



The Desert Tortoise Preserve Committee, Inc.

Fall 2011 31:3

Notes From the Field

By Freya Reder

This was my first year as the Interpretive Naturalist at the <u>Desert Tortoise Research Natural</u> <u>Area (DRTNA)</u> and I can honestly say it was one of the richest and most rewarding experiences of my career thus far. Originally from southern California, I recently returned from southern Africa where I was a safari guide and naturalist for 16 years. Though new to the western Mojave Desert, I know desert habitat and wildlife in its many forms and I began the naturalist season eager to see what the Mojave would hold for me. I was not disappointed.



Our season began and ended with exceptional sightings. On the morning of April 2nd, **Dr. Kristin Berry** held a wildflower walk in the DTRNA with 22 people in attendance.

Not only were we able to benefit from Dr. Berry's expertise, but we were equally fortunate to observe two resident desert tortoises (female #599 and male #749) displaying courtship behavior while on our walk. The previous day while leading a field trip, we had seen male #1056 with female #599, also courting. In both instances, the male tortoise followed the female closely, bobbing his head and occasionally ramming himself into her. This made for exceptional viewing on our walk. Upon returning to the Interpretive Center (IC) and the parking area, "Starfoot," one of the unmarked female desert tortoises, created a crowd as she slowly made her way across the parking lot, sniffing and ingesting soil for its mineral content. Later the same day, while escorting a group from Brooks Institute out to where we had earlier seen the courting tortoises, we observed #749 and #1056 (both males vying for #599's attention) in battle. Male #1056, described by others as being a dominant male in the area, was repeatedly defeated by the smaller This was an excellent and action-packed #749. (words not usually associated with tortoises) beginning to the season.

I am told I was fortunate in terms of the weather this year and it is true, spring was kind to us. It never really did get hot, only a handful of times did I even contemplate wearing shorts. I relished the cooler weather and took every opportunity to take advantage by spending time in the field, familiarizing myself with my new surroundings and the tortoises. Overall, tortoise sightings were regular and equal in individual numbers to last year. Throughout the season, 14 tortoises were seen within ³/₄ of a mile of the Interpretive Center, with an additional 5 seen by visitors a mile or more from the IC. Of the 14, males #1059, #1056, #589 and "Chip" were seen with regularity on the trails or nearby. Two unmarked but very familiar females, "Starfoot" and "Pat" visited our parking lot several times throughout the season, both in search of minerals from the soil. Included in the count of 14 were 2 immature tortoises, ~150 mm in length, one of whom had already survived an attack by either a dog or coyote judging from the size of the teeth marks evident on its carapace. Near the end of

the season, **Marlene and Steve Ishii** made another thrilling discovery while on a day hike at the DTRNA. A juvenile tortoise no larger than 65 mm (2.5")!



Rainfall was above average this year and the wildflowers were abundant in their display. Amongst the glow of Alkali goldfields, thistle sage, lupine, spiny hop sage, desert dandelion, snake's head, Mojave aster; hill lotus; desert candle; several *Eriogonum* species and paperbag bush featured heavily. Early in the season **Denise LaBerteaux** made an important discovery of another plant species to add to the flora of the DTRNA, the **Barstow woolly sunflower**.

The list of bird species observed during the (Continued on page 2)

(Continued from page 1)

Naturalist season at the DTRNA also expanded this year, with five new species added. Interestingly, two of the new species are primarily city or town dwellers: the house sparrow and the rock pigeon. A brownheaded cowbird made a brief appearance. The most exciting new observations, however, included that of the barn owl, discovered first by Laura Mogg and Charlie Massieon in Cache Creek, a desert wash in the southwestern corner of the DTRNA, and viewed later in the season by Mary Kotschwar, and a memorable sighting of white-faced ibis. A couple from New Hampshire visited late one afternoon and joined me on my "afternoon rounds." As the day's light was beginning to fade, we were headed back to the IC from our walk when we looked up and saw a flock of more than 40 white-faced ibis flying straight towards us, low and silent, headed northwest. Presumably these were migrants that had stopped over somewhere nearby. We stood in awe at the unexpected and brilliant sight of greenish-black iridescence flashing on their wings as they passed overhead.



In the way of reptiles, another sighting of note was that of a pair of mating red racers observed and photographed while on my morning rounds. Gopher

snakes were certainly the most frequently seen snake, though sightings of Mojave rattlesnakes and longnosed snakes were numerous; a young king snake was also observed.

Visitation to the DTRNA by off-highway vehicle users continued to be strong this year and I was pleased to see that many of the groups were families. I found the children's enthusiasm for desert habitats inspiring and I looked forward to these opportunities to lead these families on interpretive walks within the DTRNA in search of the desert tortoise. I was impressed with the variety of visitors we received overall, both from within the continental US as well as internationally. Visitors from Germany, the Netherlands, Canada and the UK found their way to us, as did others such as the couple from New Hampshire

who had planned their itinerary to include the DTRNA. As expected, all who came to visit us came in search of the desert tortoise; I was delighted, however, that many also came in search of



other species, reptiles or otherwise. To my surprise, two sets of visitors, one from Ohio, the other from the UK, came in search of the elusive Mohave ground squirrel. I'm happy to report both were rewarded with excellent sightings. The couple from Ohio was in part responsible for what later led to a survey we launched at the DTRNA of the Mohave ground squirrel, as it was with them that I saw the first of two litters I encountered this season. More about the Mohave ground squirrel and our findings will be discussed in another article in this issue.

I would like to thank **Ed Patrovsky**, the relief naturalist and volunteer **Chuck Hemingway**. Ed's company was enjoyable and a relief from the inherent solitude such a job requires. Chuck was helpful in more ways than I can list and was often a gracious host and a good friend. A special thanks to the **Bureau of Land Management** for again providing a trailer for educational displays, for their continued support for the Naturalist position. The **California City Police Department** deserves special mention for their vigilance in their efforts to protect the DTRNA and surrounding areas and for their regular visitation. Lastly, I wish to thank the Desert Tortoise Preserve Committee for their initial vision and their current mission.



Mohave ground squirrel observations, Spring 2011

Article and photos by Freya Reder

The Desert Tortoise Research Natural Area (DTRNA) provides protected habitat not only for the desert tortoise, but for all wildlife and plant species that exist within its boundaries. The Mohave ground squirrel (Xerospermophilus mohavensis) is one such species. The Mohave ground squirrel is a small herbivorous rodent found only in the western Mojave Desert in desert-scrub habitats. Because of habitat loss and fragmentation, the Mohave ground squirrel has long received state protection and has been listed as Threatened under the California Endangered Species Act since 1985. The species is currently under review for federal listing. Like the desert tortoise, the Mohave ground squirrel has a limited period of activity. For adults, this active season usually extends from February through July, with the rest of the year spent in dormancy. For juveniles, this period of activity is extended through August, as additional time is needed for their growth and dispersal from their natal burrows. Past studies have shown that the amount and timing of winter rains affect Mohave ground squirrel reproduction and that in years with significantly low winter rainfall, Mohave ground squirrels will not reproduce in the spring. One of the most exciting discoveries for us at the DTRNA this spring was that it proved to be a reproductive year for the Mohave ground squirrel.

I began the season as the Interpretive Naturalist with equal interests in the desert tortoise and



the Mojave ground squirrel, due to their threatened status. Documentation of all species encountered is part of the job of the Naturalist, and so it was with the Mohave ground squirrel. Hav-

ing had a few fleeting glimpses, I was interested to see and point out a Mohave ground squirrel to a visiting friend. We stopped to observe what turned out to be a lactating female, evident by her dark and swollen nipples. She stood watching us while feeding on unidentifiable seeds in the nearby wash. Making a mental note, I began to look for this female daily when out walking on the trails, and more often than not was rewarded with a sighting of her. This lactating female had several dark patches of skin on her back where hair was missing, making her easily identifiable and leading me to refer to her as "**Patches**" from then on. A week later, just after opening the gate to the DTRNA, a couple from Ohio arrived. True wildlife enthusiasts, this couple described themselves as primarily birders who also Adult female feeding on desert

had a "life list" of mammals throughout the world they intended to see. Today, they had come in search of the Mohave ground squirrel. I pointed our visitors in the direction of Patches' burrow,



telling them I would catch up with them shortly and we would look for ground squirrels and tortoises together. When I joined them a short time later on the Animal Loop, I asked if they had luck and they said yes, they had in fact seen 3 juvenile Mohave ground squirrels! Excited by this news I asked them to show me where they had seen the juveniles. Thirty meters downstream from Patches' burrow were three juveniles of undetermined sex basking in the morning sun. Later the same day, I was rewarded with a sighting of Patches with the juveniles nearby.

Within a short period of time, I began to observe several adult Mohave ground squirrels. Soon, I spotted another lactating female near the latrine in the Interpretive Center (IC). This female also had dark, swollen nipples but lacked the dark patches of skin on her back. A few weeks later, another separate litter of four juveniles emerged, this time on the entrance road into the DTRNA. Simultaneously, a litter of antelope squirrels emerged in the same area, on the same day, often appearing to use the same burrows. I took advantage of their proximity to the road to capture some brilliant footage on my camera of the juveniles, two while they were being bitten by red ants. One of these juveniles I captured on film encountering this tiny but formidable foe for the first time face to face. Additionally I observed them feeding on the seeds of checker fiddleneck (Amsinckia tessellata) seeds and red-stemmed filaree (Erodium cicutarium), and the forbs of rose and white wild buckwheat (Eriogonum gracillimum); one individual sampled the dried flower of a goldfield (Lasthenia californica).

A third lactating female was observed while on "morning rounds" with visitors. I wanted to inspect a tortoise burrow in a nearby mineral assessment mound. When first approaching the mound I had seen and pointed out a Mohave ground squirrel to the visitors. Through binoculars I observed while (Continued on page 4)

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it stood in alarm and then disappeared into the mouth of tortoise burrow. Upon closer inspection of the tortoise burrow and its fresh tortoise tracks, the ground squirrel's head appeared a few meters away in the mound. She glanced at me, chirped twice in alarm, and disappeared into the same hole. Only in the photographs did I later see that the squirrel was a lactating female.

In preparation for the long period of dormancy during fall and winter, the Mohave ground squirrel must acquire bulk mass in the form of fat reserves in order to survive. It is common and necessary for them to triple in body weight and mass during this time. Adult females take longer to acquire bulk mass due to their reproduction; therefore, the male's state of enormity becomes evident well before that of the females or juveniles. One male in particular appeared to put on bulk mass well before the others and I began to seek him out daily.

This adult male's burrow was situated in the same mineral assessment mound previously mentioned, the female now presumably displaced or had simply moved house. He was what I refer to as "user friendly" in his tolerance and seeming disinterest in my presence on foot, providing I approached cautiously. It was not unusual to spend 15 or 20 minutes, sometimes longer observing and photographing him as he would forage and sometimes cache the seeds of thistle sage (Salvia carduacea) and dried fiddleneck. Of equal interest to him were Fremont pincushion (Chaenactis fremontii) and creosote (Larrea tridentata) flowers. This



male began acquiring bulk mass earlier than any of the other adult males I observed and by this time seemed quite stationary; I observed him foraging no further than a meter or so from one of his burrow entrances.

Excited further by these field observations, I

reported my findings to Dr. Kristin Berry who then shared this information with the rest of the Desert Tortoise Preserve Committee (DTPC). Given that it was clearly a good year for Mohave ground squirrel reproduction in the DTRNA, the DTPC determined that it would be advantageous to survey the surrounding expansion areas for the presence of Mohave ground squirrels. I undertook their request with relish and over the course of the next three weeks undertook the task of surveying these

expansion areas by vehicle and on foot. Recording the geographic locations, date, times, approximate temperature, be-

havior, forage species, and the presence or absence of white-tailed antelope squirrels, and using photographic documentation whenever possible, I covered areas of frequent sightings regularly by vehicle and expanded into new, unexplored areas daily.

During the hours of field observation, the Mohave



ground squirrels foraged heavily on dry fiddleneck seeds and filaree seeds, both dry and green. Additionally they were seen foraging on flowers of creosote bush, Anderson's thorn bush (Lycium andersonii), desert calico (Loeseliastrum sp.), and what appeared to be miniature woolly star (Eriastrum diffusum), and the seeds of little gold poppy (Eschscholzia minutiflora), thistle sage, and Fremont pincushion. At the end of the three weeks and approximately 75 hours of surveying, we had recorded 69 observations of Mohave ground squirrels in and around the DTRNA. Based on geographic locations and timing of observations and the physical features of the animals, we estimate at least 32 individuals were sighted, including 19 adults (7 females, 3 males, and 9 of undetermined sex) and 13 juveniles (3 females, 1 male, and 9 of undetermined sex). The DTRNA is indeed an important area not only for the preservation of the desert tortoise, but also that of the Mohave ground squirrel. The DTPC hopes to continue studying this species and its habitat needs in and around the Natural Area.

I would like to give special thanks to Denise LaBerteaux from her assistance in sex determination and identification. Dr. Berry and the other DTPC board members deserve special thanks as well for their prompt response and for launching this field survey. Lastly, I would like to thank Mary Kotschwar for her unyielding support, encouragement and assistance throughout this study and the season.

References

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Bartholomew, G.A. and J.W. Hudson. 1960. Aestivation in the Mohave ground squirrel Citellus mohavensis. Bulletin of the Museum of Comparative Zoology 124:193–208. Best, T. L. 1995. Spermophilus mohavensis. American Society of Mammalogists, Mammalian Species Number 509:1-7.

California Department of Fish and Game. 2011. State & Federally Listed Endangered & Threatened Animals of California. asp> Accessed September 9, 2011.

Harris, J.H. and P. Leitner. 2004. Home range and use of space in Mohave ground squirrels (Spermophilus mohavensis). Journal of Mammalogy 85: 517-523. Harris, J. H., and P. Leitner. 2005 Long-distance movements of juvenile Mohave

ground squirrels, Spermophilus mohavensis. Southwestern Naturalist 50: 188-196

DTPC Land Activities

Chuckwalla Parcel Visit by Steve Ishii

On Saturday April 23rd, 2011, a group of 8 DTPC volunteers performed baseline and monitoring visits to the 4 DTPC parcels in the Chuckwalla area. The group included Tim and Chris DeBolt, Jane McEwan, Pat Sorensen, Jeanne Murrin, Mary Kotschwar, and Marlene and Steve Ishii. The parcels included the newly-acquired 160 acre Desert Center parcel, 20 acre Red Canyon parcel, and 60 acre Amy's Wash parcels. During the inspection of the Desert Center parcel, a juvenile was spotted by Chris DeBolt. What an exciting find and an encouraging sign of recruitment occurring in the area! Three additional tortoises were observed in the Amy's Wash area during the visit.

Chris, Mary, Marlene and Tim observing tortoise in Amy's Wash area.



luvenile in the Desert Center par







Jane, Pat, Mary, Jeanne, and Steve inspecting Red Canyon parcel.

In memory of ...



Betty L. Burge, a conservation leader in the desert tortoise world, passed away August 8, 2011 at the age of 79 in Las Vegas, Nevada.

Desert tortoises were Betty's third career, after music and nursing. In mid-life, she returned to college and obtained a master of sciences degree at the University of Nevada at Las Vegas. Her thesis was on the desert tortoise at Arden, Nevada--a site now developed for homes.

Betty was among the first members of the Desert Tortoise Council when it became established in the mid-1970s. Her early fieldwork on tortoise activities, fidelity to burrows, and feeding habits provided important regional information for the northeastern Mojave Desert. She conducted studies on the distribution and relative densities of tortoises in the Sonoran Desert of Arizona for the Bureau of Land Management, providing the first indications that tortoises in that ecosystem were more prevalent on slopes of rocky hillsides than in valleys. She spent 11 years working with Dr. Kristin Berry on long-term study plots in the eastern deserts of California and is among the outstanding field biologists who have studied desert tortoises.

Betty co-founded Tortoise Group, an important conservation corporation dedicated to educating the public about captive and wild desert tortoises--a group that now has over 3,500 members. The Desert Tortoise Council awarded Betty its highest annual award for her many contributions to the science and conservation of the species in 1984 and again, in 2005, gave her a special award for her longterm service.

Betty was a Life Member with the DTPC and made several generous donations towards the DTPC organization.

Betty is survived by her husband, Russell Beck of Las Vegas and her son Chris Shupp.

Donations can be made in Betty's name to the Tortoise Group by visiting their home page at http://www.tortoisegroup.org or mailing a donation to Tortoise Group at PO Box 33866, Las Vegas, NV 89133.

DTRNA Naturalist Recognized for Rescue



Ed 2011. DTPC retired ralist at

past several years,

King in Sequoia National Park. The got out his sleeping bag and proceeded hike was part of a 7-day trip, meant to to warm Marcia up further, using the be a relaxing getaway. Little did Ed bag as insulation, while others went for know that he would help save a life help. By the time a ranger arrived during his vacation.

marathon runner Marcia Rasmussen out. She suffered cuts, abrasions, and had been trail running when a snow minor frostbite to her hands and one bridge collapsed underneath her and knee, but due to her determination and she was swept down Franklin Creek the preparedness and presence of mind under the snow pack. She was able to of her rescuers, she survived and has grab hold of branches and pull herself fully recovered. out of the water, but remained trapped under the snow. The snow pack was recognized Ed Patrovsky and the three about five feet thick in most areas, but other rescuers on June 21, 2011 with a Marcia found a relatively thinner letter of commendation and the Napatch-the only place where the tional Park Service Search and Rescue sunlight penetrated with a faint blue Award pin. The DTPC also applauds Over the next three hours, their actions. glow. Marcia dug a small hole approximately three feet to the surface. When she Times-- to read more, go to: http:// finally broke through, she was losing articles.latimes.com/2011/jun/21/local/la-mecoordination and was too exhausted to snow-rescue-20110621

On June 14, pull herself out. An alert hiker noticed Pa- a hydration pack Marcia had pushed trovsky, longtime out to surface as a signal and he and member, his companions were then able to dig BLM her out of the hole. She was acutely ranger, and Natu- hypothermic and nearly unconscious, the and the hikers began to warm her up DTRNA for the using their body heat.

At this point, Ed encountered began backpacking out of Mineral Marcia and the hikers. He promptly more than an hour later, Marcia had On that same day, ultra- sufficiently recovered to begin walking

`The National Park Service

The story was also featured in the Los Angeles

The dazed and confused identity of Agassiz's land tortoise, Gopherus agassizii (Testudines, Testudinidae)

Often, systematics and taxonomy are clear cut. Species are described and they persist in recognition, either as being valid taxa or buried in a synonymy. That said, taxonomic chaos also occurs, often with respect to generic allocation, the validity of subspecies (Frost and Hillis 1990), and the recognition of species themselves. The taxonomy of the desert tortoise, or Agassiz land tortoise, is engulfed in errors. Some errors have now persisted for almost 150 years, and others are more recent in origin.

Berry et al. (2002) summarize data suggesting that the desert tortoise, Gopherus agassizii (Cooper), of the southern United States and northwestern mainland Mexico is a composite of at least two and possibly four species. They note that much work remains to be accomplished before formally recognizing any new species. This task is more complex than originally imagined, in part because of a convoluted taxonomy plagued with uncertainties and problems. Our reviews of several conundrums obtain the background data required to untangle a knot of confusion and make some decisions and recommendations. The greatest problem concerns the identities of true Gopherus agassizii and the enigmatic Gopherus lepidocephalus (Ottley et Velázques Solis).

To read the entire article, visit: http://www.pensoft.net/journals/zookeys/article/1353/thedazed-and-confused-identity-of-agassiz

Desert Tortoise Preserve Committee to Receive Funds for Education

The California State Parks Off-Highway Motorized Vehicle Recreation Division announced the funding recipients in their 2010-2011 Grant Cycle. The Desert Tortoise Preserve Committee, Inc. was selected to receive \$28,616 in funding for an integrated education and responsible recreation program. The program aims to increase outreach to OHV riders recreating in the desert, instilling increased motivation for a land ethic and providing practical resources to facilitate responsible recreation.

The program comprises five major aspects:

- 1) Local outreach through talks and interpretive hikes featuring responsible recreation principles given by Interpretive Naturalists at the DTRNA during the spring season.
- 2) Provision of practical information relevant to OHV riders and others recreating in the desert, such as maps of legal routes consistent with information provided through the BLM Education and Permit Program, to promote compliance with existing regulations, and guides to sensitive species and habitats that may be encountered.
- 3) Expanding and updating the DTPC website to include information on the many human impacts to the desert ecosystem (including but not limited to OHV use), and what recreationists can do to reduce these impacts. The website will also include news stories featuring positive examples of responsible recreation, as well as the environmental and legal consequences of irresponsible recreation.
- 4) The placement of at least two Mojave Desert Discovery Centers (mobile educational displays) focusing on the ecology of and human impacts to the desert ecosystem at popular access points for OHV recreation.
- 5) Regional outreach through presentations and interactive classes given to community groups and students of different age groups in High and Low Desert Communities.

The performance period for this grant will be September 15, 2011 – September 14, 2012, and DTPC staff and volunteers have already begun planning some of the program components. As with other projects, the ideas and efforts of DTPC members and volunteers will help make this program successful. We would like to thank everyone who submitted comments on the preliminary grant application and encourage anyone interested in participating in the development and/or implementation of this education program to contact us.

DTPC Calendar of Events

October 15, 2011: 9 am - 3 pm Fall Work Party Desert Tortoise Research Natural Area

November 5-6, 2011 and November 7-8, 2011 Desert Tortoise Council <u>Tortoise Handling Workshops</u> Ridgecrest, CA

December 3, 2011 DTPC Board Meeting, Riverside, CA.

January 28, 2012: Annual Meeting and Banquet, Palmdale Hotel, Palmdale, CA

More information for each event can be found by calling (951) 683-3872 or sending an email to dtpc@pacbell.net. Additional information can be found on the DTPC's website <u>www.tortoise-tracks.org</u> and Facebook <u>www.facebook.com/dtpc.inc.</u> Special thanks to the following:

Dr. Krístín Berry Jane McEwan Chuck Hemingway Jun Lee Ed Patrovsky Deníse LaBerteaux Charlie Massieon Laura Mogg Pat Sorensen Jeanne Murrín Tim and Chris DeBolt David Logan Mary Shepherd Inga Swearingen Melíssa Turner Freya Reder Steve and Marlene Ishíí

If you are interested in becoming a DTPC member, contact us at (951) 683–3872 or visit our website at: <u>http://www.tortoise-tracks.org/dtpc/member.html</u>



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The Desert Tortoise Preserve Committee

Invites You To Attend Our

Fall Work Party

October 15, 2011 9 am to 3 pm Desert Tortoise Research Natural Area

If you are interested in participating, please call (951) 683-3872 or email the DTPC at: dtpc@pacbell.net

Activities will include

Seed Collection Desert Clean-up Sign Installation Fence Maintenance Road Improvements

Work parties provide a great opportunity for individuals to learn more about the Mojave Desert, threats to wild desert tortoise populations, and some of the techniques currently used by the DTPC to help recover the species and preserve habitat.

