Horned Lizard Status Survey.

The Texas Horned Lizard Status Survey is the project proposed by Texas Parks and Wildlife which involves a field survey of 100 sites where the Texas horned lizard (*Phrynosoma cornutum*) was historically found. The volunteer program will take volunteers who would like to survey additional sites. The volunteer must visit a chosen site three times between May 15 and August 31. The person will look for horned lizards a total of 18 hours (6 hours for each visit) and record how many lizards they see, the sex and size of each lizard, and weather conditions, including air and soil temperatures. Additional information will also be requested.

### Goal #4: Begin a limited Captive Care and Maintenance Program for Horned Lizards

The R & R Committee has been collecting all literature about horned lizards that we can find. We have been able to find several articles about captive care and maintenance of these reptiles. With this information, we are going to start a captive program with the round-tailed horned lizard. The round-tailed horned lizard (*Phrynosoma modestum*) is currently unprotected by any state or federal laws. We will acquire at most two males and three females this summer for our program. We have acquired all of the aquaria but need a few more pieces of equipment including lighting fixtures and a place to keep them. I must stress that we are in the very beginning stages of this project, and anyone

interested in it should get involved with the planning now.

Note:

The R & R Committee has placed a two-volume collection of articles and scientific literature discussing horned lizards in the Life Science Library on the University of Texas at Austin campus (in the Tower, 2nd floor). The volumes can be found on the lower floor of the "Stacks" in the Oversize Mincat aisle. I encourage everyone to take a look through it, it is not on the computer on-line catalog yet, and I ask that no one check it out. We could place another copy of the articles in a public library if there is any interest. We also have copies of three children books about horned lizards that are not in the library collection. Anyone interested in seeing those should contact Wendy at the above address or phone number. ▲



Photo by Melanie Typaldos

# SILENT AUCTION A HIT!

Along with the benefit concert on Feb. 2 at the Broken Spoke, a silent auction was held. A total of \$565.49 was raised from the auction alone.

The following table is a list of all contributors to the HLCS silent auction. I wish to thank them for their support and donations. Please remember them by visiting their businesses.

| CONTRIBUTOR                      | DONATION  |
|----------------------------------|---|
| Amdur Gallery & Hardwood Framing | Custom Frame for etching by Bill Montgomery   |
| Antone's Records                 | Earl King Album   |
| Bill Montgomery                  | Etching of a Mexican Hognose Snake  |
| Ecowise                          | Solar Battery Charger   |
| For All Seasons                  | Pewter Frog Keychain  |
| James Avery Craftsman, Inc.      | Two bronze horned lizard paperweights and silver bangle bracelet with a Southwestern theme                                |
| Joe Fish                         | Hand-made silver and turquoise Bolo tie   |
| Joseph's Framing                 | Custom Frame for Tom Curry's Print  |
| Kingfish East                    | Care guides for Ball Pythons and Red-tailed Boas, vitamin supplements, turtle eye rinse, bactericide for captive reptiles |
| Mickey Hodges                    | Hand-pieced king-size quilt   |
| Texicali Grill                   | Dinner for Two  |
| Tower Records                    | Gary Stewart CD   |
| Tried and True Music             | Poster Autographed by Jerry Jeff Walker   |
| Victor Emanuel Nature Tours      | Wildlife Watching Tour for two to King Ranch  |
| Whole Earth Provision Company    | Backpack with lifetime warranty   |

## TOAD TALE *continued from pg.1*

and white clouds, a man met a woman halfway between his field of white corn and her field of yellow corn. Her field had yellow, blue and turquoise clouds above it and contained a fire. A creature appeared that was big and furry, with a black coat. He was alone, but said "I'm going to be with you all your days." Thus chaos was created. The man and woman left chaos and went to the second world, small and blue. The coyote stole their waterbaby and the rains came. There were floods, much like the last several months in Austin. After the giant flood there was the third world, yellow and green. The sun gave the coyote a partner to hopefully make him nicer. He had an attitude. There was love at first sight.

But the coyote sought to make his young what they weren't. He

wanted his young to be like ducks, like bluebirds, like fawn which they couldn't be. Coyote asked the deer, "How does his fawn have such nice white spots on their coats?" The deer tricked him. "Gather your young around the fire. Hot stones from the fireplace will create the white spots." The sparks from the fire made the young coyotes run—one ran off to become a wolf. One was singed by sparks; that is why coyotes are scraggly. They are ugly because they were trying to be what they weren't.

The first man and woman heard singing from a horny toad, whose cornfield was all different colors. The toad sang, "Tell the coyote to visit me and help pick corn." Coyote filled up on corn and melons. Horned toad sang, "Do not touch sacred stalk," and hid in that stalk. Coyote ate all the yellow

corn, he ate all the white corn, and ate the sacred stalk of corn too. Coyote had a terrible pain at the back of his throat. Coyote howled! Horned Toad was kicking and pulling inside coyote. Coyote opened his mouth and out came the song of the toad. Pain started because coyote ate what he wasn't supposed to; he broke the rules.

First woman wanted to help. Horned toad would squeeze the heart. Nobody knew CPR. No one had Maalox. Coyote died. Horned toad sacredness began because coyote was defeated. Horned toad song protects from hate. Hope is one's heart is maintained. Horned toad is sacred in protection ceremonies for Navajo warriors because it protects from within. We are our own worst enemy!" ▲

# A Brief Glimpse of Harvester Ant Ecology

By Wendy Donaldson

Members of HLCS know harvester ants primarily as the preferred food choice of horned lizards. Many people have often asked why horned lizards would eat such an insect that is small and has a painful sting (they can also bite!). However, harvester ants are one of the most abundant insects in the arid and semi-arid regions where horned lizards live. It is impossible to study or learn about horned lizards without knowing anything about harvester ants.

Harvester ants belong to the order of insects called Hymenoptera, which includes bees and wasps. Like many bees, wasps, and other ants, harvester ants have a sting on the end of their abdomen which they use for defense. They are not aggressive ants, like the imported fire ant (*Solenopsis invicta*), so they only sting when being directly threatened (being eaten, squashed, etc.). 22 species of harvester ants live in North America, and 37 species occur in Central and South America. Of the North American species, the largest group (genus) is *Pogonomyrmex*, or pogos for short. Pogos have been called the "preeminent group of harvesting ants in North America" (Cole, 1968) because they exist in large numbers throughout the arid regions of Mexico and the western United States (the same areas that horned lizards inhabit).

Harvester ants get their name from their mode of feeding; they harvest seeds from various plants. They snip off seeds with their large muscular mandibles and carry them back to the nest where they are husked and stored in mound chambers. The seed stores are used throughout the year whenever active foraging must cease, for example, during drought, cold weather, or heavy predation. The seeds are chewed up by the worker

caste and fed to the larvae which digest the seeds and produce a substance they regurgitate (vomit) to feed to other members of the colony. Some seeds that they collect have a special structure called the elaiosome which is on the outer part of the seed and is rich in oils. The harvesters may remove the outer husk for food while discarding the rest of these seeds. Harvester ants are also scavengers



Wendy Donaldson Photo by Melanie Typaldos

and will pick up dead insects and other arthropods in their path.

Harvester ant mounds are one of the most distinguishable types built by an ant. They use their mandibles to cut and clear the ground surrounding the opening to the nest, three to six feet in diameter. Some harvester ants build a small mound around the entrance to the nest while others leave the ground completely flat with only piles of seed husks and soil debris surrounding the entrance. One main hole is found in the center of the area and other smaller entrances may dot the periphery. Trails are often evident leading away from the mound like a spoked wheel. These trails lead to the plants that the ants are harvesting and are used daily. These trails may be exploited by horned lizards who sit and wait for the ants to walk by. The trails

are also thought to serve as partitions between neighboring ant colonies to reduce aggressive confrontations (Sudd, 1987).

Pogos construct their nests in the earth using an elaborate system of tunnels and chambers. Tunnels are primarily cut by the ants' mandibles and the soil particles are pulled out and deposited in another place. They may use their front legs to collect loose soil to be carried out. One interesting phenomenon is the ants' ability to stridulate to loosen soil. Stridulation is an action in which a "scraper" on the ants' legs is rubbed over a filelike surface causing a vibration. The vibrations created by stridulation help loosen soil during nest excavation. The ants may press their mandibles into cracks in the nest wall to direct the vibration (Spangler, 1973).

As you can see, harvester ants are amazing insects. I have only started to describe their habits and characteristics. However, these insects are not appreciated by humans. The large surface they clear is an ugly spot in modern man's quest for the perfect manicured lawn. Humans also tend to believe all ants are "bad" ants. However, by maintaining healthy populations of native ants, introduced insects, like the fire ant, find it tougher to invade your lawn successfully. On my searches for the Texas horned lizard (*Phrynosoma cornutum*), I spoke with many people who admit to poisoning harvester ant mounds. Overcoming the bad reputation given to ants is a problem I foresee HLCS will have to confront. ▲

#### References:

Cole, Arthur C., Jr., 1968, *Pogonomyrmex Harvester Ants: A study of the genus in North America*. The University of Tennessee Press, Knoxville, TN.

Spangler, Hayward G., 1973, Vibration aids soil manipulation in hymenoptera. *Journal of the Kansas Entomological Society*. 46 (2); p 157-160.

Sudd, John H. and Nigel R. Franks, 1987, *The Behavioral Ecology of Ants*. Chapman and Hall Publ., NY, NY.

# Phrynosoma Phacts

Article and photos by Melanie Typaldos

I welcome questions and comments! If you want to discuss the information in this article, or if you'd like to suggest a topic for a future column, see me at the monthly meeting or drop me a line at: Melanie Typaldos, PO Box 18494, Austin, TX 78760



## Looking for Lizards

Well, it is officially spring again! The horned lizards are emerging from hibernation and becoming active. This winter was a very mild one so we might expect that the lizards would emerge earlier than usual. Wendy and I decided to check out this theory and, along with my two children, Philip and Coral Waters, we went on the three day trip looking for lizards.

The path of our trip was from Austin down Highway 183, then highway 80, skirting the San Antonio metropolitan area which lay to the west.

## Choke Canyon State Park

We arrived at Choke Canyon State Park near Three Rivers in the early afternoon. After assuring ourselves of a campsite we went around the lake to James Daugherty Wildlife Management Area. The spring flowers were beautiful and many of the trees were covered in bright yellow blossoms. We saw several turkey near the lake and stopped to eat a picnic dinner within earshot of them. There were no horned lizards to be seen though. This was especially disappointing since we had seen horned lizards in this area last summer.

The day had been relatively cool and a little overcast but it cleared

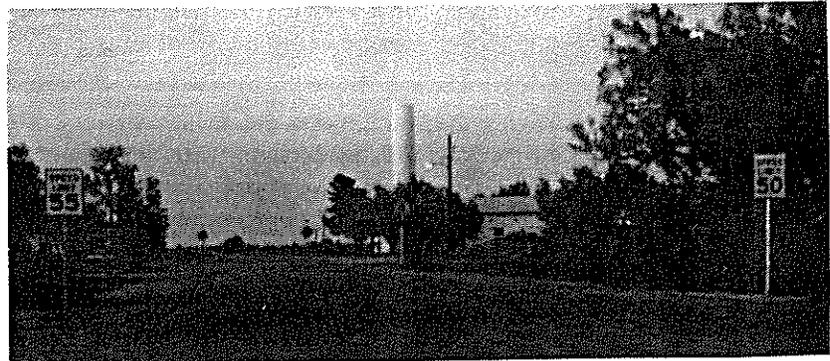
up toward the evening and the temperature got up to around eighty. We drove down highway 16, south of Tilden on the west and south of the lake. Just as we had given up hope, we saw a horned lizard sitting just off center of the road, not moving even as the car zipped past it. I did a quick U-turn and pulled off to the shoulder. There it was, the first horned lizard of the season. It was 4:45pm, Sunday March 15th.

The lizard was a small one, probably from last summer's clutch. After Wendy had measured it, and I had photographed it, we released it as far off the road as possible.

## Chaparral Wildlife Area

The next day we packed up and headed for Chaparral Wildlife Management Area. This is the site of last year's spring group outing, when several lizards were spotted. The weather had turned against us and threatened rain throughout the morning and early afternoon.

Shortly after reaching Chaparral, we were surprised to find a western diamondback rattlesnake taking a



nap in the middle of one of the dirt roads. I have been hoping to get some good photographs of rattlesnakes in the wild so we pulled over. I got off a few shots before the snake woke up and slithered off into the undergrowth.

At lunch we stopped next to Scott's pond. The kids ran off to play, but soon they were running wildly back, having found a hatchling red-eared slider. The baby water turtle was pulled tightly in its shell and still had the mark of the umbilicus on its plastron (belly). The first turtle was soon followed by a second, possibly of the same clutch. After eating lunch, we let the turtles return to the pond and continued our search for lizards.

Alas, we had no luck. Before we left Chaparral, we talked with one of the rangers. She said that she was studying horned lizards in the area and that she had first noticed their emergence around the first of March, when the weather had been much warmer and sunnier.

## Seminole Canyon

On the way to Seminole Canyon, where we hoped the roundtail horned lizards would be out, we passed through the little town of El Indio on the Rio Grande south of Eagle Pass. This small town had the unique feature of having speed limit signs on each side of the highway. This is not unusual in itself, except that the one on the right proclaimed that the limit was 50 mph while the one on the left stated assertively that 55 mph would be an acceptable speed. I

wonder if the townspeople are so ambivalent about everything?

The wind howled all night at Seminole Canyon. By morning it had blown in another thick layer of clouds. All hope of seeing horned lizards vanished. We decided to take a hike out to the scenic over-

*continued on pg. 6*

look, about two miles from the only trail-head in the park.

The weather may not have been good for horned lizards, but it was great for hiking. The desert was so thickly carpeted with wildflowers that it was hard to remember that it is, in fact, a desert. We must have seen about a hundred different varieties, some large, some small, some brilliantly colored, others subdued shades of blue blending into green. Wendy even found a flower with transparent petals!

We got to the overlook and stared down the sheer walls of the canyon. The waters of the Rio Grande, penned up behind the Amistad Dam, shimmered a deep blue-green. We could make out five or six brilliantly marked turtles basking on the rocks or swimming in the clear water. The webbing of their back feet was red, their tails had a red stripe running down them, the edge of their carapace (upper shell) was rimmed with red, especially toward the back. We could not find these turtles in any of several field guides. If you know what they are, let me know.

We left the park at about noon and headed home. It began raining on the way and no horned lizards were in evidence.

**Conclusion**

So, when the days are warm and the sun shines brightly, you know

**BART'S NOTES** *continued from pg.1*

consequences would flow from this or that decision. In the early days I often doubted him, but after each and every prediction turned out exactly the way George said it would, I began to regard him as a prophet. I'll miss him.

I've always wanted two things especially for this outfit: first, that we have as much fun as possible, and, second, that we conduct ourselves as a "class act." In keeping with both aspirations, I'm planning a proper tribute to both George Perry and Deborah Denner (our Founding Mother).

We made almost exactly \$2,000 from the Broken Spoke benefit. Thanks to Wendy Donaldson, Lynn Virta, Joyce Snodgrass, Quincy Welch, Steve Austiin, Bill Davis, Bill Collier, Melanie Typaldos, Steve Fromholz, Kimmie Rhodes, Bill Oliver, Glen Alyn, Alvin Crow, and especially the owner of the Broken Spoke. James White, who donated the use of his fine music hall for the evening. Also, thanks to Don Baycock for his sound system.

that the horned lizards are out, although they are not as active as they will be later in the year. But even if you don't see any, there is still a lot to see. Horned lizards live in a very diverse habitat; let's not forget to see the whole thing. ▲

Aside from the upcoming elections, the next big event for us will be our second annual Spring outing. Last year we went to the Chaparral Wildlife Management Area near Cotulla. This year's site has yet to be selected. If you haven't actually seen a horny toad for a few years, I highly recommend this trip. Sometimes I get the feeling that it's all just a hopeless dream. For me, all I can say is that I need the experience of seeing and feeling horny toads at least once a year. Its an emotional thing.

Don't miss our April meeting. It will be a chance for you to participate in the political process that will shape this organization for years to come (yes, elections are finally upon us) and to hear about horned lizards in Manor.

One final thing: We've decided to buy a computer for HLCS and make it available to the person who prepares this newsletter for printing (thanks to Pat Underwood for helping Marcia with the desktop publishing of the newsletter for the last two issues). We plan to make this purchase sometime over the next few months. The only hardware requirement is that it be capable of running "Pagemaker" software. If any of you know of, or hear about a used Macintosh or PC at a good price please give me a call (work: 320-5379 or home: 448-3906).

Ah na yo ta hey. ▲

Newsletter Input • Send articles, graphics, maps, etc. to Newsletter Editor, HLCS, PO Box 122, Austin, TX 78767. PLEASE JOIN US NOW! • Students: \$10, Subscribing: \$10 (newsletter only), Regular: \$25, Contributing: \$50.



Post Office Box 122, Austin, Texas 78767



Lea Stone  
3503 Lafayette Ave.  
Austin, TX 78722

