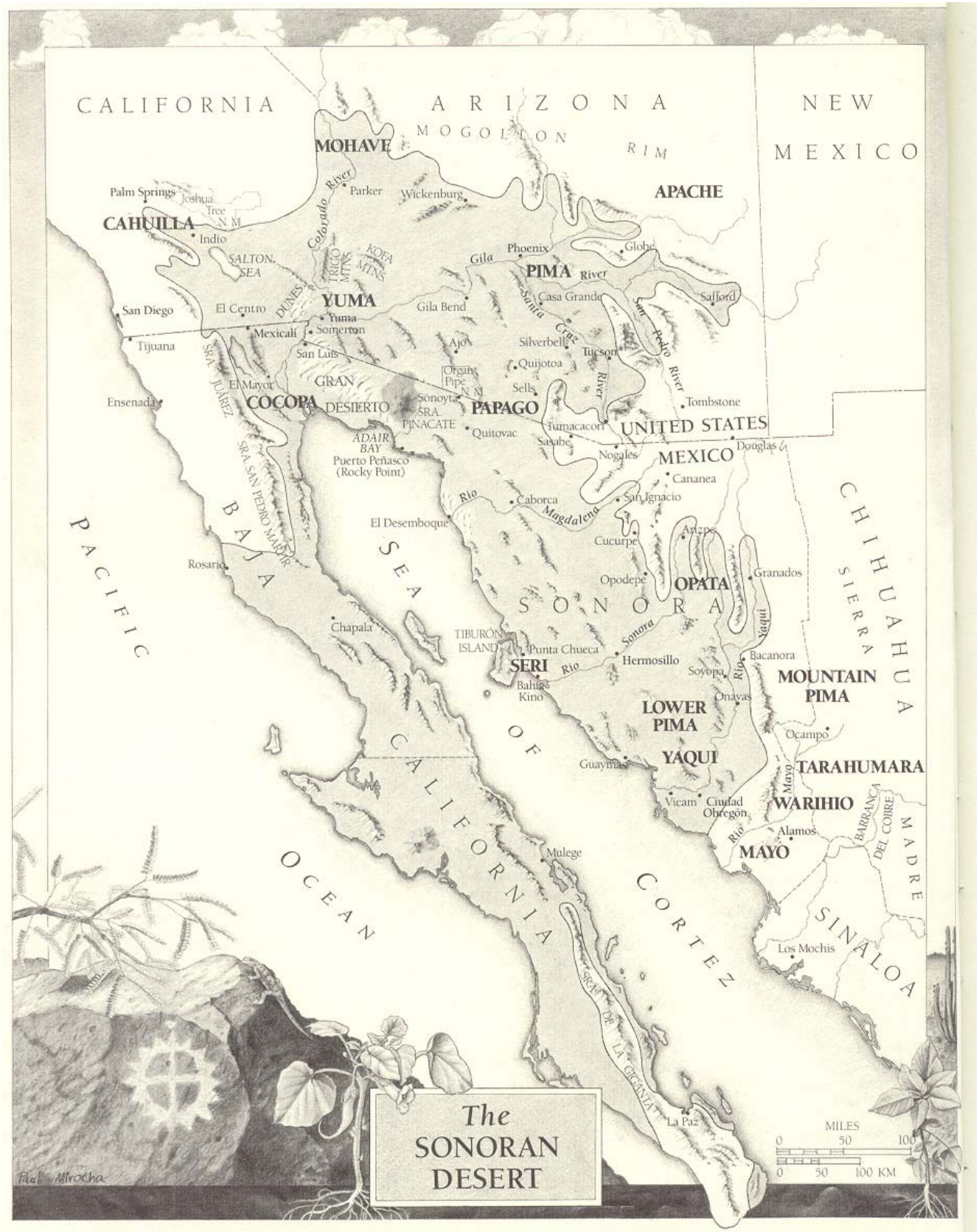
Nabhan 1985 Gathering the Desert
Introduction (pp2-8)



Desert Plants as Calories, Cures, and Characters

ALONG the rivers of eastern Sonora, Mexico, the Opata Indians have been assimilated into "melting pot" *mestizo* culture for nearly two and a half centuries. Yet as we wandered down the streets of Granados on the Río Bavispe, an elderly man with a somewhat spooky voice was telling us dozens of Opata names for desert plants that he himself continued to use. There we were, two trained botanists, and Don Manuel, who knew more kinds of plants in these parts than we did, on a walking tour of his village's gardens. At the same time, we were seeking some bootleg mescal that we could take back with us across the border.

Don Manuel escorted us into the backyard of some of his relatives. We sidestepped turkeys and took a look at a colorful dooryard garden full of greens, flowers, chiltepines, pomegranates, and Mexican oregano bushes. A gray-haired but spry woman wiped her hands on her apron and greeted us, gesturing for us to enter the shade of a mesquite-branch ramada that served as a summer kitchen. After the perfunctory small talk about the hot June weather we'd been having, Don Manuel asked the lady of the house if her husband kept any home-brewed *mescal bacanora* on reserve.

"It's only nine in the morning!" she scolded. "Why don't you men start the day off with something more filling?" Before we could explain that we weren't asking for a drink on the spot, a smile broke across her mock-angry face. She told us that her husband could probably sell us a little mescal as soon as he returned from gathering organpipe cactus fruit, but that she could offer us something in the

meantime to quench our thirst. We were welcome to taste some *atole de pechita* that had just been made, if we didn't mind a drink made of mesquite pods pounded on a crude old *batea,* a hand-carved mesquite wood metate.

Sweet, like carob or chocolate pudding in flavor and texture, the mesquite-pod atole was a special treat for my botanist friend, who had known that the pods were an important ancient food, but had no idea how they were customarily prepared. The woman explained her processing and cooking technique, while refilling our bowls for an additional taste.

"Well, that sounds so simple to prepare," I said. Thinking aloud, I asked, "I wonder why more people don't continue to make it," recalling that even the Yavapai, Pima, and Yaqui, who once ate mesquite as their mainstay, seldom eat it on a regular basis any more.

"It is easy to make," she said, shaking her head sadly. "It's good for you too. But I can tell you why most people here don't use the *pechita* any more. They're Lazies. They think food must come only from the CONASUPO, the V-H, El Gigante, and other big supermarkets. They'd rather waste their time driving to the costly stores in the cities to buy tasteless food than use what is right here around them...."

It is easy to dismiss such remarks as typical of any oldtimer unsettled by the younger generation's enthrallment with the trappings of the material world. Yet these comments are from a woman who is perfectly willing to draw upon the benefits of twentieth-century medical care, transportation, and electronic communications. She is not some romantic back-to-the-land advocate in search of a natural lifestyle; she speaks as a hard-working woman whose family has lived in the same desert valley for generations. She has no philosophical bias for "Indian ways" as opposed to "White Man's ways." In short, she feels there is no reason to give up mesquite gathering or other traditional practices which made good sense just because she accepts some things that are "modern."

From our vantage point, an additional concern emerges. Within the last three generations, changes in how and where we get most of our food and medicine may be as dramatic as any other economic change that has occurred in history or prehistory. There are both beneficial and detrimental effects on our health that have resulted from technological advances influencing food production, processing, and distribution during this century. Regardless of your opinion as to whether our diets are generally better or worse than those of desert dwellers a century ago, it can't be denied that their diets were significantly different from ours.

Overall, the changes in Sonoran Desert plant use during the last few centuries have been truly radical. One objective of the sketches that follow is to help us gain perspective on the dynamics of desert dwellers' use of plants for food and other purposes, as they have shifted through time. Reductions in the diversity, distribution, and abundance of plant resources, alterations in land-use patterns, harvesting pressures and dietary preferences, and even changes in animal populations all come into play. As a region of focus, the Sonoran Desert of Arizona, southeastern California, Baja California, and Sonora, demonstrates most patterns of plant/human interactions that can be found on this planet. A few of these sketches reach beyond the geographic limits of the Sonoran Desert proper, but nearly all scenes described take place within two days' walk of saguaro cactus, the indicator plant for this binational desert.

For ninety-nine percent of the time that humans have inhabited the Sonoran Desert, life was inconceivable without plants such as the ones in the following sketches. Certain key species—mesquite, fan palms, agaves, and columnar cacti—could each be called "the staff of life" to one or more cultures which lived within their range. Other important species might not provide such a variety of useful products, or are only seasonally available, but were nonetheless revered. Sandfood, for instance, is an obscure parasite on the roots of shrubs in the sand seas of the Gran Desierto. It reaches above ground to flower for less than six weeks each year, and today is so rarely seen that it has been considered an endangered-species candidate in the United States. Yet this succulent food was so esteemed that its reputation extended hundreds of miles beyond its natural range. Those who lived within grasp of it were nicknamed "the Sand Root Crushers."

Whether superabundant and storable, or as rare and perishable as manna, these plants helped shape and succor cultures within the Sonoran Desert. They served as calories, cures, and characters in tribal legends. Native Americans learned that certain chemicals in these plants—ones which had probably evolved as defenses against predators and pests, or as attractants to pollinators and seed dispersers—produced consistent results in pleasing the palate or easing pain. Thus desert peoples became dependent upon plant products which had co-evolved with birds, bats, rodents, or ungulates over hundreds of thousands of years. A few of these plant species have had their evolutionary destinies further altered by those who gathered, saved, and selected their seeds, thereby domesticating them. Devil's claw and Sonoran panicgrass are two endemic domesticates of the Sonoran Desert region, and they indicate that native farmers did more than simply accept a package of predomesticated plants wholesale from Mesoamerica. In fact, the

Sonoran Desert is the center of varietal diversity for tepary beans and cushaw squashes, two crops which have undergone as much significant evolution in this region as in the Mesoamerican area to the south.

In emphasizing the mutualistic relationships which have developed between native plants and Sonoran cultures, we may be accused of promulgating a kind of environmental or culinary determinism, or believing that Native Americans have always lived in a static balance with nature. To the contrary, what interests us most is the diversity of historic responses that individuals and cultures have had to the set of potential plant resources in the region. Why do certain people seem to be attracted to selected plants more than others? When were particular wild resources brought into cultivation and why? What are the reasons that some of these plants have fallen from use while others have not? Which plants are more vulnerable to overexploitation or to habitat degradation? When a useful plant does diminish in abundance, how do people respond?

Out of the 2500 vascular plants in the Sonoran Desert, why are we paying such an inordinate amount of attention to the twelve that follow? There are over 425 wild edible species in the Sonoran Desert flora, and roughly twenty-five crop species have been cultivated since prehistoric times. Why dwell upon so few?

Though somewhat arbitrary, our choice of these particular plants is based on considerations that reach beyond mere utilitarian criteria. Each exemplifies either a symbolic or an ecological relationship which Sonoran Desert dwellers had with numerous plants. A literary challenge was involved as well. Can our sketches express the character of plants, in the way that people sense the spirit of certain animals?

Coyote. Raven. Bear. Eagle. Snake. Anyone familiar with Native American legends or with contemporary Western American literature has a feeling for who these characters are, over and above their specific zoological features. Each is known for a particular *anima* in American folklore. It is less often acknowledged that certain plants have characteristics so distinctive that they have become personae in Native American folklore. For instance, among the Yoeme (Yaqui and Mayo) and O'odham (Papago and Pima), jimsonweed or sacred datura is recognized as a dangerous object, but has also played a role in shamanistic curing and song. People may ritualistically bring powerful plants offerings and place taboos on harvesting their products during certain times or at given places. They load meaning into individual plants that may be genetically aberrant or environ-

mentally deformed. When a human community encourages its members to know the characters of select plants so intimately, it is also making its own cultural identity known.

Today, plants are used symbolically in ways which sometimes link people with their homeland and past, serving as a conservative element to slow change. Peter Farb and George Armelagos have observed that

> ...the surest way of discovering a family's ethnic origins is to look into its kitchen. Long after dress, manners, and speech have become indistinguishable from those of the majority, the old food habits continue as the last vestiges of the previous culture.

We recognize that these indigenous foods and medicines make up but a small portion of what even the most traditional desert family now put in their mouths. They are vestiges from a time when these plants made vital contributions to the health of desert-dwelling cultures. But because so many Native Americans and Mexican-Americans in the American Southwest now suffer from diabetes and other nutrition-related diseases, the demise of native plants in their diets has been tentatively related to the upswing of the incidence of certain diseases.

It has been suggested that certain native foodstuffs are high in dietary fiber and have other properties that make them useful in controlling the severity of diabetes and other health problems. There is some interest today in revitalizing the remnant traditions of indigenous foods and medicines to help Native Americans suffering from alcoholism, malnutrition, and diet-influenced ailments. Nicholas Hildyard's perspective bears consideration:

> If there is a solution to the world hunger problem, it surely does not lie in destroying cultures but rather in reestablishing them. Indeed, the great irony is that nutritionists are needed in precisely those societies whose culture has broken down.

For such reasons, we hope that folk botany—the traditional scientific knowledge of plants held as part of the heritage of various cultures—is more than historical trivia. We doubt that future generations can afford to ignore the valuable products derived from plants such as mesquite. Food production in North American deserts is now based on humid-adapted crops that consume twenty to thirty percent more water when grown in arid environments than they do when cultivated in the more mesic zones where they originated. This is extra water that we do not have.

Yet we do not want to imply that all wild desert plants brought into modern agricultural settings would necessarily use less irrigation water than conventional crops. Plants such as agaves and creosote bush, which are water-efficient in their natural habitats under unreliable rainfall regimes, do not usually make such good use of supplemental water when they are irrigated at regular intervals. Nevertheless, by evaluating native desert plants as potential economic resources, and comparing them with conventional crops, we stand to learn something about the tradeoffs between short-term productivity and long-term persistence in unpredictable environments.

We hope that these sketches will encourage arid-land dwellers to feel more at home with the desert's bounty, a richness that cannot be understood simply in utilitarian terms. Even if you were never to eat a carob-like mesquite pod, or treat a cold with creosote-leaf tea, these plants have something to offer. It may be just the music heard when standing beneath a spring-flowering mesquite canopy, alive with five thousand solitary bees, or the smell of a creosote bush releasing fifty volatile oils to the ozone-charged air during a summer storm. Even if you don't gather the desert, let it gather a feeling in you. Even if you don't swallow it as medicine, meditate upon it: the desert can cure.

About the Author

GARY PAUL NABHAN is a cofounder of Native Seeds/SEARCH, a multicultural grassroots conservation organization. He currently serves as director of science at the Arizona-Sonora Desert Museum. In addition to receiving the John Burroughs Medal for *Gathering the Desert*, Nabhan has received a MacArthur Fellowship and the Premio Gaia, and has been a Pew Scholar on Conservation and Environment. He is the author of nine books, the editor of *Counting Sheep: Twenty Ways of Seeing Desert Bighorn* (University of Arizona Press, 1993), and the co-author of more than 150 articles on ethnobotany, zooarchaeology, and conservation biology.

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Gathering the Desert

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