

## COMMENTARY

# The Turtles Have Been Watching Me

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Photographs by the author.

The turtles have been watching me for two years now. Each week during their active season, from late March until early October, I've been visiting these Ornate Box Turtles (*Terrapene ornata ornata*) in eastern Colorado. While I'm there, the turtles observe me, if not eagerly then diligently, as I patiently patrol the sandhills. By now, they are surely quite familiar with my habits, where I park the car, the circuitous routes I roam, the regular visits to a puddle from an overflowing stocktank, and the intensity of my groundward gaze. Occasionally, the turtles may allow themselves to be spotted, although most of the time they use their camouflage and silence to regard me without being detected, confounding my best efforts to find them. They are better at this than I am.

I visit these sandhills to study the turtles. This is a scientific investigation, conducted only after extensive literature reviews, the receipt of permits from the state, and time spent with other researchers learning the art and skill of chelonian studies. We're using sound methods and working hard to produce data that will inform scientists and the public alike (should we draw such distinctions). We hope to better understand how turtles use the land, how they find mates, and what it is, exactly, that they do all day. Ideally, this information will be used to influence decisions and policy, both private and public, that impact these animals and the stark landscapes to which they belong. Hopefully, roads will not be built, strip-malls won't be constructed, and animals won't be stolen for the pet trade. We know, of course, that we don't want these things to happen, that turtles don't want these things to happen — but, to convince others, we'll need numbers and facts, charts and graphs.

The reason we founded the Colorado Box Turtle Project is simple; we love these animals and we want to protect them. Does this passion obfuscate our science? Of course not. Ardor is the impetus for science. Too often, animals, plants, and ecosystems are intensely studied so that they can be efficiently exploited: How do we best clear-cut a forest? dam a river? Herpetologists, thankfully, seem to operate largely outside this questionable paradigm. The study of reptiles and amphibians offers little in the way of economic benefits. We are not providing data to increase the bottom line of major corporations or, for that matter, ourselves. We dedicate ourselves for other reasons — we care about these fascinating animals, their well being, and their future.

As field researchers, we must recognize that our studies are a mutual exchange; just as we are collecting data about turtles, they are doing the same on us (although most likely in less quantifiable terms). My intention on the sandhills is not merely to accrue scientific data about turtles, but to build a relationship with these animals and the place they call home. This summer,

partly due to expensive gasoline and partly due to my preference for sleeping under the stars, I timed my visits to make the best of the turtles' activity periods. I worked in the evening once the air had cooled, spent the night in the company of the rising moon and curious beetles, then worked again in the morning before the heat of midday became thick and tangible. I wanted to know this place in a way beyond what can be garnered with calipers and GPS units. I hoped to at least become a welcome visitor in a place to which I'll never fully belong. I learned that not finding a turtle for hours on end was not a waste of time, but a valuable endeavor in itself. I watched the different plants and noted their blooming schedules: The early-summer ubiquity of Spiderwort (*Tradescantia bracteata*) and the delicate, late blooms of the Sand Lily (*Mentzelia nuda*), the spinsters of the sandhills who wait until midsummer to display their magnificence. I learned to distinguish the three species of *Opuntia* cactus (*O. macrorhiza*, *O. fragilis*, and *O. polyacantha*) and how the Sand Verbena's (*Abronia fragrans*) deliciously sweet scent earned it a fitting Latin name. I watched wide-eyed as miniature lizards, the Lesser Earless Lizards (*Holbrookia maculata*) and the Prairie and Plateau lizards (*Sceloporus undulatus*), scurried across open sand at remarkable speeds, despite emerging from eggs only days earlier. While rewarding in itself, these interactions also helped me to better understand the turtles I sought. To really get to know someone, sometimes it's best to ask the neighbors.

Occasionally, however, my visits were not well received. One July evening, as I was driving through the expansive ranch and farm on which our study site sits, I approached a Red-tailed Hawk (*Buteo jamaicensis*) perched on a fencepost. She flew par-



A male turtle tells us very politely that he'd prefer not to be bothered today — thank you very much.



The fragrant Sand Verbena (*Abronia fragrans*) in bloom.



A male turtle in the long shadows of morning.



The morning sun reflects off the grasses of the sandhills, mostly Thread-and-needle Grass (*Stipa comata*).



Yucca (*Yucca glauca*) in bloom.



A female turtle enjoys the morning sun amidst the grasses of the sandhills.

allel with the car for a few moments, as if in greeting — or that's what I thought at the time. Several hours later, after finding a fresh road-killed turtle (the first I'd observed on the ranch), and a frantic hour spent in search of a new and expensive camera I thought was lost, I realized that she was not greeting, but warning. Now when I see a Red-tailed Hawk, it's a great reminder to drive slowly and keep my head on straight. Other birds are less

apt to remind me of anything other than the fact that I don't entirely belong here. Mourning Doves (*Zenaidura macroura*) can explode with frightening rapidity from a nearby Sagebrush (*Artemisia filifolia*) and the Killdeer (*Charadrius vociferus*) make it clear, in no uncertain terms, that I should leave. Their perfection of the art of distraction, via shrill warning cries and ridiculous antics, have earned them, even more than the Sand Verbena, the perfect Latin name. Less dramatic but no less prescient, the Prairie Rattlesnake (*Crotalus viridis*) provides its own alarm, so unique and poignant it is, thankfully, impossible not to heed. While I have thoroughly enjoyed this intimacy with the sandhills and their residents, it is the turtles who have brought me here. Each time I spot one, usually from an embarrassingly close distance from which the turtle has been observing me for several minutes, I feel a burst of delight. Here's a turtle! In the wild! It's healthy! And living where it should! I stop and photograph the animal where it is before doing anything else, noting direction and vegetation. Sometimes, I pause and watch for a time to see what the turtle will do. The answer, invariably, is the same — nothing. The turtle has long since stopped its task at hand and waits, patiently, for me to move on so it can resume. When processing the animals, I can't help but be enamored of the vibrant and distinctive sunbursts on each carapace scute, the deep, patient gaze of the wizened females and the showy green-blue-orange of a male's head and forelegs. Sometimes, I must abashedly admit, I talk to the turtles. No, I must be honest, I always talk to the turtles. I call them "sweetie" and "handsome" and "beautiful" or other terms of endearment usually reserved for children and spouses. Once, an intern from the local univer-



An exuberant stand of Prickly Poppy (*Argemone polyanthemus*).



A male chows on a box turtle favorite (Spiderwort, *Tradescantia bracteata*).

sity sarcastically commented, "That's real scientific, Eric." Of course it's not, but it doesn't hurt the scientific. For science to be pertinent and powerful in the dire circumstances of our world, the days of dispassion must be over. If we do not care about the objects of our study, we risk perpetuating the damage of past endeavors done in the name of science.

I recently read a book that beseeched us humans to start listening to the natural world, not in a metaphorical sense but in the literal sense. We had much to learn, the author claimed,



A male turtle begins his morning rounds.



A female turtle walks off after a morning drink at the stock tank overflow puddle.



A Lesser Earless Lizard (*Holbrookia maculata*) pauses in ready curiosity.



A male turtle watches the sunrise over his beloved sandhills.



A male turtle strikes a frightening pose to ward us off; he was unsuccessful.

from the trees and coyotes and rivers. The book was unscientific and, at times, proudly so. I don't see this as a shortcoming compared to the rigors of scientific investigation, only a difference of approach to the same quest for knowledge and understanding. I've also read countless papers and journal articles about box turtles and sandhill ecosystems, all facts and figures and irrefutable numbers. I've learned a great deal from these as well, and do not grow bored from their lack of personal voice or narrative. They help me better understand an animal to which I've dedicated a great deal of my life's energy. These differing approaches should not be held in opposition; rather, we must rededicate ourselves to serving this world around us, our friends and neighbors, with both inquiry and passion, hard facts and endearing nicknames. Derrick Jensen, author of the aforementioned book, stated that the question we should be asking is, "What can I learn from this forest [or sandhill] community that will teach me to better serve it?" I am lucky to have learned what I have about these turtles, activity periods and size-to-mass ratios and habitat preferences. Hopefully, we can put this knowledge to use in service of these turtles and their fellow sandhill residents. I am also lucky to have learned from these turtles to stop walking when I want to look around and to be patient when coming or going, valuable lessons that are applicable beyond the sandhills. This learning is at once quantifiable and profound. It is meticulous. It is fueled by passion. Science, in these times, cannot afford to be otherwise.