

Our purpose is to document and publicize the values and conservation needs of horned lizards, to promote horned lizard conservation projects, and to assist with horned lizard management initiatives throughout their ranges.

Horned Lizards at Horned Lizard Ranch

by Bayard H. Brattstrom



The world's largest horned lizard. Made by Mario De La Cruz, Figuras de Fierro, Litchfield Park, Arizona. Photo by Bayard Brattstrom.

The 640 acre Horned Lizard Ranch and surrounding BLM land occurs on the northernmost portion of the Sonoran Desert near the Big Sandy River, about 25 km south of Wikieup, Arizona. Palo verde, saguaro, ocotillo, and creosote attest to its Sonoran Desert nature. Joshua tree, California and Utah juniper are indications of the flora's affinity to the Mohave and Great Basin Deserts.

While I live in a solar-based straw-bale house in the northwest corner of the property, most of the rest of the land, though lightly grazed, is left alone as a reserve. The only native horned lizard is the desert horned lizard, *Phrynosoma platyrhinus*.

Like other members of this society, I collect

Continued on page 3

National Board of Directors

President

Jill Heatley DVM
College of Veterinary Medicine
Texas A&M University
College Station, Texas 77843
979-845-1202
jheatley@cvm.tamu.edu

Secretary

Beth Bendik
Austin, Texas
bethmoellerbendik@yahoo.
com

President-Elect

David Wojnowski, Ph.D.
Assistant Professor
University of North Texas
Department of Teaching, Edu-
cation & Administration
1155 Union Circle #310740
Denton, Texas 76203-5017
david.wojnowski@unt.edu

Treasurer

Carolyn Todd
carolyn@thetoddreport.com

Member Services

Amy Trost
604 Corral Lane
Austin, Texas 78745
amystrost@gmail.com

Director At Large

Danny Martin
Natural Resource Ecology Lab
Colorado State University
1499 Campus Delivery,
Fort Collins, CO 80523
dannym77@lamar.colostate.edu

on the web at — www.hornedlizards.org

Colorado Contact

Danny Martin
Natural Resource Ecology Lab
Colorado State University
1499 Campus Delivery,
Fort Collins, CO 80523
dannym77@lamar.colostate.edu

Southern California Contact

Lester G. Milroy III
14321 Ricaree
Apple Valley, CA 92307
(760) 946-1094
les4toads@aol.com

Texas Contact

Lee Ann Linam
Wildlife Diversity Branch
Texas Parks & Wildlife Dept.
200 Hoots Holler Rd
Wimberley, TX 78676
leeann.linam@tpwd.state.tx.us

New Mexico Contact

Tom McCain
PO Box 53095
Albuquerque, NM 87112
tom@httom.com



Phrynosomatics Copy Editor

Leslie Nossaman
poppies14@comcast.net

Phrynosomatics Design Editor

Fannie Messec
fmessec@yahoo.com

Please Send Membership Applications or Requests for Information to:

**HLCS
P.O. Box 122
Austin, TX 78767**

info@hornedlizards.org

horned lizard art and artifacts. I'd like to share some of these with you all, with the pictures of a small portion of my collection. This includes the largest horned lizard in the world, the 30 feet long, 11 feet high, 11 feet wide metal sculpture I commissioned Mario De La Cruz of Litchfield Park, Arizona to make for me. This large sculpture is the photo on the front page.

I have many of his works including a 20 feet long Gila monster, turtles, crocs, elephants, and moose that stand along the one mile drive way to my house.

In between the sculptures are found-object works of mine. On this page and page 4, are more pictures of my collection. I welcome you to come view my collection in person. If you are ever in western Arizona, write or call and come visit. The email is bayard@hughes.net and the phone is 928-716-4574.



Solar-based straw-bale house on Horned Lizard Ranch with 4 foot long horned lizard. Photo by Bayard Brattstrom.



A group of metal horned lizards. The largest are 3 feet long. Photo by Bayard Brattstrom.



Horned lizards on pots made by Betty Manygoats, Navajo. Photo by Bayard Brattstrom.



A few of the Navajo and Zuni horned lizard fetishes in the collection of Bayard H. Brattstrom. Photo by Bayard Brattstrom.

Continued on page 4



Anasazi style horned lizard carved out of basalt by Desert Little Bear, Yaqui-Apache. Photo by Bayard Brattstrom.



Polymer clay horned lizard created by Sandra Lee. Photo by Bayard Brattstrom.



Head of world's largest horned lizard. (note the ants on the ground in front of it)



Four Navajo rugs with horned lizards. Photo by Bayard Brattstrom.



HLCS Members Enjoy Visit to Experimental Release Site

By Lee Ann Johnson Linam

HLCS members enjoyed a visit to an experimental horned lizard reintroduction site in Parker County, Texas, in September. The field trip, held on September 8 and 9, was blessed with great hospitality, informative presentations, the arrival of the first cool front of the year, and encounters with three horned lizards! The trip also provided a wonderful opportunity to learn about the ongoing conservation efforts by the Fort Worth Zoo.

In 2010 the Fort Worth Zoo invited partners, including the Horned Lizard Conservation Society, Texas Christian University, and Texas Parks and Wildlife Department, to sit down and talk with them about initiating an experimental horned lizard release in North Texas. The Fort Worth Zoo, whose ectotherm program is directed by Diane Barber, has led other zoos in horned lizard conservation efforts, including successful exhibition, propagation, and hibernation of Texas horned lizards. With experience in other reptile reintroduction programs and with a population of rescued horned lizards that was continually expanding, the zoo was a natural to lead exploration of the widespread interest in horned lizard reintroduction.

In late 2010 and early 2011 local Texas Parks and Wildlife Department Wildlife Diversity biologist Nathan Rains worked with zoo staff to identify an appropriate site—one with a history of horned lizards, but currently unoccupied; where habitat restoration efforts have taken place; with appropriate management and vegetation structure; with abundant harvester ants; with sandy soils and low red imported fire ant populations; and with an open and supportive landowner.

The site chosen was a 60-acre property belonging to Eileen and Richard Porter, members of the Native Plant Society of Texas, who have actively worked to maintain and restore native habitats on the property over the last few years.

The property, a mixture of native prairie and woodland mottes under controlled grazing management, has a variety of many wildlife species, including a mountain lion(!), but has not had horned lizards since the 1980s. Nathan and zoo staff were especially impressed with a seven-acre pasture that had 29 harvester ant beds in close proximity to each other.

In spring/summer 2011 the zoo constructed an 8' x 8' x 3' hardware-cloth enclosed release pen over a harvester ant bed in that pasture. The first two horned lizards were placed in the pen in June 2011. At first zoo staff provided harvester ants, but soon discovered that horned lizards in the pen were finding adequate food on their own. After ten days the walls of the release pen were removed, and the two lizards, fitted with radio transmitters and passive internal transponders, were free!



Horned Lizard with the radio transmitter attached. Photo by Pete Floyd.

Zoo staff visited the site several times per week and used radio receivers to check on the lizards' movement and status. Four horned lizards were released in September of 2011, and the hibernation locations of three of those original lizards were tracked over the winter. All three successfully came out of hibernation, and two lizard releases followed in 2012, bringing to thirteen the total number of horned lizards released over the two summers.

Continued on page 6

The release effort has been successful in several ways—One notable success is that lizards placed in the soft-release pen stayed near the release area and exhibited good survival in the initial periods following release. In the past when horned lizards were released in new habitats without the acclimation period they tended to disperse widely and show high mortality. A second encouraging event was that at least one female seemed to lay eggs based on changes in body weight.

As expected, however, the experiment has not been without difficulties. At least three horned lizards are known dead—one from a yolk embolism, one from unknown causes, and one was found in the belly of a copperhead! (The Fort Worth Zoo eventually recovered its transmitter from the copperhead, and the snake is now on display at the zoo!). Other radio transmitters have failed or been lost, so the fate of those lizards is uncertain. At this time, three horned lizards are still being tracked on the property, though we hope more are still surviving there.

So, when our group of volunteers arrived at the Porter property on Friday afternoon, we were eager to step in and be a part of this research effort—specifically hoping that we might be able to locate some of the lizards without working transmitters or perhaps even some young hatching horned lizards. As we arrived the sun was approaching the horizon, but temperatures were still in the triple digits. Nevertheless, our small

group headed out to the property with Eileen and Nathan and began methodically walking the small pasture. Grasshoppers of all sizes scattered about and caught our eyes and our breath, but no lizards were out. In fact, most of the harvester ant mounds were inactive, following a week of temperatures above 100 and over a month with little rainfall. We adjourned to Eileen and Richard's camphouse, where Nathan shared some of his GIS files showing the movements of the 2011 radio-tracked lizards. One interesting pattern was the frequent use of the oak mottes by several of the lizards.



"Can I touch it?" Diane Barber of the Fort Worth Zoo holds the lizard while Pete Floyd apprehensively touches the horned lizard. Photo taken by David Wojnowski.



Lee Ann Linam of HLCS, Diane Barber of the Fort Worth Zoo, and Eileen Porter pose with a horned lizard. Photo taken by David Wojnowski.

The next morning we awoke to a new world—puddles on the roads and a cool north breeze! Temperatures had dropped nearly 40 degrees overnight, so we first convened to the Porter's camphouse, where Eileen provided us with some history of the ranch and Diane Barber gave us the background on the zoo's efforts in horned lizard husbandry and the release program. (Diane noted that a donation from HLCS had been used to build some of the holding pens for horned lizards at the zoo.)

By the time we emerged into the sunshine, conditions were perfect for finding basking horned lizards, and zookeeper James Hall led us to the pasture. Even as James was beginning to assemble his telemetry receiver, HLCS President-elect David Wojnowski spotted the first horned



Smile for the camera. Photo taken by David Wojnowski.

lizard of the day—a female catching some sunshine on the edge of an oak motte. James collected identification information and internal body temperature information using a PIT tag reader and substrate temperature (zoo staff do not handle the lizards every time they find them,

but gather this data using scanners). Interestingly, though the air temperature was only in the 80s, the lizard’s internal body temperature was 101 —perfect for a horned lizard!

James led us to the other two horned lizards still wearing radio transmitters. The adhesive on one transmitter needed to be replaced, so everyone had a chance to touch that horned lizard after Diane caught it. Though the temperatures remained perfect, and though we again methodically searched the seven-acre release site, no other lizards were encountered. Perhaps they wore a cryptic smile as we passed them by—blending into their surroundings as they should—and, as we went on our separate ways to enjoy the Weatherford Farmer’s Market and TCU Horned Frog football and other callings—perhaps they were there, quietly ready to go on playing their part in the return of horned lizards to central Parker County...we hope so at least...



Calling All Horned Lizard Survey Ideas!

By Lee Ann Johnson Linam

think we should explore?

tpwd.state.tx.us) to help HLCS offer some great opportunities to its members.

Do you know of some great locations for horned lizard surveys? Are you involved in a horned lizard project where you need some volunteer help? Is there just a neat place that you

We’re looking for horned lizard survey ideas for 2012 and 2013. We’d welcome ideas for any state or any horned lizard species. Please send ideas to Lee Ann Linam (leeann.linam@

Watch for details in upcoming newsletters.



Painted Horned Lizard on a Rock

Looks real, doesn't it?
Painting (and photo)
by Bryan Carter.



Southwest PARC's Flat-tailed Horned Lizard Biomonitor Training

By Danny Martin, Robert E. Lovich, David Wojnowski, Brian Aucone, and Jack Crayon

The Flat-tailed Horned Lizard (*Phrynosoma mcallii*) is one of the most at-risk species of horned lizard. This species was proposed in 1993 to be listed as a federally-protected species under the Endangered Species Act, largely due to loss of habitat from conversion of native lands. While the U.S. Fish and Wildlife Service was initially considering whether or not to list this species as threatened, federal and state management agencies organized an Interagency Coordinating Committee (ICC) and Management Oversight Group, and implemented a Rangeland Management Strategy (Foreman 1997, FTHL ICC 2003).

The ICC provides conservation-based management for the species and in doing so prevented the need for federal listing. As part of the inter-agency agreement, land development projects that were proposed in the Management Areas for the Flat-tailed Horned Lizard are required to assess potential impacts to the species. Thus, developers are required to have certified biomonitors conduct rapid-assessment surveys for horned lizards at proposed development areas within the Management Areas. This biomonitor certification requirement necessitates a formal training program, which has been facilitated by partners in the FTHL ICC since the 1990s.

In 2011 the FTHL ICC requested that the Southwest Partners in Amphibian and Reptile Conservation (SW PARC) take over the lead responsibilities for their biomonitor training program. Brian Aucone (Denver Zoo), Jorge Chavez, and Danny Martin and David Wojnowski (both of HLCS) were contacted to serve as instructors for the training. In May of 2011 the four instructors received two days of training from state and federal agency facilitators. After training, SW PARC instructors worked with facilitators from California Fish and Game (especially Jack Crayon), Bureau of Land Management, Bureau

of Reclamation, U.S. Navy, U.S. Marine Corps, California State Parks, U.S. Fish and Wildlife Service, and Arizona Game and Fish to provide half-day biomonitor training to approximately 75 people over 3 days (groups of about 25 people each day). In June 2012 the program trained approximately 60 people in 2 days.

The training program begins just before sunrise in El Centro, California. We briefly discuss safety issues such as hydration and taking care not to step on sidewinders before heading to the field training site – about a 40 minute drive from town. At the field site, we take about 15 minutes to talk about flat-tailed horned lizards, their habitat, and how to search for signs of lizards in the field. The group then heads into the desert on foot, walking relatively slowly to improve our ability to detect lizard tracks in the sand, lizard scat, or lizards emerging from the sand to warm up for the day.

Once a lizard is detected, we have a strict rule: the entire group creates a large circle (about 20 feet or so) around the lizard, without pointing to the lizard with fingers or cameras, until everyone has found the lizard on their own. This helps everyone establish a search image for these well-camouflaged lizards! We continue through the morning, looking for lizards until the temperatures exceed about 90°F. We often see other reptiles, including Desert Iguanas, Zebra-tailed Lizards, and Sidewinders. We all discuss tracks in the



Class in session. Photo by Danny Martin.

sand and how to differentiate tracks of horned lizards from those of other species. We collect lizard scat to demonstrate how you can differentiate horned lizard scat from that of other lizards.

In the end, we head back to El Centro for some much-needed caffeine, and Jack Crayon (California Fish and Game) leads a discussion about what the legal issues are related to flat-tailed horned lizards, how being a certified biomonitor fits into the conservation plan, and exactly what certification enables (or doesn't enable) the biomonitors to do. This discussion usually takes about an hour, then the training is completed by around 1 p.m.

If you are interested in this training course, it is open to any interested parties. The expected registration fee is \$75, and registration is handled through SW PARC. For details, check out the SW PARC website for updates this coming spring: www.swparc.org

HLCS is excited to continue working through SW PARC to improve our ability to conserve this unique and at-risk species of horned lizard! If you are interested in joining PARC, there is no cost to join, open to anyone, and you can join SW PARC directly through the website listed above.

HLCS would like to thank the many personnel involved in conservation and management efforts for this species. There are many who have participated in the past and those who continue to invest their time and expertise to improve the chances that Flat-tailed Horned Lizards will persist!

More information about Flat-tailed Horned Lizards and the Rangelwide Management Strategy can be found here:

http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/FTHL/Rangewide_Plan_Final_FTHL.pdf

http://www.azgfd.gov/w_c/Flat_TailedHornedLizardTSNS.shtml



Flat-tailed Horned Lizard. Photo by Danny Martin.



Flat-tailed Horned Lizard. Photo by Danny Martin.

Please renew your annual HLCS membership!!!
HLCS depends on its membership for its conservation and educational presence in the community.

Categories for *annual* memberships include:

- Regular \$25
- Student or Senior \$10
- Family \$25 Each additional family member \$10
- Contributing \$50
- Corporate \$250
- Lifetime* membership \$300

The HLCS welcomes contributions in any amount you wish to submit and is a 501(c)3 nonprofit organization.

Texas Horned Lizard Re-establishes on Sullivan's Island

By Bo Petersen

Mom was in the kitchen when 6-year-old Wyly Molten called out that he just saw a spiky lizard in the garden outside.

OK, spikes, Emily Molten was thinking, he's got a caterpillar. Then he showed it to her. "Mommy screamed," Wyly said. A Texas horned lizard will have that effect on you.

Yep, the reptile commonly known as the horny toad has made itself at home again on Sullivan's Island, two decades after the creatures were thought to have been wiped out by overwash during Hurricane Hugo. Wyly is among any number of islanders who are coming across them.

And the critter is a scream. Spines stick like antlers from its wedged head, behind a spike of spine between two fierce black eyes. Its back is pocked and lined with spines.

As if that weren't fiendish enough, the lizard can puff itself up to stick the spines out farther, and squirt blood from its eyes.

The palm-sized horny toad is

so bizarre that people, naturally, love it. And it's docile enough that it is sold as a pet. "Such a cool little creature," Emily Molten said. "It really is like a dinosaur," said Beezer Molten, her husband. Steve Bennett, S.C. Department of Natural Resources herpetologist, is quick to point out the



Photo taken by Emily Molten.

lizards don't belong on Sullivan's Island.*

They are one of those invasives, species introduced from somewhere else, that can overtake native species. He'd rather they weren't there. But, yeah, he likes them too, he admits.

These guys don't seem to be going anywhere. The Southwest desert reptiles turned up on the Lowcountry barrier island in the 1940s. The culprit is suspected to be World War II.

Horny toads are popular pets in Texas, and service people stationed on the island likely brought a few along to remind them of home. The lizards slipped off into the sandy, desert-like environs and quickly had the run of the place, as well as Isle of Palms nearby.

Then came Hugo. The monstrous 1989 hurricane swept the island under more than 10 feet of storm surge. A desert critter didn't have much chance. After the storm, the lizards were among a number of species that had disappeared. But, "if you have one or two survivors, that's all you need to restart a population," Bennett said. "Apparently some survived."

So far, state wildlife biologists take a leave-and-let-be position on the lizard, because it doesn't seem to be disrupting native species. Biologists have whole habitats full of disruptive invasives to deal with.

Lucky for Wyly. He wanted to keep that first horned lizard he caught for a pet of his own. But it eats ants, not the sort of pet food that is easy to provide. So Mom made a deal. If Wyly would release the lizard, she'd

get him something else. "A leopard gecko," Wyly said. Pretty cool.

Lizard facts

- Called horny toads because of their appearance.
- Found in hot, sandy habitats, but will seek shade on hot days to keep from overheating.
- Masters of camouflage. Change colors to blend into background. Will sit by ant-hills to pick off prey.
- To confuse predators and escape, will squirt droplets of blood from the corners of their eyes.

This article is a reprint dated May 28, 2012 from *The Charleston South Carolina Post*

and Courier. Thanks to Bo Petersen (bopete@postandcourier.com) and Tom Clifford at the *Post and Courier* for allowing the *Phrynosomatics* Editors to share this article with our readers. The link to the article can be found here:
<http://www.postandcourier.com/article/20120528/PC16/120529181/texas-horned-lizard-re-establishes-on-sullivan-s-island&source=RSS>

*Editor's Note: Though the title of this article mentions horned lizards being "re-established" on Sullivan Island, as the author points out, no horned lizard species are native to South Carolina. Texas horned lizards

were established in several coastal habitats in the eastern United States many years ago (see map from the Savannah River Ecology Lab), presumably as a result of translocated animals in the pet trade being released. Many of these populations are in sandy habitats with native ant populations similar to good habitats in Texas.



Horned Lizard Research Grant 2013 Applications

By Danny Martin

The Horned Lizard Conservation Society is dedicated to protecting horned lizards by documenting and publicizing the values and conservation needs of horned lizards, promoting horned lizard conservation projects, and assisting with horned lizard management initiatives. Towards those ends, the HLCS annually sponsors research that has direct conservation applications. To learn more about the society and past grants, go to <http://www.hornedlizards.org/>.

We will be offering grants again in 2013. In the past, priority has been given to projects that have

direct conservation implications, including public education.



In the past, we have dispersed at least \$1,000 each year usually split between several selected proposals. We expect to have at least that amount available in 2013.

To apply, send a proposal detailing the goal of the study, the rationale for it including relevance to conservation of horned lizards, and how your work would benefit from this opportunity. The proposal may not exceed 1000 words, excluding up to ten references. Also include a preliminary budget with any other funding sources available or received for your project. In addition, send a short resume or CV (up to 3 pages) for the lead applicant and have a single letter of reference sent to Jill Heatly: jheatley@cvm.tamu.edu. The deadline is January 1, 2013. The decision will be announced by January 31, 2013.





Post Office Box 122, Austin, Texas 78767

Return Service Requested

PLEASE JOIN US! Students/Seniors: \$10; Regular: \$25; Contributing: \$50; Corporate: \$250; Lifetime: \$300
Families: \$25 for the first person and \$10 for each additional member
HLCS is a 501(c)(3) non-profit organization. Contributions are deductible to the extent allowable by law.

Printed on Recycled Paper

Table of Contents

Horned Lizards at Horned Lizard Ranch	pages 1, 3 - 4
Bayard H. Brattstrom	
HLCS Members Enjoy Visit to Experimental Release Site	pages 5 - 7
Lee Ann Johnson Linam	
Calling All Horned Lizard Survey Ideas!	page 7
Lee Ann Johnson Linam	
Painted Horned Lizard on a Rock	page 7
Bryan Carter	
Southwest PARC's Flat-tailed Horned Lizard Biomonitor Training	pages 8 - 9
Danny Martin, Robert E. Lovich, David Wojnowski, Brian Aucone, and Jack Crayon	
Texas Horned Lizard Re-establishes on Sullivan's Island	pages 10 - 11
Bo Petersen	
Horned Lizard Research Grant 2013 Applications	page 11
Danny Martin	

***Phrynosomatics* is now sent electronically.**