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## Where Did It Go?

by D. North and E. Cambron  
TeamWinners - Grades 9-12

Texas Parks and Wildlife's Hometown Horned Toads Essay Contest 2003

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We have searched through books, Internet sites, newspaper articles, and local minds. We quickly discovered that our town was crawling with horned lizards from the 1950's to the 1980's.

One of the most interesting things about the Texas horned lizard is its appearance. It is most commonly the Horny Toad; this species is the best-known horned lizard in the United States. Although fierce looking, it is timid and largely depends on camouflage to avoid detection. If captured, it may squirt blood from its eyes. It does this using special muscles; they restrict blood flow from the head until the mounting pressure burst tiny blood vessels in and around the eyes, resulting in a spurt of blood that can travel three feet or more. They are 1 to 2-1/2 inches in length, their head is crowned with spines, and the center two spines are the largest. Two rows of pointed spines fringe each side of its belly. Dark lines radiate their eyes. The female Horned Lizards lay 13 to 45 eggs, which they bury. The eggs will hatch in 5 to 9 weeks. Their diet consist of eating 60 to 200 native harvester ants per day. They live in dry, sparsely negotiated flat land, with sandy or loamy soil.

We studied the horned lizard population in Calvert, Texas. It is a farming and ranching community, and it has been since the mid 1800's. Calvert has a current population of 1,500. The population has not changed a great deal over the last 50 years.

We started narrowing down the possibilities to why they disappeared. We decided we would look into population, environment, pesticides, diseases, and imported fire ants.

First, we looked into the population. We quickly came to the

conclusion that because there was very little growth in the number of people during the time they started seeing a decline in the horned lizard population. Calvert's population has not increased very much over the last fifty years. We then looked into the environment from 1970 to 1990, the rainfall average was about the same, the climate is the same, and the land is unchanged.

Next we looked into pesticides. We asked local rancher Bobby North who has his applications license, if pesticides had a great deal to do

*continued on page 3*

### Upcoming Events

#### Old Rip Fest

Downtown, Eastland, Texas  
September 20, 2003  
parade at 10am

#### Texas Wildlife Expo 2003

4200 Smith School Rd, Austin, Texas  
October 4-5, 2003  
<http://www.tpwd.state.tx.us/expo/>

#### HLCS General Meetings - see page 6

Joe C. Thompson Conference Center, Austin, Texas  
October 18, 2003  
December 6, 2003

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with the decline in the horned lizard population. His answer was, "That the chemicals that are used now are less harsh on the environment, and many advances have been made to protect the native wildlife." He believes that, "If pesticides caused the decline in their population, that we should be seeing an increase in their population". Bobby North has a love for the wildlife, and he has done a great deal of research on the effects that the pesticides he uses has on wildlife. Our next field of research was common diseases that could infect them. We found our information in The Merck Veterinary Manual. We found two diseases that were of interest. The first was Nutritional Osteodystrophy. It is an extremely poor skeletal calcification, green stick features, and old unhealed fractures will be visible. Often these lizards will swallow pebbles and gravel, presumably in an attempt to obtain calcium, on x-ray films these pebbles will be apparent in the intestinal track. The second one is Ectoparasites. It alone effects many lizards. Many species of mites infect lizards. Mites cause a degree of anemia and skin irritation, particularly around the eyes and ears. Also they may transmit blood borne diseases as well as bacteria, and may initiate sub-cut abscesses. This information was helpful, but we didn't feel that these two diseases were responsible for the horned lizard disappearance.

Last, we studied imported fire ants from South America. All of our sources pointed directly at these small insects that caused a great deal of damage. In Calvert they are held responsible for the disappearance of the horned lizard and the Bob White Quail. All of our interviewees stated that when Horned lizard started disappearing fire ants were appearing. After studying

numerous books we came up with information to how the fire ants effect the horned lizard. As it turns out they had a huge impact on the horned lizard population. First, they attacked their food source. Fire ants raid the harvester ant mounds and steal their larva, and pupae. They also eat horned lizard eggs. We also looked into the horned lizard population in Utah. We asked local, Gena Cain, for information regarding this field. She lived in Utah until 1996, when she moved to Calvert. When she moved here she couldn't believe that 20 years ago Calvert was crawling with horned lizard, since she has not seen on in the 7 years she has lived here. They were never as numerous in Utah as they are were in Texas between 1950-1980. But on any given day during the summer you could go turnover a few rocks and find one. She told us there was not a decrease in their population. We asked her what she thought had caused the Texas horned lizard to disappear, that had not effected the Utah horned lizard. Her reply was that the only difference she could see was the imported fire ants had not invaded Utah. We did not find anyone or anything that had a dispute against the fire ant theory.

Through our research we have come to the conclusion that the imported fire ants from South America are responsible for the disappearance of our beloved horned lizard.

After finding the problem we started searching for a solution. This was the difficult part. We first had to find what we needed to do, and then how we would do it. First we have to rid Texas of fire ants, and second we need to increase the population of the harvester ants. Each of these is going to be extremely difficult. Our solution to the first one is to study the imported

fire ants very closely. We need to study its immune system, it might be possible that the native harvester ant has an immunity that the imported fire ant doesn't. If one is found, by releasing a certain chemical it would affect the fire ant, and it would not affect the harvester ant. The solution to the second, is to find harvester ants that have not been exposed to pesticides, and start breeding in chambers. Once you have a substantial amount, locate a few horned lizards and monitor them in a controlled environment. We spoke with herpetologists at Waco and Fort Worth zoos. Both of them said that they couldn't receive enough harvester ants to keep horned lizards alive. That is why the first step would be to breed a large amount of harvester ants before locating horned lizards.

We really enjoyed the project, and we hope that one day we will be able to see a horned lizard. Studying them the last few weeks has made us fall in love with them! We hope that this information was of some help to you.



*Dig this:  
We live here too!*

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# Horned Lizard Quest

by Don Thomson  
Alpine, Texas

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As a senior in high school, in southern California, I caught a Coast Horned lizard (*Phrynosoma coronatum*) while hiking with friends. I kept him for a month or so and was fascinated with him. I felt sorry for him and felt the best place for him was where I found him; so I took him back where he belonged and felt good about it.

I made a promise to myself that I would catch and release all the species of horned lizards found in the U. S.

As the years went by I took a lot of teasing from my friends for what was now a quest. My plan was to catch and release the remaining

species and to protect horned toads where ever possible. I kept plugging away with the Desert horned lizard (*Phrynosoma platyrhinos*) in 1956, Flat-tail (*Phrynosoma mcallii*) in 1972, Texas horned lizard (*Phrynosoma cornutum*) in 1980, Roundtail horned lizard (*Phrynosoma modestum*) also in 1980, and the Short-horned lizard (*Phrynosoma douglassi*) finally in 1997. I only had the Regal horned lizard (*Phrynosoma solare*) left to find, which I called the king of horned lizards. My first try would be in May 2003, when I would spend a week in the Tucson area for the express purpose of finding the Regal. On my third day I decided to try Sabino

canyon northeast of Tucson in the Santa Catalina mountains. After a 3.7 mile hike up the canyon and no regal, I was coming back down the canyon and THERE HE WAS, at the side of the road, about three feet from the drop off to the bottom of the canyon. My heart was pounding as I got to my knees and got my arm and hand between him and the canyon. I counted to three and grabbed...THE QUEST WAS OVER. On the way down the canyon I finally realized that it's not the quest, but what you go through on your way. I hope some of you HLCS members will want to do what I did, and enjoy the hunt as I did.

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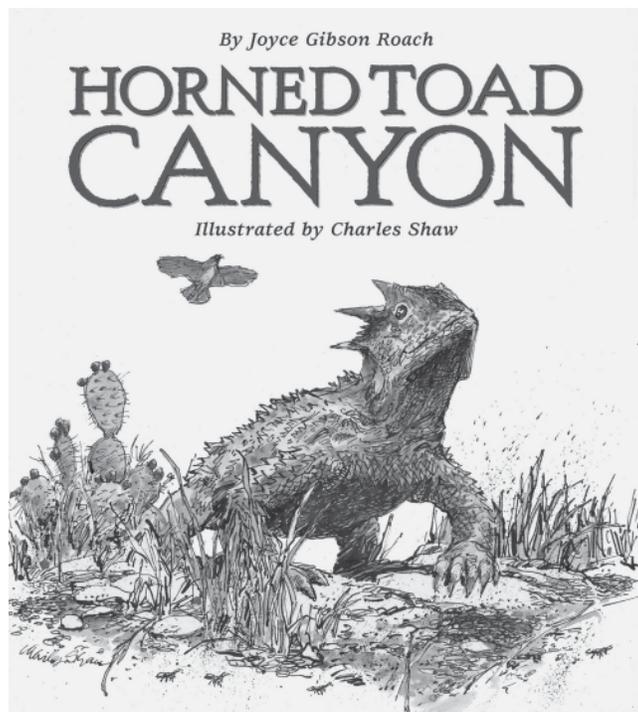
## Book Reveiw: *Horned Toad Canyon*

by Joyce Gibson Roach & illustrated by Charles Shaw

Bright Sky Press, 2003, 48 pp.

review by Wendy Hodges

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Joyce Gibson Roach's story-telling about a day in the life of Tuck, Beam, Shine and the rest of the gang at Horned Toad Canyon is a wonderful trip into West Texas. The story is rich with Southwest culture, language, and natural history - elements that are subtle yet integral to placing the reader within the landscape and allow readers to feel, hear, see and experience the story in its entirety.

The story accurately describes small details about biology and natural history then mixes the facts with delightful personification of each animal, from the brave horned lizard, Tuck, to the awkward Harris Hawk. It is a true joy and pleasure to transport oneself into the lives of the Canyon residents through Roach's writing, and the accompanying illustrations add another level of beauty to an excellent story.

Joyce is a loyal HLCS member who lives in West Texas and helped arrange the last meeting and survey for the Texas Chapter. Her new children's story for ages 6-12 is a 48-page jacketed hardcover book (ISBN 1-931721-01-7). It will be available in bookstores beginning in October 2003, and it is also available directly from: Bright Sky Press, 866-933-6133, fax 325-762-3690, [http:// brightskypress.com](http://brightskypress.com)

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# Bette's Traveling Horny Toad Racer

by Tom McCain

New Mexico Chapter President

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Bette's Champion Horny Toad Racer was loaned to me for the Horned Toad Derby in Coalinga, California on May 24-27, 2003.

The Horned Toad Derby is an event I have done for the past seven years. It's a lot of fun. They have raced live coastal horned toads since 1933. They have state and federal permits, and are very careful to return them to the places they are found, after about one week. So this was a very good place for Bette's racing horny toad.

I would drive the horned toad racer, on stage and around the race track. A very big hit for all. Well, the 2nd day I was driving the horned toad racer in the grass close to the race track, when a kid on a bicycle, not looking, ran over the right rear wheel and tire, crunching the wheel and he left tire marks on the tail. It broke the poor horny toad racer in half. I was in SHOCK! I wanted to kill, but kept my cool, although I was



screaming inside, "Road Killed Horny Toad!" Only two wires held the two halves together and the horned toad racer was not looking too happy, rather limp. I carried my

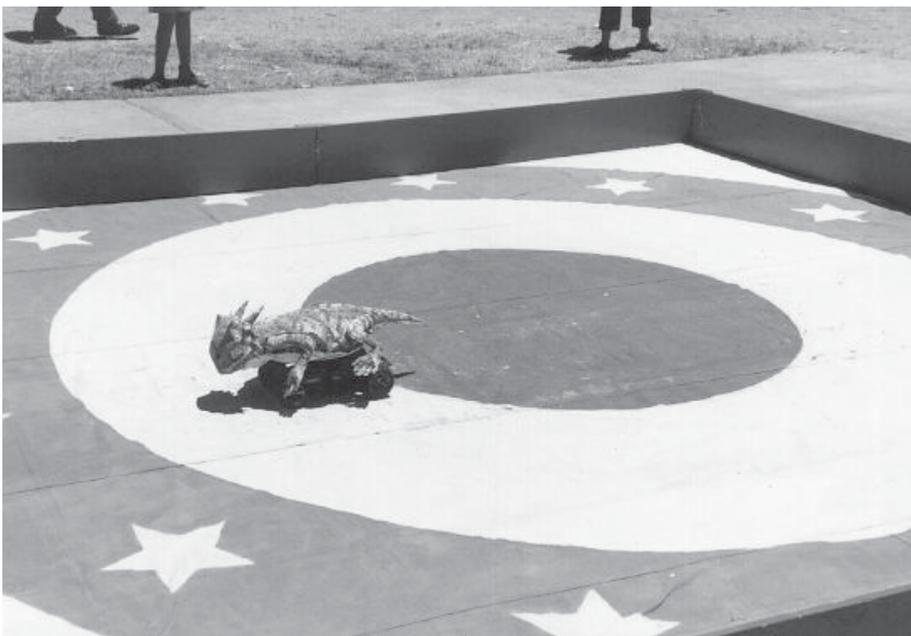
borrowed horned toad racer back to my camper and cried.

That night after work, I looked closer and found that it might be fixed. So with a lot of glue I put it back together the best I could. Next day I tested it and it worked (with a little wobble in the smashed wheel). It made the rest of the event in proud and glorious style.

When I got home I found a new racer the same as the old racer, only newer, a 2001 version, just as fast and looks the same.

On a higher note, it has started a whole new event at the Horned Toad Derby. The sponsors of the event and others are going to build their own horny toad racers for next year. I hope to have one too.

So Bette's horny toad racer was the best of show again. History was made.



# National and Chapter News

## HLCS General Meetings to Round Out 2003

Mark the following dates on your calendar: October 18 and December 6, 2003. The entire HLCS membership is welcome to attend two general meetings in Austin, Texas, along with anyone from the general public, herpetologists, and horned lizard researchers.

The meetings will include educational slide presentations about the current status of horned lizards, recovery and protection efforts, general HLCS announcements, and organization information.

The meetings are scheduled for two Saturdays at 7:00pm at the Joe C. Thompson Conference Center on the University of Texas at Austin Campus. Parking is free in the designated TCC parking area, Lot 40 (see map).

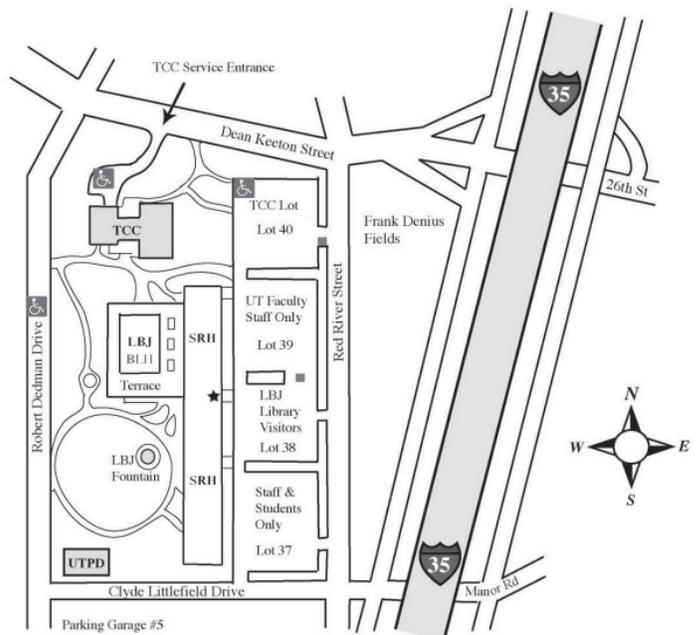
We will also have a National Board of Directors meeting on one of these dates, still to be determined. If you are interested in attending the NBOD meeting specifically, please contact Wendy Hodges (contact info. on page 2). Otherwise.... HOPE TO SEE YA'LL THERE!

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	Thompson Conference Center		UT Police Department



### National

On July 1, 2003, Bill Brooks' term as National President expired. President-Elect Wendy Hodges has succeeded him to become the current National President. The Society would like to thank Bill for all his hard work as President.

With Wendy becoming the National President, the position of President-Elect has become vacant. HLCS is soliciting nominations to fill that position and the position of Secretary/Treasurer. See page 9 for more information. Nominations are due by November 1, 2003.

### Wanted: *Phrynosomatics* Editor

At the end of 2003, Scott Messec, will be stepping down as the *Phrynosomatics* editor. If you are interested in applying for the editor position, please contact Scott Messec or Wendy Hodges at the information listed on page 2.

### Texas

The Texas Parks and Wildlife's Hometown Horned Lizard Essay Contest 2003 was a big success. A total of 121 essays were submitted. Thirty of those were team essays, while the other 91 were individual essays. The essays included 366 interviews covering 22 different counties.

The Texas Chapter will have a booth at the meeting of the Society of Environmental Toxicology and Chemistry in Austin. They especially need volunteers for the weekend of November 8th and 9th (but any time between the 8th and the 13th would be helpful.) We need to continue our outreach and if you have the time, they could sure use your help.

If you need details on any of this event or those on the front page, please contact:  
Bill Brooks (512) 581-0377  
Bgbrooks@mail.utexas.edu

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# Horned Lizard Survey on The Lambshead Ranch 2003

by Bill Brooks

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It was hot, but I was ready to go. The article on the small North Texas town of Albany, in the June 2003 edition of "Texas Monthly Magazine", piqued my interest in the area. The evening of Thursday, June 17th, I took slightly over five hours to drive from Austin to the Albany Motor Inn, the unofficial HLCS headquarters for the trip. I did not get up early Friday morning, but even so, I had the whole day to poke around town and get the "lay of the land" before the others arrived that evening.

The first thing on my "to do" list was to drop in on the Albany News office. I spoke to a few nice folks there and explained why the HLCS was in town. I then checked out some of the local shops and eateries, getting large glasses of ice tea whenever possible. I spent some money at the Lynch Line Bookstore, buying a beautiful book, "Watt Matthews of Lambshead" with text and photographs by Laura Wilson and I vowed to find and read, Sallie Matthews' memoir, "Interwoven". I walked next door to Rue Judd's Bright Sky Press and picked up proofs of Joyce Roach's newest book, "Horned Toad Canyon" as well as a stack of Jane Manaster's newest revision of "Horned Lizards" that Joyce had ordered, which our members could buy this weekend. (All the sales were donated to the HLCS. Thank you, Joyce.)

Just down the street I found and walked the Labyrinth next to the First Christian Church. Next door to this was the wonderful Old Jail Art Center. Albany's old jail houses a world class art center. What a delight this was to see in a town so

small you could drive across it in ten minutes (if you drove s-l-o-w-l-y). I do believe this is one of the best small towns Texas has to offer. I felt so grateful that Joyce Roach had set up this field trip and that Rue and Arden Judd allowed us access to the Lambshead Ranch. I happily told Joyce so when she arrived with her mother later that day. Several of us had dinner together at the Icehouse.

The thirteen HLCS members who were on this trip had agreed to meet in front of the Court house (and the only street light in the town) at 7:30am but not before some of us had a Dairy Queen breakfast. I had sausage, biscuits and gravy and it was mighty fine way to start the day. We then headed to the main headquarters of the Lambshead Ranch. (Of course, I had to stop to look at a dead Ribbon Snake on the highway.) We thoroughly searched a pasture near the horse pens. On our trek through the fields we heard a squeal, which led us to a rat vocalizing as a large coachwhip snake, ate it. No doubt this snake had never had a meal with such a large audience. Just a bit later we pulled a Western Massasauga out from his hole in a pickly pear patch. It was a lovely little snake.

We had seen some interesting things but no horned lizards. Watt Casey, well known photographer and part of the Lambshead Ranch family, arrived and took us on a tour of the ranch. We visited the original ranch house, several other structures and the family cemetery. At each stop we looked for lizards but none were found and as Watt took us from place to place, I'm sure Watt felt like he was herding cats.

We finally wound our way back to "the cookhouse" for a fantastic tostada lunch. When we were all stuffed with great food, compliments of the Judds (part of the family ranch committee who govern Lambshead), we had a short Texas Chapter meeting. A group of us took a last look at a Texas Spiny Lizard before we disbanded and returned to Albany.

Before dinner some of us drove to Fort Griffin State Park for one last look for horned lizards. Again we found none of them, but the other things we saw made it all worth while. We saw a coyote, a roadrunner that enjoyed posing, and a lovely patch of blooming Bluebell Gentialan.

Many of us concluded this wonderful day with dinner at the Fort Griffin General Merchandise Restaurant, the best eatery in Albany. I had a chicken fried steak the size of a plate. Ruthann gave me a big bite of her prime rib. I am still dreaming about that prime rib. It was by far the best I had ever tasted and I can hardly wait to return and get my own.

Thus ended the best horned lizard survey I've ever been on in which no horned lizards were found. Everyone said horny toads lived in the area, just not when and where we were. I, for one, think we should check again.

Many thanks to all who attended and made this trip a delightful outing: Edgar Dunn, Cathy Maycock, Steve Levey, Leslie, Eva and Vivian Nossaman, Ruthann Panipinto, Carolyn Todd, Deborah Cobb, Todd Osborn, Rollo Newsom, Joyce Roach, her mom and me, Bill Brooks.

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# Book Review: *Introduction to Horned Lizards of North America*

by Wade C. Sherbrooke

University of California Press, 2003, 176 pp.

review by Pam Allison

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Did you ever wonder which species of Horned Lizards squirt blood from their eye sockets, and which ones don't?

Or which species of Horned Toads bear live young and which ones lay eggs?

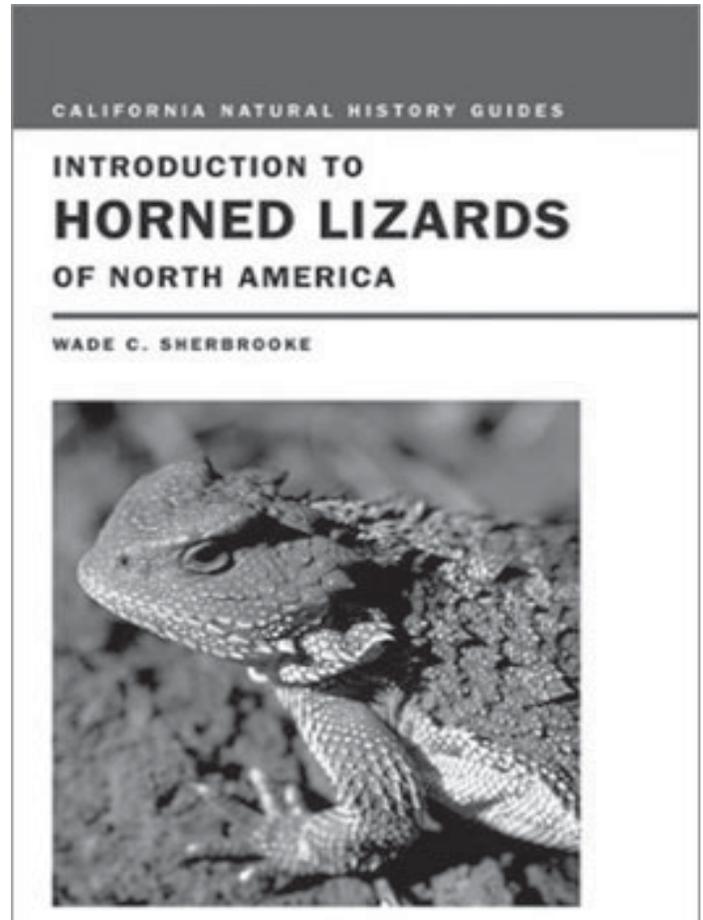
There are behavioral and physiological patterns rooted in the evolution of *Phrynosoma*, the genus of the lizards we affectionately know as horned toads or horned lizards. In this book, the author shares his insights and the current understanding of the evolution of *Phrynosoma* and the adaptive radiation of the various species across a variety of habitats in the western parts of North America. As you might imagine, the variation found in Horned Lizards in nature is amazing and "worthy of contemplation," and will only enhance your appreciation of horned lizards.

Currently, 13 species are considered to make up *Phrynosoma* – although, as biologists continue to study and better understand the relationships among various species, some species may be reassigned as a subspecies of a closely related species, or a subspecies may be elevated to a species in its own right. The author describes the characteristic habitats for each species and the behavioral traits that allow the species to survive and succeed – some in extreme and unlikely places.

*Introduction to Horned Lizards of North America* by Dr. Wade C. Sherbrooke provides the current state of knowledge about this most beloved group of lizards. Recently published (2003), this book is part of the California Natural History Guides by the University of California Press.

The 134 color plates provide students of all ages with the rare opportunity to observe details of each species and many of the behaviors of these unique lizards. It is the first book to include descriptions and updated range maps for all 13 *Phrynosoma* species.

In addition, the author shares insight into the role Horned Lizards have played in their associations with prehistoric native peoples – recorded in surviving mythology and art depicted in tools. Indeed, horned lizards continue to affect our psyche today.



Horned Lizards bring out the best in humans, and this presentation about these unique lizards can only awaken our wonder in nature and the wild, and awareness of the importance of home (habitat) – even to a lizard. It is the author's hope that contemporary people may more widely recognize the importance of "a life-support system for a fellow creature that they have come to understand and value."

This book is a good beginning toward realizing that hope.



# HLCs Nominations Ballot

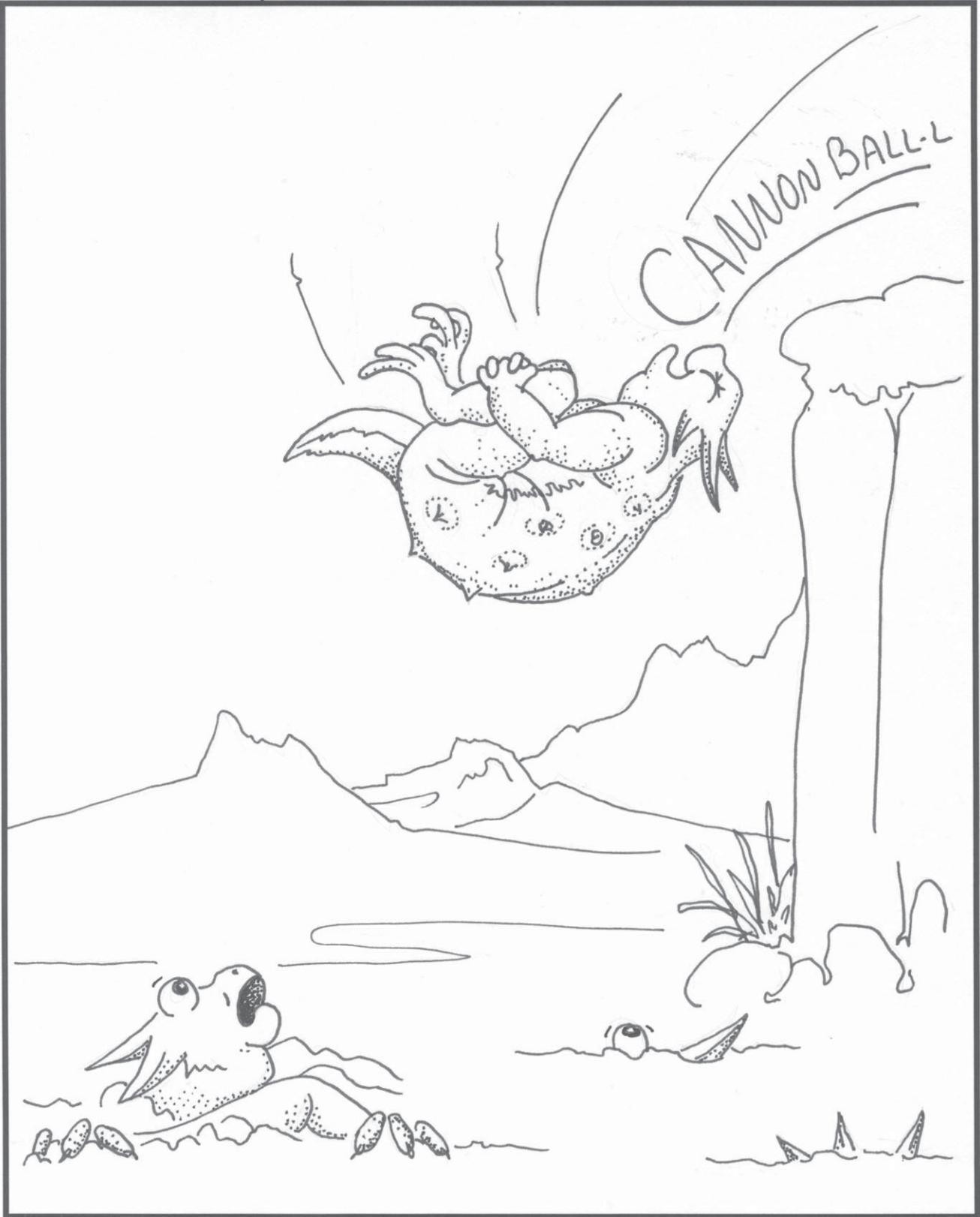


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# HLCs Nominations Ballot



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