

## The Facts of Life

*Life's most valuable lessons don't always make for polite conversation.*

School began just as the monsoon season came to an end, so when the rains stopped it was time to head back home. My husband was working on his dissertation, studying amphibians in the Chihuahuan Desert. We packed up another summer's worth of field gear and drove from the southwestern tip of Texas, right across the river from Mexico, to the eastern side of the state. From dry stick and bone to moist green and mildew—all in one state. The heat never faltered.

Our daughter Savanna was starting preschool that year. On the first day I stood around the playground with the other parents, watching with fear and pride as our toddlers morphed into kids—playing tag, throwing balls, dangling from monkey bars. Just as I commented on how grown-up our children looked, my daughter pulled down her pants and peed in the sand box.

“I’m sorry,” I said sheepishly, “She was potty trained while we were in the field doing research, so she learned to go outside before she learned to use a toilet.” The other moms looked at me like I had just said we didn’t have indoor plumbing and I thought, *Come on ladies, this is preschool*. I didn’t tell them she actually *preferred* to pee outside; when she had to go, she would race through the front door and squat on the lawn. When I tried to explain that if a toilet was available we usually went *inside*, she would insist, “No! I go pee-pee outside. Like doggies.”

Secretly I was proud. My daughter wasn’t afraid to pee outside—like she wasn’t afraid of tarantulas or rat snakes or giant rhinoceros beetles. She loved to dress up like a princess in ruffles and tulle, and was attracted to all things pink and sparkly, but she could stomp through mud to catch a toad and didn’t squirm when a garter snake musked her. A girl who might one day wear hiking boots beneath her prom gown.

Because her father and I met in the field—both biologists at the time, studying frogs and salamanders in the Pacific Northwest—it seemed inevitable that our children would be comfortable sleeping outdoors, scrambling up scree slopes, and pulling critters from muddy creeks. Savanna was conceived while my husband was just beginning to collect data in Big Bend National Park. So much of my pregnancy was spent chasing storm clouds across the vast Chihuahuan Desert, bouncing around in four-wheel drive without A/C, and praying that I wouldn’t go into premature labor because we were two hours from the nearest hospital.

We lived in researcher quarters during those summers, an adobe ranch house shaded by a rock outcrop and surrounded by nothing but vast desert. It had a great porch with a view of the Sierra del Carmen mountains. We kept a little pool filled with hose water and animals would come across the parched land to drink. Bobcats, coyote, deer, and whole

herds of javelina came to wet their muzzles. When I was hugely pregnant, I would sit out there and gaze at the Carmens glowing rose and gold in the refracted rays of the setting sun, and I'd think of all the amazing things in this world that I couldn't wait to show to the unborn child who rolled in the ocean of my belly.

Savanna went on her first camping trip when she was four months old. We bundled her in fleece and placed her in a little cardboard box so we wouldn't smother her between our down bags in the tent. It was December, Christmas break, and the desert can get cold in the winter. I remember how I woke every hour throughout the night, holding my hand to her chest to make sure she was still breathing. In the morning I carried her in a sling as we hiked through boulders. Her wide eyes reflected the brazen sky. Cradled to my breast, she looked out at talus slopes and slender ocotillo, at ravens that arced through the blue, and I was happy that this scene was one of the earliest she would have imprinted in her brain.

We spent every summer, and many spring and winter breaks, in Big Bend. It was a ten-hour drive from our house, but somehow it felt as though the desert *was* our home. Our other house—the little fixer-upper painted bright yellow in the small town on the other side of the state—was simply a way station, a place we lived and worked between field seasons, instead of the other way around. So, naturally, Savanna learned to crawl in the desert. I winced as she dodged cholla spines and scorpions. First I feared rattlesnakes, and then, once she was faster, I feared mountain lions—she was about the size of a baby javelina. Inside, the researcher house wasn't much safer because there she had to maneuver through an obstacle course of formalin-filled vials, dissecting scalpels, and mouse droppings, not to mention the occasional scorpion that would scuttle through the gap beneath the door. She was never left alone. I stood by like a shadow she didn't know was there as she explored rocks, bugs, and delicate flowers growing in cracks of desert pavement.

In those early days, Savanna passed many hours in the baby backpack while her daddy and I hiked through the desert surveying for amphibians, collecting microhabitat data, and searching for springs, *tinajas*, and old cattle tanks that would hold water. She took most of her naps during long rides in the car seat as we jostled down washboard roads. She learned to stop and look when she heard the hissing rattle of a western diamondback and to carefully back away once she spotted it. When we saw a tarantula ambling along, she would let the huge hairy spider creep up her fingers, tickling the skin on her forearms. Our favorite picture of her is the one where she has a Transpecos rat snake draped across her head, its body curling down past her baby-toothed smile to outstretched hands.

The natural world was so *normal* to her—just a part of her life like a cup of milk with dinner and story time before bed. Her first words, after *Dada* and *Mama*, were *moon* and *gecko*. On her third birthday, as I lit the candles on her cake, a herd of javelina came snorting and snuffing into our yard. The adults were in the lead and babies in tow, waddling on awkward legs. When she saw them through the window, she grinned and said, “Oh, look! The javelina are coming to my birthday party!” If a thunderstorm was brewing, the sky dense with gray and the smell of ozone, Savanna would jump up and down and holler “Yahoo! Rain's coming! That means frogs and toads!”

And if it really was a good storm, we'd chase the thunderheads across the desert (lightning streaks, flash floods, smell of wet creosote) listening for the trill of narrow-mouthed toads calling, or the deep sheep-like bleating of spadefoot toads. We followed the sounds to the breeding pool where males called out to the females across the desert. Savanna was always right beside us in the mud that stuck to our legs like plaster, pulling toads from the murky pools, stomping in the water that swirled like a puddle of chocolate

milk around her toddler thighs. She learned to say *Bufo debilis* instead of green toad, *Scaphiopus* instead of spadefoot.

We went out at night with headlamps and Savanna watched thoughtfully from behind the beam of her light as the males battled for females, shoving each other and wrestling cartoon-like in the mud. The males' vocal sacs would inflate exactly like balloons as they called out—the biggest and loudest call attracting the most females. When a victor finally grasped a female (sometimes after several false attempts at mating with other angry males), he would hold on tight with pudgy arms, riding the female's back as the pair swam around the pool in amplexus. The noise was deafening. You would hear it from miles away in the desert flats, and long after you left the breeding pool it would hum in your ears like a buzzing gnat that won't go away.

“Mommy, why are they riding piggyback?” Savanna asked the first time she saw this dance of life. I explained they were making babies—the female lays eggs as the male rides her back, squirting sperm on the eggs. When the sperm and the eggs combine, they make tadpoles. “Oh,” she said, inquisitive eyes studying the toads in their struggle to carry on their genes in the pool (literally and figuratively).

During the days and weeks that followed, we returned to breeding pools and watched as the eggs developed and hatched into larvae. We watched as tiny tadpoles squirmed around, yolk sacs still attached, then as they absorbed their sacs and their tails and began to sprout tiny legs. As the ephemeral pools grew smaller beneath the scorching sun, we watched tiny copper-colored toadlets hop away to find refuge beneath rocks or burrow down in the mud. We also watched as other pools dried up and thousands of tadpoles died before they metamorphosed, squirming, struggling, eventually still. Nothing left but bent twigs in the shape of tadpoles embedded in the cracked mud.

“Mommy, that's sad,” Savanna said and I agreed, though I told her this was the way of life. I tossed the word “natural selection” into the air, knowing it would be years before she'd really understand.

When children grow up outdoors, spending a lot of time around nature and animals, they do not question the facts of life. Just as a child raised on a ranch knows what it means when a stallion goes out to stud and isn't squeamish about preg-checking the cows, a child raised by field biologists soon becomes aware that sexual reproduction is the driving force of life.

During that first year of preschool, after everyone had recovered from the sandbox incident, I was lingering in the play yard again, talking to some of the other moms. Our kids were chasing each other and laughing. One little boy jumped piggy-back on a little girl. Savanna shouted out, “Look Mama! Pretty soon he's gonna spray her eggs with sperm, and then they're going to have a baby!”

We didn't get a lot of play dates that year. But it didn't matter because when the field season rolled around again, we were back in the desert, chasing thunderstorms and listening for Texas toads calling us home.

*Lily Dayton is a freelance writer who has worked as a field biologist in the Pacific Northwest, Southern California, North Carolina, West Texas, and Mexico. She received her bachelor's degree in Zoology from Humboldt State University and her master's degree in Education from Texas A&M University. She currently lives in Santa Cruz, California, where she spends as much time as possible outside with her two young daughters.*