

Finding the Hidden Garden

by Gary Paul Nabhan

Murrieta, California, April 8, 1993: I stared at the hole in the ground in front of me, a hole in the manicured grass. Above it hovered the huge box holding one of my heroes inside it, Howard Scott Gentry. He hated green grass, preferring to sow wild, unruly native plants wherever he lived. It was not only his preference but his trade as well. He was a plant explorer who had spent more than half a century roaming the desert border states, collecting agaves and other wild plants with promise, many of which he brought into cultivation for the first time.

As of April Fool's Day, he was done roaming; this would be the last time he was headed for new ground. His daughters, his wife, his Mexican sidekick Juanito, and many old friends were there to see him off. Some of us served as pallbearers. Others just stood back and cried.

They were ready to lower him into the grave, but I was not ready to let him go. I wished I had one last chance to "talk agave" with him. It would have been too hard to tell him all that he meant to me. Instead, I simply wanted to tell him that I had recently found people still growing, eating, and celebrating the Hohokam century plant, *Agave murpheyi*, a rarity that had posed an unsolved riddle for him for almost thirty years.

When he and I "talked agave," it seemed that the rest of the world stood still. I could listen to that old man tell me of his plant-exploring adventures for hours. It was odd that we were completely on the same wavelength on that one subject, because whenever we talked about anything else—farming, business, politics, love, marriage, the work of friends, or even the origins of beans—we seldom saw eye to eye. He was forty-nine years my senior, and we had come from different cultures. And yet, we had ended up loving some of the very same things: the smoky taste of home-brewed mescal, the sound of *campesinos* tending maguey, and the diversity of shapes, sizes, and circumstances in which agaves grew.

Once I had invited him down from his home so that he could "talk agave" to a bunch of my friends in a desert garden at night. We sat and drank the fermented, distilled juices of the very plant that was the subject of his rambling lecture. He spoke within the shadow of a giant maguey, and near the end of his talk he glanced over his shoulder at it and declared that, "being a man, I think and speak as a man, but today I also speak for agave. You see me held in the arms of this giant maguey. I am a son of Mayahuel, the goddess of maguey. What I have told you today is what she told me to tell you."

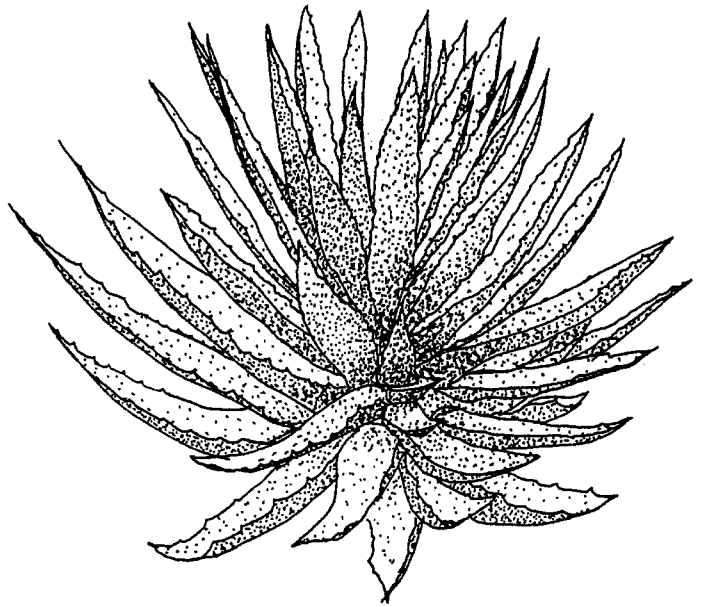
And so old Howard baptized me into some ancient rite, not by water but by firewater—a shot of bootleg *mescal bacanora* distilled from wild desert agaves. Howard became a father figure to me, one whom I sometimes saw as legendary, other times as limited by his own flaws. In turn, I became one of the many grandsons of that Native American goddess, Mayahuel.

I was adopted into Mayahuel's family not long after I left my boyhood home for good, and not too long before my own father

died. I had been cooped up on the midwestern farm where I had been working, so I moved to the Sonoran Desert with the hope of devoting my life to tracing the natural history of its plants in the wild. I can now confess I had no idea how I would ever make a living doing such a thing, but I tried. The first regional field guide I purchased after my arrival was a peculiar little book written by Dr. Gentry in 1972: *The Agave Family in Sonora*. I hoped that it would lend me some of the confidence that I sorely needed at the time.

Using it on a hike down the southern slopes of Bradshaw Mountains late in the winter of 1975, I easily identified the first two agaves I encountered at higher elevations. I then came on a third that somewhat fit one of Gentry's descriptions but didn't jibe with the distribution map for the same species.

Instead of having flowers on its stalk, it had a bunch of miniature plantlets called bulbils. Judging from what Gentry had written, bulbils seemed to occur regularly only on one species within the Sonoran region, *Agave murpheyi*. However, that species was apparently not known from the lower elevations of the Bradshaws at the time. And so I pressed a specimen, dried it, and sent it off to Gentry a few weeks later. I had learned in the meantime that he had "retired" to Arizona, leaving the U.S. Department of Agriculture as its chief plant explorer to take on the somewhat honorary position as senior research scientist at the Desert Botanical Garden [in Phoenix].



Agave murpheyi growth after 9 years. Plant approximately 85 cm tall and 120 cm wide (about 33 in. by 120 in.) Agave illustration series by Ann Audrey, based on photographs and measurement data in "How does our Agave grow? An illustrated record of *Agave murpheyi* bulbil development in a residential backyard in southern Arizona." by Karen R. Adams and Rex K. Adams, December 6, 1993.

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Within a week of sending off the specimen, I received a letter from Gentry on some self-designed stationary embellished with the sketch of a flowering maguay: "Welcome to the Agave Family!" he proclaimed.

His letter went on to inform me that if a certain kind of agave is damaged by freezes as it begins to flower, it will abort its blossoms and reproduce vegetatively, spawning through bulbils like the ones I saw. "I don't think it would be much fun if we could replicate ourselves that way," he added dryly. In short, the identity of my plant was not definite: it could be *Agave murpheyi*, or a related species that didn't normally produce bulbils. Gentry encouraged me to make more collections at the same site. In that way, we could verify whether or not bulbils were characteristic of the entire population. He also invited me to pay him a visit sometime. I did.

Within a year of that first dispatch from the old man, I embarked on my own agave-collecting trips in Sonora and tasted bootleg mescal for the first time. My father had died while I was out of reach, in Mexico. After the funeral I took my dried plants to Gentry, to see if the master would help me interpret their value. We soon found something to talk about on a fairly regular basis. Within another year, I took a few weeks off to work with him. We began by drinking tequila in an agave patch on a Fourth of July evening and stayed together until the end of the summer, when I left for more plant collecting. We split our time between two places, the Desert Botanical Garden in Phoenix and his family's homestead in Murrieta, nestled within the Sierra foothills an hour south of Los Angeles.

That summer, ethnobotany and the horticulture of native plants became more than technical sciences to me: they harbored a reservoir of stories about rural peoples and their ties with the natural world. Nearly everywhere in the American deserts, agave fibers formed the rope that secured those ties. Gentry considered this link a "mutualism between two disparate organisms"—a true symbiosis—for without agaves as his companions in the desert, "man would be a lone egocentric without a single other organism in the whole world to counsel him."

The old man would draw upon the council of mescal or scotch each afternoon before wandering off to his bedroom for a siesta, or falling asleep, glass still in hand, in his easy chair on the patio. He always kept a good field hat on while he was outside and often kept a little wild stubble on his chin to go along with it. Lubricated by his afternoon drink, he might recall the views of scholars (Webb, Sauer, or Xolocotzi) on some arcane horticultural practice of Mexican Indians. Then he might give me an Indian perspective on the same practice, by referring to a conversation he had with a Guarijio, Mayo, or Tarahumara elder forty years before. If I was lucky, he might recall one of his adventures while out exploring the sierras with Juanito Arguelles, who had often traveled with Gentry as his *mozo*, or errand boy. Arguelles has ended up being the second most prolific collector of agaves in the history of northern Mexico, but the collections with his name on them hardly rival the twenty-five thousand or so that bear Gentry's name. A fourteen-year-old when

Gentry first met him in San Bernardo, Sonora, in 1933, Juanito learned to take care of Gentry's mules and plant presses. He later moved to Murrieta and found jobs tending cutting horses; he decided to retire years before his former boss had to force himself to stop working.

Once Gentry began his stories from the trail, they would unwind naturally. He often returned to a point he had wanted to demonstrate to me earlier in the day. When recording folk taxonomies for plants, he insisted, be careful of *campesinos* making up provisional names for plants in areas unfamiliar to them. Then he would laugh heartily and confess that in 1951, he had provisionally named one species *Agave jaiboli* after what he thought was an Indian name. In the Sierra de la Ventana, he had encountered a *gente de razon* (non-Indian) who

told him that a fine distilled drink could be made from this unusually sweet plant. The mad had called the distilled drink *jaiboli*, to distinguish it from the mescal that the Guarijio Indians made from *temeshi*, another local agave.

Fourteen years later, Gentry ran into the man again and learned that he had worked as a wetback years before on the U.S. side of the border. While in the United States, the man had taken a liking to the highballs that the Gringos made with their liquor. "*Aquí, hacemos jaibolis con mescal,*" he told Gentry, who belatedly realized that *jaiboli* was no Indian word at all. The name stuck nonetheless, and Gentry used it for the official scientific name when describing the plant as a new species in 1972.

While we were over in California, Gentry took me for my first drive through the heart of Los Angeles. We were on our way to the Huntington Beach Botanical Gardens, one of the most heavily visited horticultural displays on the West Coast. There in the middle of its outdoor exhibit, the old man pulled out a rope and made it into a lasso. He deftly tossed the loop over a twenty-foot-high agave stalk in flower and fruit. Once he caught its candelabra bouquet, we wrestled it down to the ground, much to the horror of the tourists passing by.

"I've been waiting for this plant to flower damn near since the year you were born," he said, taking his hat off and wiping the sweat from his brow on his shirtsleeve. Gentry had planted dozens of seedlings of unknown species at Huntington in 1951 and 1952, but

it took some of them another quarter century to flower for the first time. It was only then that he could fully describe them.

"Take my machete," he ordered, "and cut three or four of those leaves off. Skin 'em out and section them so that they fit into the plant press. I'll finish up pickling the flowers while you're doing that." The entire effort took nearly two hours and filled an entire plant press. Every day the following week, I swabbed each leaf section with alcohol to keep it from molding and dried the blotters out in the sun. After waiting twenty-five years to finish his work on this collection, Gentry was not about to let a specimen go to waste.

Hundreds of such specimens informed his 670-page masterwork, *Agaves of Continental North America*, which was finally published in 1982 nearly fifty years after Gentry had begun his first agave collections. By that time, the old man seemed tired and frustrated by what he had done. "It only makes evident how little I know," he said

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sadly. "But I just can't do any more. These damn plants have nearly killed me. It's up to you young lads and lassies now."

Even before he reached this stage of exhaustion, he had encouraged me to ask O'odham friends questions he himself had not resolved. He was especially curious about their knowledge about *Agave murpheyi*, because its distribution puzzled him. He'd seen it just north of Phoenix, then not again until one hundred miles south in an O'odham Indian village, and then not for another hundred and fifty miles southwest in Sonora, near another O'odham village. His masterwork contained just three cryptic lines about its origin and distribution: "...*murpheyi* has never been observed in extensive or dense populations. Some of the clones appear to have been associated with old Indian living sites. The propagules are easily transported and replanted."

The plant happened to grow in the garden of Laura Kerman, the namesake and godmother of my daughter. Laura was an O'odham potter, teacher, and storyteller who was older than Gentry but just as horticulturally curious. When I asked her about the origins of her plants, she nodded toward the Baboquivari Mountains.

"When I was a little girl, we would stay with my grandmother back in those mountains during the dry season. We took these plants from there. There used to be hundreds of them up in the canyons, and that is what my people would harvest to eat. They would dig them up, chop off the long leaves, roast them in a pit overnight."

Her eyes would get wide as she began to visualize scenes from her childhood. "Next day, they opened the pit to take them out. If the coals were still warm, they took the leaves they had cut earlier and dried them over the coals. Then they would make rope or other weavings out of the fibers taken from the leaves. We never made mescal to drink, like the Mexicans do, although some of the old man would buy it from the Mexicans and then get drunk. We just ate it and used it to make rope."

Then she looked at me, blinking. "You take me up to the mountains for a picnic, and I'll show you those plants."

One summer, I did take Laura up to the canyon home of her grandmother. We had a picnic with a small band of Pima, Papago, and Navajo friends, then she sent us up the slopes looking for plants. But as we scrambled around the abandoned village, we could find only the more common species of desert agave, no *murpheyi*.

I was sure that she had not confused the two. She simply called the common desert agave *a'ud* but knew the one in her yard as *a'ud nonhakam*, "the agave that has eggs or progeny." In fifteen years of hiking the Baboquivaris, I had found only a single *murpheyi*-like plant that had "progeny" or bulbils on its stalk where flowers might otherwise be. As with the first agave I ever collected, I could not be sure of its identity by this one trait alone. Its leaves were too dried

Because we all owe the land and its plants our lives, such stories speak for all of us. They must reach from the past into the present, to hook farmers and ranchers and even suburban gardeners, linking them to what nourishes us and inspires us.

to allow for identification. My only guess is that Laura's ancestors had cultivated this special agave around their homes in the last century, but it had not survived the droughts, freezes, cows, or harvesters. Its fiber and food qualities were so superior to those of *Agave deserti* that younger O'odham harvesters may have finished off (or transplanted to their own homes) the plants their forefathers had tended.

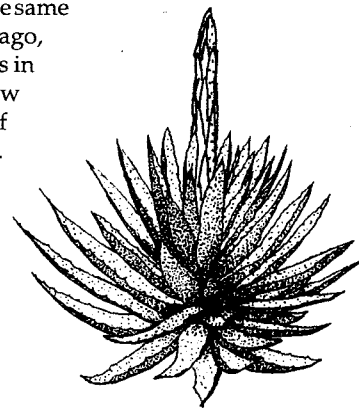
I later decided to return to the only area in Sonora where Gentry had seen *murpheyi* growing. It was an area that I knew had old, mostly abandoned O'odham villages and ancient hillside terraces nearby. Gentry had found *murpheyi* cultivated in a yard across from a truck stop, but its owner claimed that it came from the nearby hills where it grew wild. And yet, when Gentry got up to go explore the hills, the Sonoran dissuaded him, saying that the plants there had already been cut for eating and for making bootleg mescal.

It seemed easy enough to travel forty miles south of the border and explore the hills surrounding San Luisito to find what might be a truly wild population of the plant. But, like Gentry, I would not see any plants in the hills. As my friends and I drove into San Luisito one summer day, a roadblock loomed up just fifty years past the garden where the plants grew. Since we weren't going any farther south, I pulled into the truck stop rather than driving right up to the Federales and their barriers. Unfortunately they thought I was dodging them.

The next thing I knew, five Uzi machine guns were pointed at me, and two other armed guards had me up against the hood, frisking the daylight out of me. Two hours later, after my Jeep Cherokee had been scoured for every smidgen of plant debris, and each leaf analyzed for traces of drugs, the narcotics squad released me and my friends.

"This is drug country, why did you come down here anyway?" the *jefe* asked me. I pulled out Gentry's *Agave Family in Sonora* and showed him a picture taken in the garden across the road some twenty years before. He was not impressed. He doubted that I had any legitimate reason to be there and discouraged us from wandering around in the hills nearby. "There are drug traffickers who think they can go around us. They are not the kind of people who will like you getting in the way."

The following winter, after I had heard that drug running through that part of Sonora had waned, I did find four or five more ranchos with little patches of *a'ud nonhakam* in their yards. Always, the O'odham and mestizo cowboys would tell me the same thing they told Gentry. Years ago, they had brought these plants in from ones in the hills, but now they were no longer sure if there were any left in the wild.



Agave murpheyi growth about two weeks after authors Karen and Rex Adams noticed emergence of main stalk. Height approximately 113 cm from ground surface to top of stalk (about 45 in.)

About that time, however, word came in from a friend in New River, Arizona, that caught me off guard. I had begun to work at the Desert Botanical Garden, joining Gentry's department. Another one of Gentry's understudies, Wendy Hodgson, had been collaborating with an amateur botanist, Rick DeLamater, tracking the distribution of agaves in central Arizona. One day Rick heard me complain to Wendy about my trouble finding truly *wild* populations of *Agave murpheyi* anywhere on the O'odham Reservation or in Sonora.

"Crap, I know where a bunch of wild *murphs* are right by my home. You know Encima de la Mesa near New River?" Rick said casually.

"There are prehistoric terraces all over there!" I blurted.

Rick didn't follow me. "What do terraces have to do with it?"

"There's this archaeologist named George Gumerman who had a big project up there in the seventies, and I went up there with him one time. He had a whole team of students mapping hundreds of terraces and rock alignments built prehistorically, thinking that they might have been used for agriculture. Funny thing was, in all their excavations and analyses of pollen and soil, they never figured out what people could have been growing up there. You haven't seen any prehistoric agricultural features where the agaves are?"

Rick looked at Wendy and scratched his beard. "All I know is where the plants are. And where a few hilltop ruins are above them. I wouldn't know a prehistoric agricultural feature if it reared up and bit me on the . . ."

By the end of the week, Wendy, Rick, and I went up to New River with some biologists visiting from Mexico and the Navajo Reservation. As we walked out across the *bajada* toward the plants, I began to see rock pile after rock pile, rock alignments, check dams, terraces, and stone tools. Rick led us to one particularly large clone of agaves. There in the middle of it was a prehistoric agave knife, the same kind that had been found near agave roasting pits throughout the Southwest for decades. And there, beneath the *a'ud nonhakam*, was the lip of a cobblestone border that had been put there to slow the flow of water down the slope at least five or six centuries before.

The hidden garden. There, amid the paloverde and mesquite, the bur sage and the barrel cacti, a prehistoric Hohokam crop had persisted at least half a millennium after being last tended. The same plant—the identical genetic stock that had been transplanted here in prehistoric times—had reproduced vegetatively on its own, clinging to the same terrace where it had been originally placed. Rick had discovered the hidden garden, a horticultural experiment so well adapted to the desert that it ultimately needed no human intervention to keep it going.

By that time, we knew that tens of thousands of acres of similar rock-pile fields, cobblestone alignments, and terraces had been found between Tucson and Phoenix by Paul and Suzanne Fish. At

first, they too were baffled because Suzanne's pollen analysis revealed no obvious candidate for the crop that the Hohokam had grown there.

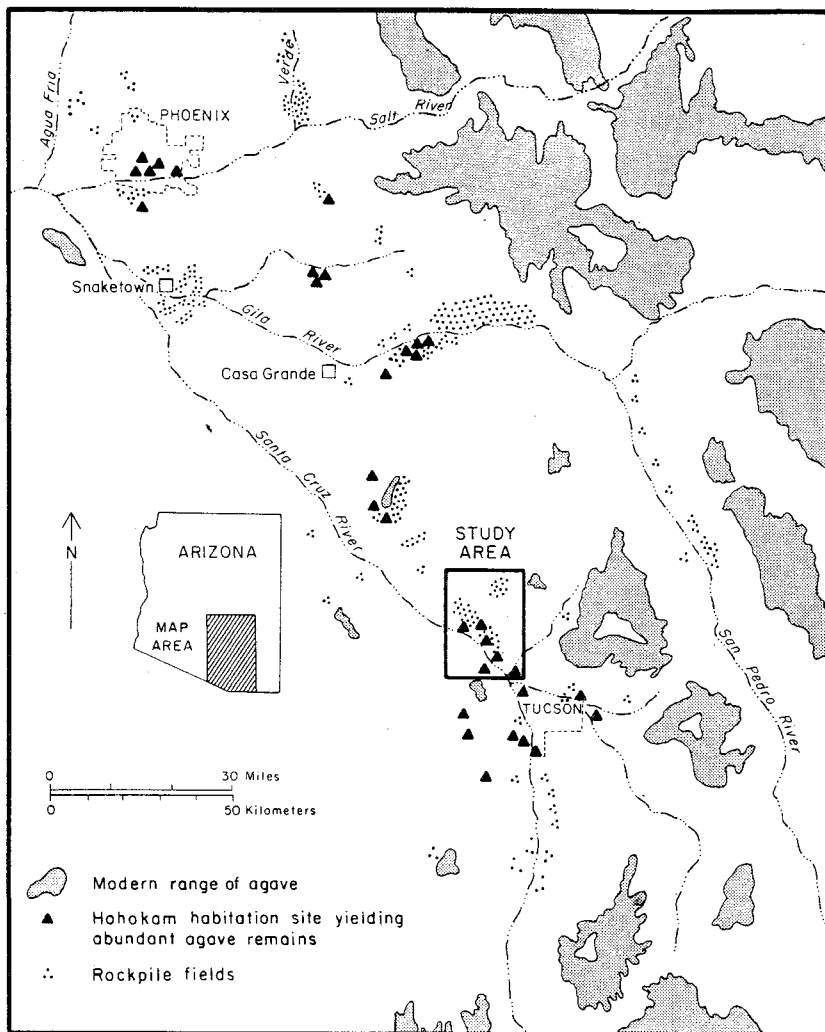
Then one day, Paul's survey team stopped to eat lunch on the *bajada* slope. Nudging his bootheel into the slope overlooking a wash, one of them noticed that they were sitting on ash and charcoal, not soil. The team had stumbled upon a huge roasting pit, and within a few weeks their coworker Charlie Miksicek had sorted out fragments of agave leaves mixed with the ash. The leaves were too beat-up to identify, but when Charlie heard of Rick finding *Agave murpheyi* up at New River, it didn't surprise him. Most of the agaves would have been cut and roasted before they flowered anyway. If *murpheyi* aborted its flowers so early, it's no wonder that Suzanne could find little pollen where Charlie had found an abundance of charred leaves.

Suzanne, Paul, and Charlie gradually fleshed out the details of a prehistoric horticultural tradition in North America. It was a tradition that had escaped the notice of dozens of archaeologists who had worked in the same region over the last century. They had presumed that agaves were aboriginally cultivated nowhere north of Mesoamerica. Paul and Suzanne Fish have now shown otherwise, that agaves have been intentionally cultivated in Arizona since A.D. 600. The one hundred fifty square miles of rock piles on the middle *bajada* above Marana [Arizona] captured and conserved water for each vegetative transplant, augmenting food production in an area too high and dry for conventional irrigation agriculture.

The agaves grown from Marana to New River were not simply transplanted wild species but specially selected variants. They had all the characteristics of other domesticated plants such as the maize and thornless prickly pear brought in from Mesoamerica. The Hohokam leaders living down near the better-watered ceremonial centers had likely grubstaked workers to cultivate agaves, offering them maize and beans grown on rich floodplain soils in exchange for mescal and fiber. Thus, the scenario that Gentry had earlier imagined for prehistoric agave cultivation in Mesoamerica rang true for arid America as well:

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They cleared wild land and put agave into it. They opened up new niches for the random variants of the gene-rich agave... They selected the genetic deviants of high production by planting vegetative offsets. Generally, this is what man did for agave in this Mesoamerican symbiosis. In return agave has nurtured man. During the several thousand years that man and agave have lived together, agave has been a renewable resource for food, drink, and artifact.... As man settled into communities... agave fostered the settled habit, attention to cultivation, and the steadfast purpose through years and life spans, all virtues required by civilization.... Agave civilized man.



hidden garden could get along with or without the intervening hand of Hohokam horticulturalists.

In the end, that is what Dr. Gentry let us do. He never intervened with our agave studies, all of them ultimately grounded in his own. He never expressed any worry over whether younger investigators would come along to revise parts of the story that he had spent most of his life compiling. He encouraged Mexicans as well as North Americans to get out into the field and prove him right, wrong, or somewhere in between. After he retired, he would still listen to our new reports as they came in, but he would never try to give these new details his own spin. He would shift uneasily between his respirator and his afternoon drink, then mutter in his throaty voice, "Pshaw, laddie, you've come up with something there that I would have never expected!"

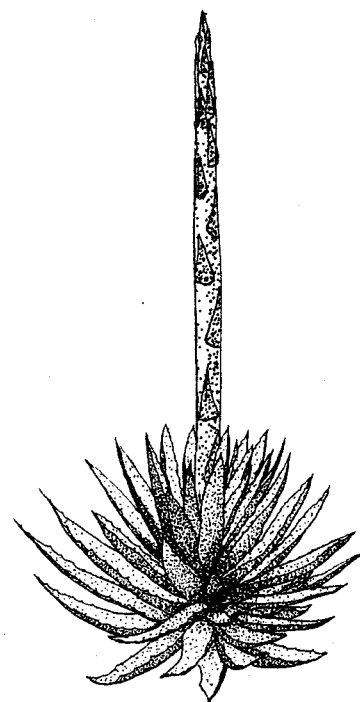
The last couple years of his life, I saw the old man less than I had seen him over the previous fifteen years. He could no longer get out into the field with any frequency, and I guessed that confinement killed his spirit. I could not stand to see him captive in a domestic scene—a field man relegated to the subtle insults of idle retirement, nursing homes, or hospitals. Instead, I took the memory of him into the field with me, trying to seek out the kind of *campesinos* with whom he had loved to talk since he first crossed into Mexico sixty years before.

Left: A comparison of the modern range of agave species with evidence for prehistoric production and use in southern Arizona. Reprinted with permission from "Evidence for Large-scale Agave Cultivation in the Marana Community" by SK Fish, PR Fish and JH Madson. In *The Marana Community in the Hohokam World*, Anthropologic Papers of the University of Arizona, No. 56, Editors SK Fish, PR Fish and JH Madson. 1992. © The University of Arizona Press, Tucson.

It is even more amazing that the agaves did not become civilized. The *a'ud nonhakam* had never lost its capacity to survive, to thrive in desert climes without the aid of irrigation or gardeners.

Over the following years, Rick DeLamater and Wendy Hodgson found remnants of more than fifty previously neglected stands of *Agave murpheyi* in the forests, parks and ranchlands of central Arizona. Rick's eye for this plant became legendary. Every once in a while, he would come into our office, sure that he had found a truly wild population. On further inspection, Rick, Wendy, or I would find artifacts, rock alignments, and other cultural remains to indicate prehistoric cultivation. I found another five sites in Sonora on my own, but all of them were associated with historic homesteads and prehistoric settlements. They could persist amid wild vegetation by were never found in "pristine wilderness"—their presence always spoke of earlier cultural presences, of man-made desert gardens from long ago.

Even their genetic history showed human imprints. We sent leaf samples to geneticist James Hickey, who discovered that all the plants had the same chemical markers regardless of whether they came from Sonora, Papaguería, or New River—they had none of the heterogeneity from site to site found in wild agaves. Perhaps they were all of one clone, transported and then transplanted over hundreds of square miles in the heart of the Sonoran Desert. And yet, they all took that desert to heart, adapting to its droughts and freezes, resisting its pests and plagues in a way that few of today's pampered crops could if cut loose from human attention. The



Main stalk after about 1 month of growth; height approximately 197 cm (about 78 in.)

Francisco Gamez Valenzuela was one such man, the kind of Sonoran that Gentry would have fallen in with—two kindred spirits. I rounded a corner in Querobabi, Sonora, one summer day, and there was this yard, spilling over with all kinds of desert plants, including a long hedgerow of *Agave murpheyi*. I stopped my van in the middle of the road and looked around to see if anyone was hidden within all that verdure, working in the yard. And there was Francisco [Gamez Valenzuela], who was more than willing to talk about the plants he called his *lechuguilla*.

"Hace diez años que se tranplantó aquí. Se crece en las lomas de piedra cerca de Ranchos San Jacinto, El Saucito, La Sesma..." he told me, rattling off the names of abandoned historic outposts from which he had salvaged these plants a decade ago. I asked him if they were truly wild, or whether they appear to have been associated with the former plantings of his *antepasados*.

"Pues, se crece silvestre, pero hay corrales de piedras, trincheras, y rastras de minería en aquellos cerros." With cobblestone corrals, terraces, and remnants of rustic mining operations, the sites could have been from the colonial period, if not earlier.

Francisco told me how he occasionally roasted a single plant into the smoky caramelized foodstuff called *mescal tatemada*. He also loved to join forces with an elderly neighbor now and then to pit-roast twenty to forty "pineapples," then distill them into *mescal lechuguilla*. I took a look at his hedgerow. It was obvious that he took good care of the plants—they were deep blue-green and stood waist high.

I asked him if they needed much pampering. The answer he gave me made me realize that *Agave murpheyi* would still do fine long after Howard, Francisco, and I were long gone. I thought about it long after translating it in my head: "Oddly enough, it produces much better during the drought than it does during wet years," he said, tipping his cowboy hat back on his head.

"What?" I'd never heard of such a thing for a domesticated plant.

"Pues, sí, durante la sequia, se da mas ley." During the hardest of times, a Sonoran folk-saying goes, a good plant still "gives the law." The Law of the Desert. Not only had *Agave murpheyi* persisted as part of local diet and drink, it also remained strongly rooted in the folk expressions of the village.

When I returned to visit Francisco the following December, I was just in time to catch the Hohokam agave resurrected in a new spiritual role. As I entered Querobabi, I began to notice shrines erected for the Virgin of Guadalupe, who was honored during a series of processions culminating on her feast day of December twelfth. The families in Querobabi had each constructed what looked like miniature desert gardens in front [of] their homes, replicas of the hill of Tepeyac, where the Virgin communicated with the Mexican Indian Juan Diego in December of 1521. There on the little hills erected around the village, *Agave murpheyi* rosettes stood alongside pictures and statues of the Virgin.

According to legend, Juan Diego had converted to Catholicism from his native religion but still felt that this was not the path for all his people. As he climbed a hill one day, the Virgin appeared in order to assure him that she would remain within his indigenous community. He went down into the Valley of Mexico and spoke of his vision to Bishop Zumarraga, who refused to believe that the Mother of Christ would offer anything of import to a lowly Indian.

Juan Diego prayed to the Virgin to receive some sign that he could take to Zumarraga, to convince the bishop of the veracity of his claim. This is when the Virgin appeared again, urging Juan Diego to climb to the very top of the Loma de Tepeyac to pick flowers for the bishop. Juan Diego hesitated, knowing that few flowers grew on the arid, rain-shadow slopes of the valley in winter. Nevertheless, he decided to follow her instructions.

By all accounts, he found Roses of Castille "growing in a place where Nature produces only cactus and maguey." He wrapped

these domestic roses of European civilization in his cloak, and when he offered them to the bishop, he found the miraculous image of the Virgin imprinted on the inside of his serape. This began the veneration of the Virgin of Guadalupe as the matron of Mexican Indians, a tradition that became strongly rooted as far north as Sonora by 1740.

In the Sonoran folk tradition, cacti and agaves from the local desert are transplanted into shrines for the Virgin to commemorate the arid landscape where she first made contact with their people. Organ pipe, fishhook, and pincushion cacti are nestled side by side with the *lechuguilla* offshoots taken from Francisco's hedgerow, and visited by the processions for the week prior to the Virgin's feast. Then, crepe paper flowers of the Castillian Rose are added to the shrines, while the matron of all indigenous peoples sees her miracle observed once again.

From the embrace of the goddess of Mayahuel to that of La Virgin de Guadalupe, this native plant had somehow survived the collapse of the Hohokam ceremonial life to be resurrected and integrated into the folk Catholicism of Sonora.

From deep in my memory, I heard Gentry's prophetic words:

As civilization and religion increased, the nurturing agave became a symbol, until with its stimulating juice man made a god of it...Mayahuel, the principal goddess of agave, slaked the parched throat, relieved the duty pressures, altered the spirit, provided at least temporary surcease from hard life, and, being god-like, protected the home. Altogether, this was another contribution of agave to man during the centuries of the symbiosis.

It seemed the agaves joined with the Virgin in desert gardens to produce many of the same effects. Mayahuel now stood in the background, but her work, too, was being carried on.

In April 1993 Mayahuel witnessed one of her sons rejoin the earth—one who felt more comfortable on the cactus-and-maguey-stippled slopes of Mexico than in the suburbs of the United States. He was buried in one of those suburbs, and neither Mayahuel nor the Virgin were being mentioned in the funeral service. I stood in the back row, listening to the cadence of the ceremony, scanning the surroundings. The memorial service was not all that different from those offered for other well-respected elderly men in Protestant enclaves within southern California. As the minister closed his hymnal, and the audience began to stir, I felt crestfallen, as though something were desperately missing.

Marie Gentry, his widow, must have sensed that same feeling, because she stopped us all dead in our tracks right as the service ended.

"Thank you, all of you, for being here with us for this service. But because it has all been offered in English, someone who is here was not able to share in the eulogies. It is someone who spent nearly as much time as I spent with Howard in those early days, and because Spanish is his native tongue. I would like to ask Juan Arguelles to say something in Spanish before we all go, *por favor*..."

There were a few Spanish speakers among us, but this request caught most of the crowd off guard—they shifted uneasily in their Sunday clothes as Juan moved forward through the crowd. He came to the hole in the earth and spoke to it, as if beginning a slow but steady mouth-to-mouth resuscitation.

"Pues este viejito—es uno de mis grandes amigos. Con este señor, he caminado a todos partes de la sierra, buscando para plantas..."

And from that first step, Dr. Gentry's sidekick began to conjure up the trails they had traveled together, on horse, on foot, in Model T; he told of the amazing plants they had discovered, the mescal they had sampled; he called up the campfires they had hovered around and the stories they had heard there—stories that had never been written down, but had been passed from mouth to mouth, campfire

to campfire, for centuries, and still no doubt lived on wherever Mayos, Guarijios, Tarahumaras, and others came together around a mescal pit in the dry sierras.

And that was when I remembered that ethnobotany is not just a science. It's a reservoir of stories that link humankind with the verdant earth, a reservoir of legends we need to dip into now and again. The stories are not restricted to indigenous peoples. They honor the spirited plants they relied on for food, for drink, for miracle. Because we all owe the land and its plants our lives, such stories speak for all of us. They must reach from the past into the present, to hook farmers and ranchers and even suburban gardeners, linking them to what nourishes and inspires us. The best remind us of that capacity for symbiosis, a capacity one old crusty ethnobotanist found in the legend of Mayahuel. If we leave behind that capacity to be part of mutualisms larger than ourselves, then the rest homes, suburbs, and plant engineering labs will turn darker and lonelier, more sterile than ever before.

Notes

The epigrams are quotes from Jimmie Dale Gilmore and David Hammond, "Where Are You Going?" on the Gilmore recording *Spinning Around the Sun* (Electra/Warner Brothers, New York, 1993)—the lyrics are copyrighted by Jade EG Music and Hydra's Teeth Music, BMI—and from Octavio Paz, "Piedra del Sol/Sunstone," in *The Collected Poems of Octavio Paz*, ed. Eliot Weinburger (New Directions, New York, 1987), p. 3. I have also drawn from Howard Scott Gentry, "The Man/Agave Symbiosis," *Saguaroland Bulletin* 29, no. 7 (1975): 80-84; Howard Scott Gentry, *The Agave Family in Sonora*, USDA Agricultural Handbook No. 399 (Beltsville, Md., 1972); and Howard Scott Gentry, *Agaves of Continental North America* (University of Arizona Press, Tucson, 1982). Much of the *Agave murpheyi* work with Wendy Hodgson and others remains in press, but we have published one article: Wendy Hodgson, Gary Paul Nabhan, and Liz Ecker, "Conserving Rediscovered Agave Cultivars," *Agave* 3 (1989): 9-11. See also Suzanne K. Fish, Paul R. Fish, Charles Miksicek, and John Madsen, "Prehistoric Agave Cultivation in Southern Arizona," *Desert Plants* 7, no. 2 (1985): 107-12. A volume being edited by Suzanne Fish and James Parsons on agave uses in the Americas is forthcoming from the University of Arizona Press and includes definitive data from Wendy Hodgson, Rick DeLamater, James Hickey, and me. With regard to "hidden gardens" in American wilderness areas, see Kat Anderson and Gary Paul Nabhan, "Gardeners in Eden," *Wilderness* 55, no. 184 (1991): 27-31.

PDJ Editor's Note: For additional information on Agave cultivation in the southwest, see also the 1992 publication by Fish et al. referenced in the map caption on page 7 of this article

GROW YOUR OWN AGAVE PLANTATION

Agave murpheyi growing in the wild should not be disturbed. But, if you would like to grow your own *Agave murpheyi* there is a way! The *murpheyi* portrayed in this series of drawings produced an incredible 359 offspring. A hundred of these have been potted at the Desert Survivors Nursery in Tucson, Arizona, and are available to the public. Desert Survivors Nursery is a nonprofit organization providing employment and life-enhancing experiences to developmentally challenged adults while providing drought tolerant native plants to the public. Desert Survivors can be reached at (520)791-9309 and is located at 1020 West 22nd Street in Tucson. Your *Agave murpheyi* will produce pups even before sending up stalks, so just one plant can become the foundation of an agave plantation in a relatively short time (in *Agave* terms).

Near right: Main stalk after about 2 months growth; height approximately 345 cm (about 136 in.)

Far right: Main stalk after about 4 months of growth with flowers in various stages of development from oldest at bottom to youngest at top. Height approximately 508 cm (about 200 in.).

