

UC Santa Cruz

Randall Morgan: Santa Cruz Field Notes

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By Keith Rozendal, SciCom class of 2011

Getting to know Randall Morgan is like reading the index volume of an encyclopedia. Many experts on the ecosystems of Santa Cruz County, California, could fill a book with what they know about native birds, plants, insects, or other natural history. However, Morgan would need a shelf of volumes.

He has found more than a dozen plants and insects that exist only in this small county on the Pacific Coast, yet Morgan says he faces an enormous backlog of discoveries still awaiting his documentation. His exhaustive studies of clovers (*Trifolium*) and rein orchids (*Piperium*) put him among the top-ranking world authority on these plants. His insect collection alone fills half a room at the UC Santa Cruz Museum of Natural History Collections. Undergraduate students have toiled hundreds of hours to catalog the collection, yet more than half of the labor remains. Morgan estimated it would take ten years to do the job himself.

"I would call Randy both a specialist and a generalist," says biologist Chris Lay, the senior scientist of the UCSC Museum of Natural History Collections, where Morgan's plant and insect collection resides. "He has the capacity to develop really specialized knowledge, and he has this ability and passion to learn it about so many different things."

Morgan has earned an honorary lifetime membership in the Santa Cruz Bird Club, become a fellow of the California Native Plants Society, and has served as a UC Regents Lecturer. Yet this widely-recognized adept of Santa Cruz County plants and insects is virtually self-taught. He has never taken a class in entomology or ornithology; rather, he has built up his expertise through exquisitely refined observation and obsessive collecting.

Morgan refers to his lifelong passion for natural history as a "peculiarity." "But in the mold of John Muir, this eccentricity has long served himself and his beloved natural community.

"Randy's an especially gifted and brilliant individual who can see things that normal folks might not be able to," says Brett Hall, the UCSC Arboretum manager and current president of Santa Cruz's chapter of the California Native Plant Society. "His skills at observing, his radar and magnification, go way beyond the normal range."



Randall Morgan.

Photo: Keith Rozendal

Twelve-year-old taxidermist

Morgan's family history spans four generations in Santa Cruz County. His mother's family planted orchards in the Santa Cruz mountains in the 1870s; his paternal grandfather purchased a 13-acre farm in Soquel Valley, just south of the city of Santa Cruz, in the 1920s. Born in 1947, Randall Morgan grew up in the same farmhouse his father knew as a child. Nearing 90, Morgan's mother still lives on the Soquel property, as do her other two sons and their families. Only an acre remains of the original farmstead. Once farming could no longer cover the property taxes, the land was sold to homebuilders.

Morgan's earliest memories record a boy enthusiastically exploring every microcosm he could uncover on the family farm. "I could just go into any kind of environment I wanted to," he says. "To the creek, up in the hills, or up in the orchards and fields, or climb around in the barns or the tank house. Pretty ideal." With typical bluntness, Morgan says, "I feel sorry for the kids who have to grow up in those 'rabbit warrens' that pass for homes."

By the late 1950s Randy had already developed a mature passion for bird watching before most boys graduate from dinosaurs and trains. When he could no longer bear to throw away the dead birds he found during his wanderings, he taught himself taxidermy from a booklet. He sent away to the East Coast for artificial eyes, and for Christmas 1957 his father gave him a brain spoon and eye hook.

"My parents were quietly encouraging," Morgan says. "They'd stop for roadkill when we were traveling, and they let me keep dead animals in the freezer. My dad built a big desk for my taxidermy things and a pen when I wanted to keep pigeons and pheasants."

When Morgan was only 12, the Santa Cruz Museum of Natural History began to display his mounted birds. Alongside his study of linguistics at UC Santa Cruz in the late 1960s, birds remained his major passion. Morgan can identify most birds found in Santa Cruz from their calls. He can even translate a bit of their language.

"We should see a hawk here somewhere," he said during a recent walk around the UCSC Arboretum. "Bushtits make that tittling sound when they see a hawk."

Morgan's study of human languages at UCSC may help explain his sharp classification skills, according to Brett Hall.

"I think his study of linguistics gave him a lot of unusually perceptive skills," Hall says. "When you think about the complexity of languages, how linguists study the relationships between them and how they diverge, you can see how that would be a good training for understanding botany and classification."

Wild Bill's botany school

Birding brought an important mentor into Morgan's life in the early 1970s: "Wild Bill" Anderson, a biologist who had recently retired from the California Department of Fish and Game.

"He was lonely and bored and he took me out birding all the time," Morgan says, fondly describing Anderson as a "crotchety old bastard."

Anderson knew California plants intimately and freely shared his expertise with his birding companion. By sheer doggedness, Anderson turned Morgan's attentions from birds to botany. "He would rub my nose in botany," Morgan says. "All the plant names seemed to start with '*Erio-*' or something like that to me. But,

after a while, it just caught.”

With a burning passion, Morgan soon completely immersed himself in the study of California botany. By the mid 1970s, wherever he went collecting, he could exhaustively document the plant species in detailed field notes. Some of the plants he collected and deposited in herbaria around the state were thought to be extinct. Others helped him to establish many entirely new native plant species, some critically endangered.

In the early 1980s, Morgan began to add another level to his already deep understanding of the local plant ecology. The pollinators and other insects important to his beloved native plants had caught his eye. He started to gather another important collection.

“I didn't know what the hell I was doing then,” says Morgan. “I didn't even have pins to mount the insects.” Eventually, he would need pins for more than 80,000 insect specimens, after another feverish period of self-directed study overtook him.

“I was just whetting my appetite,” Morgan says of his early 1980s insect collecting.

Starting in 1989, Morgan began a systematic, thorough study of the insects and plants at 39 different locations in Santa Cruz County, including biodiversity treasure houses like the coastal prairie and dunes, riverside habitats, and the Zayante Sandhills—ancient beach sand exposed in the middle of the Santa Cruz mountain range. Morgan visited the sites regularly, once or twice a month. He recorded every species of plant he observed, collected every insect he found on or near those plants, and wrote detailed field notes recording everything from the weather conditions to wildlife observations.

Written in compact, draftsman's print on grid paper, his entry for November 11, 1991, at Cupcake Hill reads: “Say's Phoebe; female type Northern Harrier, hunting; one cyclist (Mrs. Caffrey and 3 or 4 kids, catching lizards).”

The field notebooks contain many such objectively documented encounters with *Homo sapiens sapiens*: “16 Aug 1991, Cupcake Hills, 12–3:30 pm, clear warm, summer breeze. Saw about 7 neighbor kids collecting jarfuls of harvester ants on the *Chorizanthe* flats, they show promise!”

After 10 years of sustained effort, his linked collections of plants and insects numbered 90,000 specimens. The field notes overflowed two file cabinets. He saw this work as his gift to the far future. He described the project as “a rough snapshot of the county's insect fauna at the end of the 20th century, giving a basis of comparison for future decades and centuries.”

Morgan's collection—now at the UC Santa Cruz Museum of Natural History Collections—has begun to fulfill that vision, according to caretaker Chris Lay. “An enormous amount of information can come from the collection,” says Lay. “Every couple of months a researcher's question filters down to me that his collection can answer.”

In Morgan's exploration of Santa Cruz County, he had developed a keen ability to detect areas that promote the development of new species. He saw that the county possessed many unique habitats with species found nowhere else.

“In California, things tend to be narrowly endemic. They don't grow anywhere else because they live on such specialized little micro-environments,” Morgan says. “In Scotts Valley, I discovered a few new plants. One was so rare you could wad up the entire world population to the size of a softball.”

Morgan's colossal plant and insect collections came into existence mainly as collateral products of his obsession with Santa Cruz's biodiversity. Nevertheless, this intuitive citizen–scientist produced data on the local environment with such unparalleled rigor and detail that academic scholars may mine the collection's data for decades.

“There's citizen science out there, and it's very useful to scientists,” says Lay. “And then there is Randy. With his work, you can just go into more and more detail if you want to. It's incredible.”

No longer a mute witness

Lay estimates that Morgan has personally collected and identified at least 10,000 native plant specimens.

“That's the magic about somebody like him,” Lay says. “He can tell you about so much diversity. Now put him down in a world where we are just eating up the natural resources and just bulldozing away. To him, what's been lost biodiversity–wise to him is far greater than most people feel.”

In the 1980s, this acute sense of loss moved Morgan to raise his voice for his beloved plants and the unique habitats that shaped and sustained them. He could no longer ignore the fact that such irreplaceable micro–environments—the nutrient–poor Zayante Sandhills, the alkaline Soda Lake, the wildflower–bejeweled grasslands in Scotts Valley—were being destroyed at an “explosive rate,” as he put it. Morgan witnessed it first–hand in his field notebooks.

“3 May 1991, 12–3:30 pm, clear. One more depressing and infuriating assault on rare plants. That brave little colony of *Nemophila pedunculata* AND the *Allium unifolium* colony along with all of their choice little associates were all buried by fill imported and bulldozed around by the little megalomaniac new 'neighbor' with the monster house south of Cupcake Hill.”

Eventually, he began a concerted effort to educate local bureaucrats and residents on the dangers facing native plants and animals. Irreplaceable species had already been lost. But first, the bespectacled, thin and quiet man had to overcome a great reluctance to speak out in public. He radiates sincere modesty and shyness from beneath his ever–present sun hat—used as much to screen his eyes from conversation partners as to shade his eyes from the sun.

“It's a hell of a bitch to go to all those hearings, and give all those slide presentations, and write all those letters,” Morgan says. “Especially if you don't like getting in front of people in the first place. That's the worst part.”

In particular, Morgan fought to establish the Moore Creek Preserve on the west side of the city of Santa Cruz and championed the endemic species of the Zayante Sandhills ecosystem in the Santa Cruz Mountains. After years of effort by Morgan and his collaborators, the Federal Register now lists a half dozen Sandhills plant and insect species as endangered. This work helped limit a major sand mining operation, preserving large portions of the formation within habitat set asides and parklands.

A 189–acre preserve—purchased with more than \$1.5 million donated by inspired locals—was named the R. Morgan Sandhills Preserve. The Land Trust of Santa Cruz chose the name to honor Morgan's “tireless efforts to create awareness of the sandhills habitat by documenting the area's plants and insects and spreading the word throughout the region.”

This land is their land

Aiding Randy's activist work were the National Environmental Policy Act, the California Environmental

Quality Act, and the Endangered Species Act, which all came into force in the early 1970s. Species and habitat surveys, mandated by the laws, became important environmental protection tools for concerned citizens.

The laws direct governments and private parties to consider the environmental impacts of their actions and decisions. These mandates helped Morgan to earn the only regular income of his life. Loggers, builders, and developers hired Morgan—one of the few naturalists in California with the expertise for the job—to catalog what the legislation calls “biotic resources” threatened by projects planned all over the state. This work supported his off-hours exploration of the flora of Santa Cruz County from the early 1970s to the late 1990s.

Eventually, the consulting work dried up, as developers and planners found others capable of doing the work. He had also developed a reputation for turning up rare plants wherever he looked, a thorn in the side of property developers.

“They do not want you to find anything rare or interesting or wonderful,” Morgan says. “It’s more trouble for them.”

Morgan now relies on his friends and admirers to sponsor his continuing work by offering him a patchwork of odd jobs, classroom and tutoring fees, and the occasional short-term grant-funded position—like the Regents lectureship he held through the UC Santa Cruz Arboretum in 2009–10. His friends volunteer to help write the descriptions of new species he’s collected and other projects.

“He’s devoted his life to understanding the biodiversity of this county,” says Chris Lay. “And he’s been willing to live like a pauper to do it.”

Lay was instrumental in sponsoring Morgan for the Regents lectureship, and hopes to include a salary for the naturalist on a museum grant from the National Science Foundation. This would help Morgan complete the cataloging of his plant and insect specimens with help from students on campus.

But the fate of another enormous collection now haunts Morgan. Over the years, he filled two freezers—now badly in need of defrosting—with seeds collected in tandem with his plant and insect specimens. Most represent plant varieties that no longer grow in the wild. The irreplaceable seeds need to be planted before they lose viability, so that fresh seed can be harvested and placed in proper long-term storage.

“I’m almost getting panicky,” says Morgan. “It feels like a duty to me. These seeds aren’t going to live forever, and neither will I.”

If he can secure the future of his seed bank, Morgan may return to his latest project, a book on unconventional land management wisdom. The friends who volunteered to edit the project call the collection—thousands of handwritten sheets loosely organized in a cardboard file carton over the past decade—the “monster in a box.”

If knowing someone truly is to love them, it’s understandable that Morgan once considered entitling the book “Loving California.”

Epilogue: Much remains to be known

Although ours is a tiny county (the second smallest in California after San Francisco), and heavily

populated, it should never be assumed that our flora is known. . . . It is almost guaranteed that an hour or so of botanizing in almost any random location will yield discoveries worthy of inclusion in this checklist, such is the bounty of our floristic Christmas tree—not all the presents have been opened, not even close. —from An Annotated Checklist of the Vascular Plants of Santa Cruz County (R. Morgan, 2005)