



Winter  
2023  
Edition 43:4

# Tortoise Tracks

Newsletter

## Desert Tortoise Preserve Committee marks 50<sup>th</sup> anniversary!

Save the date: On April 6, 2024 we will commemorate the 50<sup>th</sup> anniversary of the Desert Tortoise Preserve Committee with a full morning of special activities at the Desert Tortoise Research Natural Area (DTRNA). A free macro photography class by Tom Astle (see page 2) will begin at 8:00 a.m. and other Golden Anniversary festivities will start around 9:00 a.m. and conclude by noon. Stay tuned for announcements of additional details in the Spring 2024 issue of *Tortoise Tracks*.



**Above:** DTPC Preserve Manager Liam Connolly (left) and So Cal Gas Senior Biologist Douglas Messier conduct baseline monitoring of proposed 200-acre DTPC land acquisition in the Chuckwalla Bench Area of Critical Environmental Concern (Riverside County, CA) on July 14, 2023. Look for updates in future issues of *Tortoise Tracks*.



## Free Workshop on Macro Photography – Presented by Internationally Renowned Nature Photographer Tom Astle

Do you wish you could take better closeups of the beautiful blooms and interesting insects you see in the great outdoors? Join us at the DTRNA on Saturday, April 6, 2024 at 8:00 a.m. for a hands-on macro photography workshop with nature photographer Tom Astle. Whether your outdoors is the vast Mojave Desert or simply your own balcony or backyard, macro photography is a great way to discover and appreciate the small creatures that make up most of the life on our planet. ***This workshop is part of a special day at the DTRNA in celebration of the DTPC's 50<sup>th</sup> anniversary.***

Tom has traveled the world with his camera, but our SoCal deserts are where he spends the most time, and the DTRNA is one of his favorite places. He will start with a short talk, including tips on lighting, exposure, and composition. He'll also have a variety of equipment on hand to demonstrate some of the many options available to get great results no matter your budget. Along with photography information, Tom will share some of the fascinating natural history he's learned about the desert's charismatic mini-fauna.

The talk and equipment demo will be followed by time on the trails, looking for photo subjects. Tom will be available all morning to answer questions and offer advice. Plus, all participants will receive a list of photography resources for when they're back home and online. The workshop is open to all ages and experience levels, from smartphone users to people with DSLR or mirrorless cameras (or those thinking of buying one).

In the meantime, if you'd like to see some of Tom's photos, check out his website at:  
<https://www.tomastlephotography.com/>





Dedicated to the recovery and conservation of the Desert Tortoise (*Gopherus agassizii*) and other rare and endangered species inhabiting the Mojave and western Sonoran deserts.

**The Desert Tortoise Preserve Committee, Inc.**  
Founded 1974

**Board of Directors**

Ron Berger      President  
 Laura Stockton   Treasurer  
 Rachel Woodard   Secretary  
 Greg Lathrop      Investment  
                                  Chairperson  
 Dr. Kristin Berry  
 Larry Nelson  
 Roger Dale

**Staff**

Jun Y. Lee  
 Land Acquisition Director  
  
 Liam Connolly  
 Preserve Manager &  
 Conservation Coordinator

Telephone:  
 (442) 294-4258 Email:  
[dtpc@tortoise-tracks.org](mailto:dtpc@tortoise-tracks.org)  
[www.tortoise-tracks.org](http://www.tortoise-tracks.org)

*Tortoise Tracks* is published four times per year.



**Photos by Tom Astle. See page 2 for invitation to Tom's macro photography workshop at the Desert Tortoise Research Natural Area on April 6, 2024**



## Join us (online) for DTPC’s 50<sup>th</sup> Annual Meeting (February 3)

We invite you to attend our Annual Meeting on Zoom, at 10 a.m. Pacific time on Saturday morning, February 3, 2024. This virtual membership meeting is an opportunity for you to have a front row seat as we review our organization’s accomplishments in 2023 and unveil our plans for 2024 and beyond. The meeting will be hosted by DTPC President, Ron Berger. Guest speakers will include: Jun Lee, DTPC’s Director of Land Acquisition, and Tom Bickauskas, Field Manager of the Bureau of Land Management (BLM), Ridgecrest Field Office – a longstanding and highly valued partner to the DTPC. ***The keynote speaker will be Dr. Melissa Merrick of the San Diego Zoo Wildlife Alliance. She will provide an overview of the Alliance’s ongoing efforts to headstart desert tortoises at Edwards Air Force Base (see page 5 for more about this exciting initiative).***

No registration is required to participate in the Annual Meeting. Please use the log-in details below.

<p><b>50<sup>th</sup> ANNUAL MEMBERSHIP MEETING</b></p> <p><b>Saturday, February 3, 2024 starting at 10:00 a.m. PST via ZOOM</b></p>	<p><b><u>NO REGISTRATION REQUIRED. JOIN OUR ANNUAL MEETING VIA ZOOM USING THE COMPUTER LINK BELOW OR THE CALL-IN NUMBERS BELOW</u></b></p> <p><a href="https://us06web.zoom.us/j/89965604761?pwd=VUJTZngzWXRRSIVSY1hxcXRrSGRpdz09">https://us06web.zoom.us/j/89965604761?pwd=VUJTZngzWXRRSIVSY1hxcXRrSGRpdz09</a></p> <p>Meeting ID: 899 6560 4761 Passcode: 159471</p> <p>---</p> <p>One tap mobile +16699006833,,89965604761#,,,,*159471# US (San Jose) +16694449171,,89965604761#,,,,*159471# US</p> <p>---</p> <p>Dial by your location</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">•+1 669 900 6833 US (San Jose)</td> <td style="width: 50%;">•+1 507 473 4847 US</td> </tr> <tr> <td>•+1 669 444 9171 US</td> <td>•+1 386 347 5053 US</td> </tr> <tr> <td>•+1 719 359 4580 US</td> <td>•+1 564 217 2000 US</td> </tr> <tr> <td>•+1 253 205 0468 US</td> <td>•+1 646 931 3860 US</td> </tr> <tr> <td>•+1 253 215 8782 US (Tacoma)</td> <td>•+1 689 278 1000 US</td> </tr> <tr> <td>•+1 346 248 7799 US (Houston)</td> <td>•+1 929 436 2866 US (New York)</td> </tr> <tr> <td>•+1 305 224 1968 US</td> <td>•+1 301 715 8592 US (Washington DC)</td> </tr> <tr> <td>•+1 309 205 3325 US</td> <td></td> </tr> <tr> <td>•+1 312 626 6799 US (Chicago)</td> <td></td> </tr> <tr> <td>•+1 360 209 5623 US</td> <td></td> </tr> </table> <p>Find your local number: <a href="https://us06web.zoom.us/j/krZVotJip">https://us06web.zoom.us/j/krZVotJip</a></p>	•+1 669 900 6833 US (San Jose)	•+1 507 473 4847 US	•+1 669 444 9171 US	•+1 386 347 5053 US	•+1 719 359 4580 US	•+1 564 217 2000 US	•+1 253 205 0468 US	•+1 646 931 3860 US	•+1 253 215 8782 US (Tacoma)	•+1 689 278 1000 US	•+1 346 248 7799 US (Houston)	•+1 929 436 2866 US (New York)	•+1 305 224 1968 US	•+1 301 715 8592 US (Washington DC)	•+1 309 205 3325 US		•+1 312 626 6799 US (Chicago)		•+1 360 209 5623 US	
•+1 669 900 6833 US (San Jose)	•+1 507 473 4847 US																				
•+1 669 444 9171 US	•+1 386 347 5053 US																				
•+1 719 359 4580 US	•+1 564 217 2000 US																				
•+1 253 205 0468 US	•+1 646 931 3860 US																				
•+1 253 215 8782 US (Tacoma)	•+1 689 278 1000 US																				
•+1 346 248 7799 US (Houston)	•+1 929 436 2866 US (New York)																				
•+1 305 224 1968 US	•+1 301 715 8592 US (Washington DC)																				
•+1 309 205 3325 US																					
•+1 312 626 6799 US (Chicago)																					
•+1 360 209 5623 US																					

## DTPC to Sponsor Photography Contest in 2024

The DTPC will have another photography contest in spring of 2024 and we expect high potential for masses of wildflowers, birds, tortoises, insects and spiders. The late winter is expected to bring high rainfall typical of an El Nino, which may produce a superbloom. Prizes, which are being generously provided by Dr. Kristin Berry, are expected to total \$2,000. Photos should be taken on or in the vicinity of the Desert Tortoise Research Natural Area, or on other DTPC properties. Contest guidelines will be shared in the Spring 2024 issue of *Tortoise Tracks*.

## Keynote Talk at DTPC Annual Meeting: Bigger, smarter, better understood – headstart insights and new directions in Mojave Desert Tortoise research at the San Diego Zoo Wildlife Alliance

We are excited to announce that the keynote speaker for this year’s (online) Annual Meeting will be Dr. Melissa Merrick, Associate Director of Recovery Ecology for the San Diego Zoo Wildlife Alliance.

**The Talk.** Dr. Melissa Merrick will present an overview of the San Diego Zoo Wildlife Alliance’s Desert Tortoise Recovery Program, including a new collaborative headstart partnership with The Living Desert Zoo and Gardens to raise larger, less vulnerable juveniles prior to release to the wild. As part of this headstart program, the team has a unique opportunity to fill knowledge gaps about the less studied juvenile age class: from personality and anti-predator trainability to thermal ecology and the role of careful release site selection to mitigate predation risks. The team is also studying the influence of adult female nest placement on hatch success and offspring sex ratios, and the capacity of burrows to buffer against temperature extremes in a changing world. Melissa and the Alliance’s headstarting initiative were recently featured on Mutual of Omaha’s Wild Kingdom (see links to article and video below).

**More info from Mutual of Omaha’s Wild Kingdom - Protecting the Wild:**

<https://www.mutualofomaha.com/wild-kingdom/article/giving-desert-tortoises-a-head-start>

**Watch the episode:**

<https://www.nbc.com/mutual-of-omahas-wild-kingdom-protecting-the-wild/video/desert-dwelling-tortoises/9000363888>

**About Dr. Melissa Merrick.** Melissa is an associate director of recovery ecology at the San Diego Zoo Wildlife Alliance, where she helps to oversee the burrowing owl and desert tortoise recovery programs. Both programs are actively involved in conservation breeding and translocation to augment declining populations, while learning as much as possible about how behavior, physiology, and habitat influence outcomes. Prior to joining the Alliance, Melissa worked as a research scientist at the University of Arizona’s School of Natural Resources and the Environment, where she led and supported research on southwest and international species of conservation concern.

**Don’t miss Melissa’s fascinating talk! See page 4 for log-in information for the online Annual Meeting on February 3, 2024**

**Other members of the San Diego Zoo Wildlife Alliance team include:**

Ron Swaisgood, PhD – Director of recovery ecology

Talysin Hammond, PhD – Scientist

Tom Radzio, PhD – Researcher

Daniel Essary – Research Associate II

Reed Newman – Research Associate I

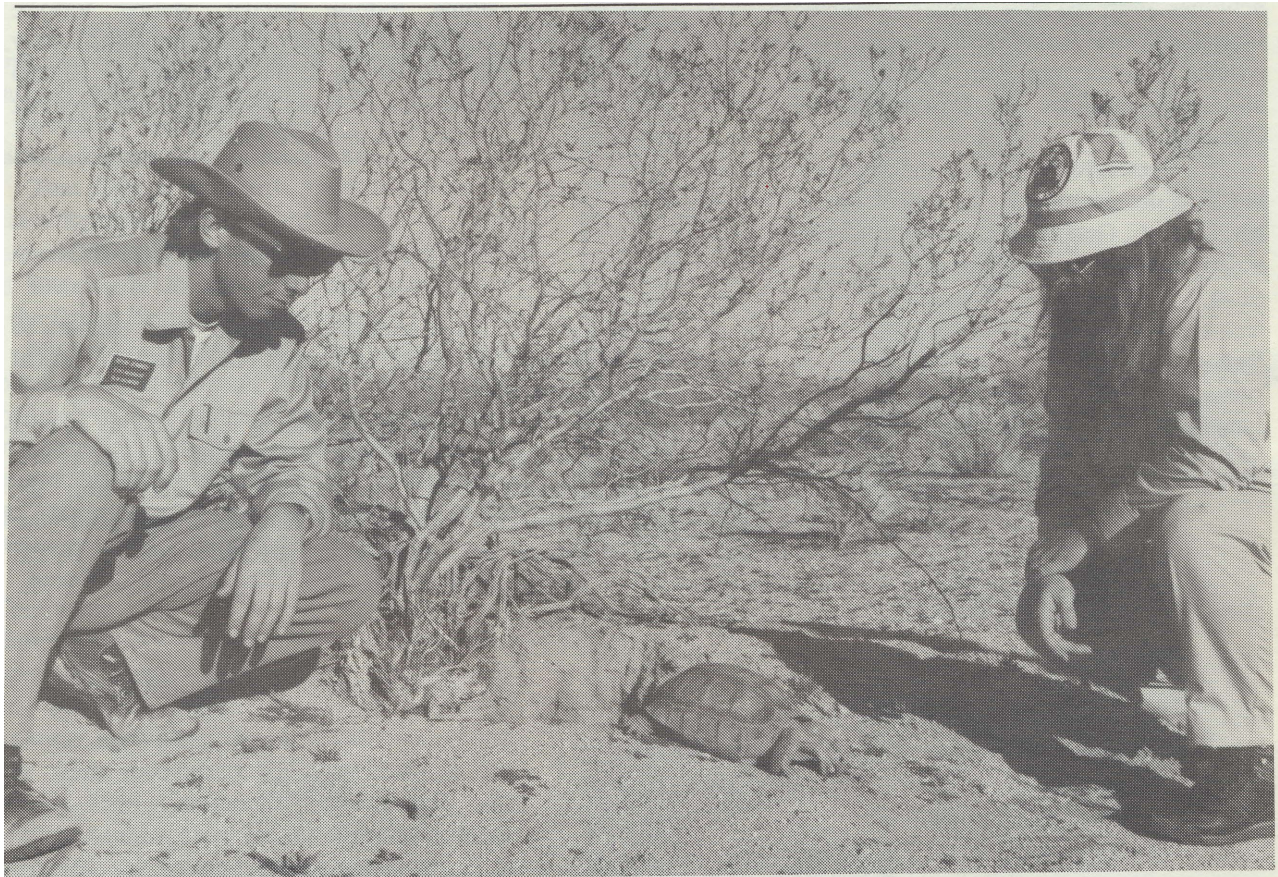
Katelyn Rock – Research Associate



## Former DTPC Naturalist Publishes New Journal Article Based on 1990's Research at the DTRNA

The year was 1991 and Bryan Jennings – a then recent Zoology graduate of U.C. Santa Barbara – served as a springtime naturalist at the Desert Tortoise Research Natural Area. Later in the 1990's Bryan conducted research at the DTRNA on tortoise foraging behavior. He subsequently completed an MS in Biology at The University of Texas at Arlington and a PhD in Ecology, Evolution, and Behavior at the University of Texas at Austin. He is currently a research faculty member in the Department of Evolution, Ecology, and Organismal Biology at the University of California, Riverside.

Over the years, Bryan has published multiple papers based on his early studies of tortoise foraging. His work at the DTRNA was foundational to an article he recently co-authored with Dr. Kristin Berry in the November 2023 edition of the journal *Frontiers in Amphibian and Reptile Science*. An abstract of the article (“Selection of microhabitats, plants, and plant parts eaten by a threatened tortoise: observations during a superbloom”) is provided on page 7, along with a link to the full scientific paper.



From the *Tortoise Tracks* archives (Spring 1991): Naturalists Bryan Jennings and Jackie Gooch greet tortoise emerging from burrow at the Desert Tortoise Research Natural Area. Photo by Bev Steveson.

## Selection of microhabitats, plants, and plant parts eaten by a threatened tortoise: observations during a superbloom

W. Bryan Jennings<sup>1</sup> and Kristin H. Berry<sup>2</sup>

<sup>1</sup>Department of Evolution, Ecology, & Organismal Biology, University of California, Riverside, Riverside, CA, United States, <sup>2</sup>U.S. Geological Survey, Western Ecological Research Center, Reno, NV, United States

**Abstract:** Populations of the threatened desert tortoise (*Gopherus agassizii*) continue to decline throughout the geographic range, in part because of degraded and fragmented habitats in the Mojave and western Sonoran deserts. The species is herbivorous and highly selective in choice of plant species. To increase options for recovery, we analyzed behaviors, patterns of movements while foraging, and parts of plants consumed during a superbloom. We characterized foraging routes and the habitat strata and microhabitats where tortoises traveled to eat preferred wildflower species. Tortoises walked one foraging route per day in early spring, often switched to two routes per day in middle and late spring with rise of midday temperatures. They chose habitat strata (primarily hills and ephemeral stream channels) and three of seven microhabitats for foraging on preferred food plants. Preferred microhabitats were intershrub open space and small (1–2 m wide) ephemeral stream channels. They rarely took bites of forbs growing under and in the dripline of shrubs or nonnative forbs and grasses. Tortoises typically did not select specific plant parts to eat but important exceptions occurred. For example, they usually ignored the inflorescences of the annual *Eremothera boothii* and, when eating the non-native annual *Erodium cicutarium*, tended to focus on fruits. All such information aids recovery efforts to restore declining tortoise populations.

The full article is available online at: <https://www.frontiersin.org/articles/10.3389/famrs.2023.1283255>

**Citation:** Jennings WB and Berry KH (2023) Selection of microhabitats, plants, and plant parts eaten by a threatened tortoise: observations during a superbloom. *Front. Amphib. Reptile Sci.* 1:1283255. doi: 10.3389/famrs.2023.1283255

## 49<sup>th</sup> Annual Desert Tortoise Council Symposium (February 21-24, 2024 in Las Vegas, NV)

The Desert Tortoise Council (DTC) is pleased to announce the 49th Annual Meeting and Symposium, which will be a hybrid event (both in-person and virtual attendance options) at the South Point Hotel, Casino, and Spa in Las Vegas from February 21-23, 2024. A field trip is scheduled the day before the meeting on February 20. The symposium will be full of papers on desert tortoises, effects of climate change, tortoise demography and connectivity of populations, roads and culverts, and the latest in techniques for surveys, and methods for evaluating anthropogenic effects on habitats.

For more information and to register, visit the DTC's website at:

<https://deserttortoise.org/annual-symposium/overview/>





# Tortoise Tracks


DESERT TORTOISE PRESERVE COMMITTEE, INC.  
P.O. BOX 940  
RIDGECREST, CALIFORNIA 93556

NONPROFIT  
U.S. POSTAGE PAID  
PRINTMYSTUFF.COM

Address Service Requested

Thank you for being a member!



 Help us save paper and postage costs!  
If you would prefer to receive an electronic copy of *Tortoise Tracks*, notify us by email at [dtpc@tortoise-tracks.org](mailto:dtpc@tortoise-tracks.org)

[www.Facebook.com/DTPC.inc](http://www.Facebook.com/DTPC.inc)

## DTPC MEMBERSHIP/CONTRIBUTION FORM

1. YES, I want to help save the threatened desert tortoise and its habitat! Here is my tax-deductible membership contribution of:

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> \$40 Individual | <input type="checkbox"/> \$100 Sponsor    | <input type="checkbox"/> \$400 Patron          |
| <input type="checkbox"/> \$75 Family     | <input type="checkbox"/> \$200 Benefactor | <input type="checkbox"/> \$2000 Life/Corporate |

2. My membership is current but here is an additional donation of \$\_\_\_\_\_. Please use it for:

- |                                       |   |  |
|---------------------------------------|---|--|
| <input type="checkbox"/> Fencing      | <input type="checkbox"/> Land Acquisition | <input type="checkbox"/> Where Most Needed |
| <input type="checkbox"/> Other: _____ |   |  |

3. I'd like to help you grow the DTPC Permanent Endowment. Please accept an additional donation of:

- |                                |                                  |   |
|--------------------------------|----------------------------------|---|
| <input type="checkbox"/> \$250 | <input type="checkbox"/> \$1,000 | <input type="checkbox"/> \$5,000        |
| <input type="checkbox"/> \$500 | <input type="checkbox"/> \$2,500 | <input type="checkbox"/> Other \$ _____ |

Marketable Securities (Stock): Contact DTPC Investment Chairperson, Greg Lathrop at [2redgrey@gmail.com](mailto:2redgrey@gmail.com) or (415) 637-7187 for assistance

Let's grow the Permanent Endowment!

- |   |   |
|---|---|
| <input type="checkbox"/> I would like my contribution to remain anonymous | <input type="checkbox"/> I would like to receive <i>Tortoise Tracks</i> electronically (please provide email address) |
|---|---|

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Email Address: \_\_\_\_\_

Please make your check payable to **DTPC** and mail to:

**Desert Tortoise Preserve Committee**  
**PO Box 940**  
**Ridgecrest, CA 93556**

Thank you.

\*All contributors receive the *Tortoise Tracks* newsletter. The Desert Tortoise Preserve Committee is an IRS recognized tax-exempt 501(c)(3) nonprofit corporation. Contributions and/or annual membership dues are tax-deductible, to the extent allowable by law. Contributor information is kept confidential and is not disclosed to third parties.

If you would like to renew your membership or donate online, please visit \* [www.tortoise-tracks.org](http://www.tortoise-tracks.org) \*