A Local Actor: A Global Difference

In a small corner of the Israeli desert, a man fights for migratory birds

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Photography by Robert DeCandido

"Polite conservationists leave no mark save the scars upon the Earth
that could have been prevented had they stood their ground."

~David Brower, environmentalist

Mid-morning, mid-autumn at *HaMerkaz HaBein-Leumi L'Tzaparut*, the International Birding and Research Center in Israel's southern Arava Desert. Though this is 'nature,' the sounds of the desert have a distinctly human resonance. Truck engines echo from the Arava road connecting Eilat to the rest of Israel. The engines reverberate across the Syrian-African Rift Valley from the mountains of Eilat to the towering Edom Mountains a couple miles into Jordan. A local bird — perhaps a wagtail — twitters as it hops among the human prints in the dusty path. The wind rattles a wooden memorial sign on top of a lecture hut dedicated to the memory of six Israeli soldiers killed in the Gaza Strip in 2004. A middle-aged Russian-accented couple asks me where the flamingos are. Flamingos? Here? I shrug that I don't know. My naturalist façade slips away.

The trucks, the footprints, the memorial sign, the tourists – and birds in the mix. On my walk here from the fork in the road, one path leads to the Arava border crossing to Jordan, another into a cultivated field. There isn't a spot of ground unclaimed by crop, the deep recesses of tractor and off-road vehicle tracks, or some errant piece of construction debris. This place is nature of a new paradigm – the nature of a human-modified landscape.

Even though it's not pristine by any standard, this area is profoundly important. Birds fly desperately for almost two thousand miles over natural barriers to get here, crossing the massive and waterless Sahara Desert. They must navigate around hunters and other predators across huge stretches of degraded and desertified land. Then, upon arrival, they must avoid the hotel windows that reflect the clear blue skies at the edge of the Red Sea. While these birds have it worse than those that preceded them, they may have it infinitely better than those that will follow. This place is prime real estate – eyed longingly by hotel owners of the resort city of Eilat a mile to the south and farmers of the neighboring kibbutz across the road to the west.

Reuven, center, and colleagues process a European Roller at the banding station.

The Arava Desert — and specifically this center — is a crucial stopover for millions of migratory raptors and over a billion migratory songbirds en route from northern Eurasia to Africa in the fall. Come spring, they leave in the opposite direction to nest and breed during the summer in Europe and northern Asia. As winter approaches, they take flight to their feeding grounds in central Africa.

Due to the geography of the region, the birds are funneled through several bottlenecks as they seek to avoid desert and open water, minimizing their time over these desolate terrains. They fly primarily down Spain and the straights of Gibralter, down Italy and over Sicily, and—in the greatest numbers—down the Syrian-African Rift Valley through Eilat, where I am standing. Salt marshes used to cover twelve square kilometers of the southern tip of the Arava desert on the banks of the Red Sea, and they were a last chance for birds to eat and drink before laboring over the Sahara to Central Africa. This valley is also the first opportunity for birds to touch down on their way back to Eurasia after a physically draining flight over the desert. Today, the once great expanse of these salt marshes amounts to only 0.04 square kilometers of habitat — roughly ten acres for billions of dependent birds.

The birds may have only Dr. Reuven Yosef standing between them and the total loss of this sanctuary. He

The Great Rift Valley, Eilat, Israel

is the director of the International Birding and Research Center and a model for how to conduct a successful environmental campaign. Reuven's reserve is unimpressive by global standards, but its two small ponds, surrounded by shrubs, trees, islands, and walking paths, are a natural alternative to the "sun, sea, and sand" emphasized by the Eilat tourist industry. The astounding number of birds that touch down on these grounds are what give this place its grandeur.

I'm by far not the first to write about Reuven, as he graciously lets me know when I join him in his home after my station visit. He plops two large folders of articles in my lap — one for English and one for Hebrew — each article carefully clipped and placed in a plastic sheath. I glance around his small office in a modest single-story bungalow house off an alley in Eilat. The narrow room is packed with bookshelves stuffed with bird guides (encyclopedic volumes devoted to passerines, raptors, waders and others, in addition many more typical, Peterson-like guides), folders filled with migratory and physiological data, and a small section devoted to the classics of conservation biology. The house is hung with autographed sketches and paintings of birds. Later, at lunch, we drink out of mugs collected from ornithological conferences, while eating barbequed chicken.

I am visiting the station at Eilat because I want to understand the key to Reuven's conservational prowess and how my role as an educator, writer, and activist might best complement and support his efforts. I want to spread the word, write about him, talk to donors, and bring my students to his site to do research projects. Although I have been a committed environmentalist for the past twenty years, I have learned only enough about birds and plants and rocks to be able to tag along with some of the best naturalists in Israel. My interest is Reuven reflects my interest in people. I am out of my element when I'm close to birds and far from my computer.

Reuven is quite the opposite. His element is birds. He was born in India to a fighter pilot in the Indian air force. As a youth, he was influenced by his uncle, a zoologist-conservationist who established the Gir Nature Reserve for the Asiatic Lion in India. Reuven moved to Israel as a teen, lived on a kibbutz, and became a soldier in one of Israel's most elite units. After attaining his first academic degrees in Israel, he studied on scholarship in the United States. Aspiring academics in Israel are encouraged to do some of their studies abroad.

He completed his Ph.D. at The Ohio State University, and then his postdoctoral research under the guidance of ornithologist Tom Eisner at Cornell University. Afterward, he worked at the Archbold Biological Station in Florida. While in Florida, he was asked by Eilat city deputy mayor and naturalist, Shmulik Taggar, and a former advisor, Barry Pinshow, to come to Eilat to establish a research center and

reserve for birds. Taggar had a vision of a bird center that would bring tourists to the region, while Pinshow wanted to make sure a scientist was chosen for the job.

Reuven considered this invitation an opportunity to make a significant contribution to migratory bird conservation. He agreed, and with his wife and two children, moved to Eilat in 1993. None of those visionaries foresaw the challenges ahead. Reuven turned out to be a better selection for director than either Taggar or Pinshow could have known. "By the time he became director of the center in Eilat…," wrote Mark Cherrington in a 2000 *Discover Magazine* profile on Reuven, "he was equally adept at research and warfare: the perfect man for the job."

Once in Israel, Reuven began to develop a reserve at the northern border of Eilat on a garbage dump (or garbage "tip" as Reuven calls it) that had been inactive for more than a decade. He covered the dump with soil and began to reconstruct a saltwater marsh and plant native trees. He began banding birds and educating groups — students, schoolchildren, and tourists.

Reuven estimates that one hundred thousand tourists come to the site each year, particularly in the fall and spring when they set up their cameras and binoculars on the banks of the ponds or in small thatched blinds. Sixty thousand school children sit on wooden benches as Reuven and his colleagues trace migratory routes on a large cardboard map across Europe and down the Syrian-African Rift Valley. They wow the children with a parade of birds caught in the traps that morning. Dozens of graduate students and post-doctoral fellows have used this place for scholarly enterprise.

Reuven has published over two hundred manuscripts on physiology and behavior of migratory birds based on research he's done at the center, focusing in particular on shrikes, a lizard-eating songbird with a sharply-hooked bill. He is interested in the decisions birds make regarding how much they eat before they take flight on their journeys, where they store their energy and when and how they use it. When Reuven is not researching, teaching school children, writing grants and otherwise advocating on behalf of his birds, he is traveling across the globe assisting other countries in setting up bird banding centers. This past summer he did this in Tibet, China, and Mongolia, where some of the birds that stop in Eilat migrate to breed.

I am fortunate to see Reuven's research in action on the reserve. Among the traps are large mesh tents hung over shrubs. The birds come to eat in the shrubs, where they are cornered in the mesh, caught, banded, measured, and released. As I speak with Reuven at a wooden table next to a small research shed, a colleague brings us in quick succession a dunlin, a collared dove, and a redstart — all caught in their nets. Close up one gets a glimpse of the amazing diversity among these birds. Holding them, I think at once of their simultaneous fragility and durability. These small packages of feather and hollow bone can be lighter than a handful of paperclips, yet they cover incredible distances on the small amount of fat and muscle they manage to build before their two thousand mile journey.

Amidst Reuven's initial success in establishing the center, the financial world of Eilat awoke, realizing the tremendous real estate value of the dump he was slowly nurturing into an ecological eden — a sanctuary for birds. Meanwhile, the local kibbutz, having lost cropland in an Israeli concession to Jordan following a peace treaty, began to take note of the site's agricultural value. One morning in 1996, Reuven came to work and found that his reserve had been plowed under by a tractor during the night. "What was your first reaction?" I ask him. He replies: "I wished I had lived in the Wild West so that I could go and call the bastards out for a show down."

There was no show down, and Reuven turned to rebuilding. Shortly after this devastation, some individuals requested that Reuven abandon the land to agriculture or construction. He refused. The requests quickly devolved into threats and intimidation. His car was vandalized and his office was burned. His dog was murdered. Still, Reuven didn't yield.

Through it all, Reuven won grants and conservation awards in recognition of his effort and success. Among them, he was bestowed the Rolex Award, which supports "exceptional men and women who are breaking new ground in areas which advance human knowledge and well being." Reuven has been featured in *Time, Newsweek*, *Discover, Wildbird,* and *Earthwatch*, and in all the local papers. According to journalists, he is: "contrary by nature," "a scrapper," "obstinate," "a firebrand," "a dedicated ornithologist and environmentalist." "He radiates defiance," yet is "a people-skilled protectionist." And let us not forget that Reuven "would be at home on the prow of a pirate ship."

Considering his conservation ethic, his military background, his love of hiking and rock climbing, Reuven can be described aptly as a local version of David Brower — mountain climber, soldier in the Tenth Mountain Division of the US Army, and legendary Sierra Club leader. Brower was at once rough, obstinate, and unyielding, but at the same time amazingly skilled at inspiring passion and love for nature among stodgy Washington policy makers and other potential allies. Reuven has that same unique skill set and, while he may not have kept dams out of the Grand Canyon or helped create Dinosaur National Park, he has created and preserved a critical bird habitat and a small

A sample of the diversity of birds caught in Reuven's nets. Clockwise from top right: Hoopoe, Red-backed Shrike, European Scops Owl, Palestine Sunbird, Trumpeter Finch, Golden Oriole, Wood Warbler, Bluethroat.

European Bee-eaters in hand

haven for birders.

Back at his station, we continue to speak about conflict, when, as if to remind me that this is supposed to be about the birds, Reuven points to three black dots in the sky and says, "They are three adult Steppe Eagles." "How do you know?" I ask. His colleague, who is banding and measuring birds nearby, interjects with a smirk as he returns to his traps, "He always knows." It's that sentence that might hold the clue to Reuven's success — he is self-assured, unyielding, and driven. He knows there is a problem for migratory birds in the southern Arava, and he refuses to obfuscate the story.

I sense that Reuven would rather avoid all conflict and simply concentrate on his birds. When I ask him later if he has ever thought of just leaving all of this and going somewhere quiet to continue his research — somewhere like the Archbold Field Station in Florida, which he speaks of as heaven on earth — he replies "on many occasions." Yet fourteen years later, Reuven is still here.

He is clearly at home in this small site. The station is quaint — there is nothing physically powerful or impressive here. The salt marshes are small and surrounded by low scrub whose green color is muted by the dust of this region, which receives only twenty-five millimeters of rainfall in an average year. The shacks that serve as laboratories are drab on the outside. There are several sitting areas with wooden benches to host visitors in the shade. Over the marsh and scrub to the south is the massive line of hotels in squares and semi-pyramids. Their shapes are dwarfed by the mountains to the west and east. Watching Reuven drive around his marshes and check traps, it's hard to imagine that he would ever leave this place.

While Reuven has managed to preserve and promote this locus of biodiversity, the forces of development are relentless, and his message isn't resonating with everyone. He doesn't think that the local government and people of Eilat "get it." He has to fight a constant onslaught of development proposals for his site and its perimeter. The same farmers and developers are after his land. Even government officials are not particularly concerned with protecting birds. Rina Maor, director for southern Israel at the Ministry of Tourism, told *Discover Magazine,* "… now we are 6 million [people in Israel]. Yes, we pollute, we do. What can we do? We don't live in tents. I know that we disturb not only the birds, but also the corals and fish, and we are not so nice, we human beings— we are sometimes very cruel. But what can we do?" Her outlook is exemplary of a perspective paralyzing conservation efforts in Eilat. In the meantime, Reuven holds the line.

Even if ecology isn't a priority for the people running the "Banana Republic of Eilat," as Reuven describes it, economics remain an argument for conservation. Reuven

insists that the one hundred thousand ecotourists that flock to see the birds at his station every year are a tremendous economic asset. Ecotourists stay in nice hotels, spend lots of money locally, and spend much more — five times more by Reuven's estimate — than the average Israeli tourist that zips by the birding station on the Arava highway to and from "sun, sea and sand."

He has received some help. When local farmers plowed his first site in a ploy to activate the old law "he who plows the land owns it," Reuven mustered the support of European and American embassies against the kibbutz besieging his sanctuary. The embassies issued a harsh rebuke of the behavior of the kibbutz, and the settlement was temporarily cowed. Yet marshalling such support earned Reuven, once a combat soldier and still a passionate Zionist, the epithetic title of "Anti-Israel" from one government official.

Reuven is disappointed with this misguided perception, and also with the Jewish philanthropic world. The majority of the Center's funding comes from European, non-Jewish conservationists. Of the Jewish community, Reuven laments, "They get the idea of a Jewish State. They even get the idea of environmental protection. But they still don't get the importance of protecting the environment in the Jewish State." None of their generous contributions to Israel are sent to aid Reuven's efforts. He hopes the American Jewish community, in particular, will re-assess their giving habits and combine their concern for Israel with an environmental common sense.

A sea change in mindset is needed soon. At the end of last spring, Reuven fired off an urgent announcement to various global conservation groups. In his message, he relayed that he had recorded the smallest number of migratory birds passing through his center since he began banding in Eilat. Later, Birdlife International, which works to protect birds and their habitat worldwide, issued a press release noting a similar decline in migratory birds arriving at their summer nesting sites in Europe. They offered the following possible culprits: climate change, land-use shifts in the Sahel (a semiarid region between the Sahara and central Africa), pesticide use, and desertification. The decline in the number of birds caught in Reuven's nets is a manifestation and microcosm of these global trends.

It once seemed the birds could survive any number of landscape modifications and environmental challenges that humanity might create so long as it left a tiny plot of land on which to alight, rest, and refuel. Now we know otherwise. Reuven's experience in Eilat and the cumulative impact of our most modern environmental challenges on dwindling bird populations teach us important lessons: Hold the line. Support those that do. Be a local actor. Make a global difference. ■

A Bird in Hand

There was a time when I believed these little feather balls were made of paper maché. Birds were fragile creatures, delicate like origami. They were symbols of elegance and peace. When I first held one, I marveled at how any vertebrate could feel so weightless. How could a Wood Warbler (*Phylloscopus sibilatrix*) weighing less than an ounce make a three thousand mile journey from Europe to Africa in autumn, and then return south in spring?

When I first banded birds, I was taught how to turn the tiny ones on their backs and blow a few breaths across their bellies. The air spreads the feathers to reveal opaque skin and breast muscle below. Those in good shape have golden globules of fat pressed against red muscle. Others are limp and beginning to digest their internal organs to fuel their long migratory flight. In this famished condition, a bird is unlikely to survive, but it will die trying to complete its journey. Feathers hide these secrets from people.

I came to the International Bird Research Center in Eilat (IBRCE) to gain a hands-on understanding of birds as a bander. I wanted to understand birds the way a mechanic knows my car. At the IBRCE, I handled thousands of birds in one season, taking measurements such as weight, wing, and tail length. If we were able to re-trap a migrant, I saw how each of these variables changed after a few days of feeding at the IBRCE preserve.

I remember the day at the banding station in late March when Reuven handed me a Woodchat Shrike (*Lanius senator*). Other little birds had been cooperative in my hands as I measured them and crimped a metal band around one leg. The Woodchat Shrike was different. He was uncooperative and audacious. He squawked and shrieked, and shrieked again. (The etymology of the word "shrike" became all too clear.) When I tried to turn the Woodchat Shrike on his back, he bit me, and bit me again, unwilling to let go. Banders know — and their fingers show — that Woodchat Shrikes are experts at finding the groove between the nail and the sensitive flesh of the finger. Once they sink that hooked beak into a tender spot, they chomp down. Reuven calls this a "kiss."

I cursed the shrike then, but I cannot forget him. In the ensuing weeks of spring other shrikes arrived in Eilat during their northward migration to Europe: the black-and-white Masked Shrike (*Lanius nubicus*) and the handsome Red-backed Shrike (*Lanius collurio*). I learned that each shrike has a unique personality — usually feisty and pugnacious. Indeed, the shrikes I met in Israel are much like my friend and colleague Reuven Yosef. Each is a survivor accustomed to meeting its needs in the harsh desert thorn and scrub.

The measurements we took from more than ten thousand birds are now part of a universal database built to understand how migrants fare in the long-run. As green space disappears, we might find that the condition of future migrants is significantly different than those we are measuring today. Similarly, as climate changes throughout the world, how will migrants be affected? The only way to know is to band, measure, and study these small sentinels.

~ Robert DeCandido