

THE CHAPARRALIAN

July 31, 2009

Volume 6, Issue 1





A California Indian sweat lodge. A place where men discussed life, legends, and the spirit world. From Forbes, A. 1839. A History of Upper and Lower California, North of Mexico. Smith and Elder, London.

The Chaparralian is the quarterly journal of the California Chaparral Institute, a non-profit California corporation that is dedicated to the preservation of native shrubland ecosystems and promoting an appreciation for the natural environment through science and education. To join the Institute and receive The Chaparralian, please fill out and mail in the slip below or join on our website. We welcome unsolicited submissions. Please send for writer's guidelines to rwh@californiachaparral.org or mail to the address below. You can find us on the web at www.californiachaparral.org

The Chaparralian #30

Contents

- 3 NASCENT THOUGHTS
- 4 With Momoy's Help
Richard W. Halsey
- 12 Datura, Chungichnish, and Art
- 14 Flower Power Hooks Hawk
Bill Howell
- 16 NEWS
The Wilderness Bill is Signed
by President Obama!
Dianne Erskine-Hellrigel
- 18 UNFOLDINGS

Cover photograph: Jimsonweed (*Datura wrightii*) by Richard W. Halsey

Please Join the California Chaparral Institute and support our research and educational efforts to help promote a better understanding of and appreciation for California's most characteristic wilderness, the chaparral!

- _____ \$35 Citizen Naturalist: The Chaparralian plus one additional benefit (check preference below).
- _____ \$55 Chaparralian: The Chaparralian plus two benefits (check preference below).
- _____ \$100 California Grizzly Bear: The Chaparralian plus all three benefits below.

- _____ Signed Book: "Fire, Chaparral and Survival in Southern California"
- _____ DVD of the KPBS/Huell Howser's California's Green "Secrets of the Chaparral" show
- _____ Special Chaparral edition of the California Native Plant Society's journal, Fremontia.

\$ _____ Extra contribution.

\$ _____ TOTAL

Name: _____

Address: _____

Email (for The Chaparralian): _____

Please make checks payable to **The California Chaparral Institute** and mail to: The California Chaparral Institute, PO Box 545, Escondido, CA 92033

NASCENT THOUGHTS

More than the Dog

You will be happy to know that The California Chaparral Institute is now a California non-profit corporation. I mentioned this fact during testimony at the San Diego Board of Supervisor's meeting in March by saying that the Institute was now more than just my dog Cooper and me. For some strange reason, none of the supervisors smiled. In fact, I think I detected a few snarls. They must hate dogs.

Regardless, our incorporation will allow us to embark on new adventures not possible when this was a one Chaparralian show. Remember this day. If you stay with us, you can be able to say in 20 years that you were one of the original Chaparralians when the Institute was run by a fuzzy dog and "that high school teacher" (an apparently pejorative reference heard during a community meeting in eastern San Diego County).



Cooper the dog.

We hope you enjoy the content and new design of this issue. The new magazine format will allow the chaparral to reveal its beauty much more effectively.

The genesis of the lead article in this issue, *With Momoy's Help*, occurred in the late 1960's when I became interested in the Chumash Indians, a remarkable group of Native Americans who lived in the area that is now Ventura, Santa Barbara, and San Luis Obispo Counties. My interest was fostered by the fact that our family owned property near Santa Barbara that was once the site of the Chumash village of Alkash.

With Dr. Charles Rozaire, the Curator of Archeology at the Los Angeles Museum of Natural History, as my mentor, I conducted extensive excavations on our property and eventually incorporated the data I collected into a senior thesis I wrote as part of my Environmental Studies degree at UC Santa Barbara.

While the individuals in *With Momoy's Help* are fictional, everything else is factual. The story is a synthesis of everything we know about Chumash culture and how Chumash boys were first shown their spirit helpers. Many of these helpers lived and danced in the chaparral covered mountains along the central coast of California where the Chumash lived.

On quiet, dew flavored mornings, one can still sense the helper's presence, whispering their songs and lonely cries, seeking new students to guide, teach, and protect. As Chaparralians, we understand the value of their voices and the secrets they have to share.

Enjoy,



Rick



Chumash Visions. Rock art likely painted by Chumash shamans during sacred rituals. The spiritual meaning of these images is long lost, but their message remains clear to those willing to listen. Photo: Painted Cave, Santa Barbara, CA.

With Momoy's Help

How the Chumash Indians found their Vision

By Richard W. Halsey

The Chevy pickup bounced along the dirt road, winding its way into a steep canyon. The white bag of donuts rested on the front seat between two friends.

"Hart, you awake yet?" Tommy asked. The two friends had met earlier at the Donut Corner when dawn had barely winked its eye. The eastern horizon was just beginning to show its true, crimson colors.

"I'm stayin' on the road aren't I?" Hart replied. "Bust open the bag." The donuts were still warm. Fresh, out-of-the-oven, cinnamon twirls. "There's something about these crispy edges and warm grease," Hart continued as he caressed his glazed breakfast, "washed down by hot coffee in the cool dawn. It's damn spiritual."

The two explorers had decided to take an early morning drive along West Camino Cielo, a twisting, sometimes paved, sometime not, road that traverses the spine of the Santa Ynez Mountains high above the coastal town of Goleta. They were taking advantage of the early light to take photographs of the flora, the fauna, the landscape.

But first, the donuts.

Tommy, a former high school student of Hart's was approaching his twenty-first birthday. By legal definitions, not biological, twenty-one is considered by some an important event. Coming of age it's called, a cultural signpost of control, adulthood, the legal age at which one has official permission to indulge in all adult vices. It's a good time to ponder the future, a time to be philosophical.

"I've already decided to stay sober on my birthday," Tommy said, confident in his resolve, staring out the passenger side window.

"Good luck," Hart laughed.

"It's like people expect you to get drunk."

"It's a symbol, Tommy. It means...well, hard telling what the hell it means. I guess it ranks right up there with high school graduation and your eighteenth birthday. It reminds you that you're changing, growing older."



The chaparral of the Santa Ynez

"No big deal to me."

"Well," Hart said, "it's like New Year's Eve. Everybody thinks it's important and that you're supposed to do something special. Expectations run high. But the whole damn thing usually just slides by while you're makin' a vain attempt at celebration, banging pans before giving up and going to bed."

"I was invited to some parties last year. Didn't go. I fell asleep at eleven," Tommy said.

"Nine-thirty for me."

"Old man."

"Shut up," Hart shot back. "We'll see what you look like in thirty years."

"Hey, slow down!" Tommy snapped suddenly. "Stop. Back up. There's a huge white flower back there."

Hart stopped the truck, groaned as he twisted to look behind, and shifted the gear into reverse. "It's *Datura*. Jimsonweed. Jamestown weed. It's got a great history, all the way back to ancient civilizations."

"You would know."

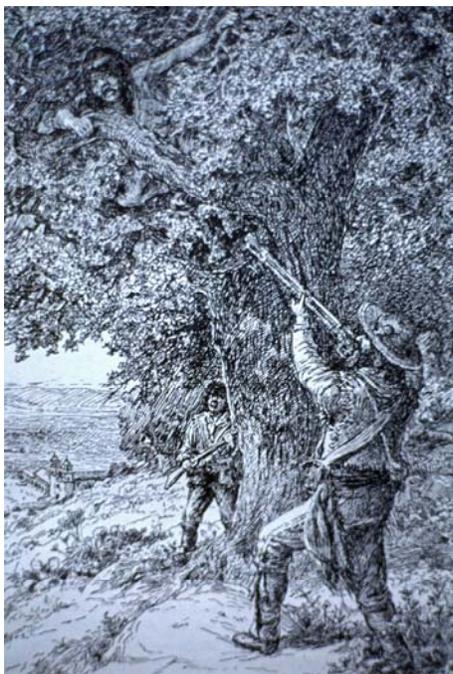
"There's different species of the plant around the world," Hart continued, ignoring Tommy's jab. "And they've all got some pretty deadly hallucinogenic drugs inside. A lot of

California Indians used it in religious ceremonies. There's also records of it being used medically back in Babylon, Greece and Rome, if you call what they did medicine. Priests in ancient India and Europe used *Datura* to induce hallucinogenic states during religious rituals. Thieves exploited the stuff to knock out their victims." Hart paused. "And it's an aphrodisiac."

"Yeah, well, not today! Can we get out now and take a picture?"

"Go ahead. I'll finish my donut and coffee in here where it's warm."

By the mid 1800's, knowledge of the sacred rituals that once marked the arrival of manhood for the original male inhabitants of Southern California had all but vanished. With a population that may have exceeded 20,000, only a few hundred Chumash remained by 1839. Survivors were reticent about talking about their culture to others; due to racial intolerance, it was just easier to pass as Hispanics. Some belonging to the coastal band are reported to have resolved not to go on and pledged abstinence. No children, no Chumash. No more suffering. Much of their cultural heritage vanished. The genocide was nearly complete.



No Chumash was safe

As other native Californian cultures faded into time, their world of supernatural spirits and universal mysteries were lost and buried under the footprints of Manifest Destiny; a story that played out across North America. Yet beside the asphalt roadways, waving to the motion of speeding automobiles, there remains a messenger that once provided a gateway into the dream world. It was a world that was essential for guiding Chumash Indian boys into manhood.

Datura (Datura wrightii), a sprawling vine with huge, white, trumpet-shaped flowers contains an extremely powerful and dangerous hallucinogenic drug produced by the alkaloid chemicals found within the plant. According to Chumash legend, the plant was once an old woman who had the magical ability to change water into an intoxicating brew. She would guide young boys during their first visit to the spirit world.

Hart finished his donut, got out of the truck, and walked over to Tommy who was crouched behind his tripod, staring into his camera.

"Nice specimen Tommy. Any good pics?"

"Don't know yet. So what's the deal with this plant again?"

"Jimsonweed, a corruption of Jamestown weed. Apparently a bunch of British soldiers who were trying to put down a rebellion around Jamestown, Virginia ate some leaves in a salad and ended up being whacked out for a week or so. Stupid white boys. The Chumash knew how to handle it."

Before all the Chumash practitioners of the Jimsonweed ceremonies completely vanished, one man made it his personal mission to record their thoughts. John P. Harrington began his work with the Chumash in 1912. As an anthropologist and linguist he spent every available moment with the few surviving members still fluent in their native tongue. Fernando Librado Kitsepawit, Maria Soares,

Luisa Ygnacio, Juan de Jesus Justo and Lucrecia Garcia were his primary informants. He worked feverishly, often without sleep, to record their stories and memories of the old days. As each sadly died, the last links to a storied past, Harrington became severely depressed. His Indian friends, the only ones who really ever understood him, were his life.

The Smithsonian Institution, which Harrington officially joined as a staff member in 1914, helped to financially support his work. But his mission was so important that he considered the written reports he had to send back a complete waste of time. Precious minutes could not be squandered writing summaries and abstracts when cultures were becoming extinct before his very eyes. Consequently his publications, even though the list is long, do not reflect the depth of his knowledge. Hundreds of crates filled with his scribbled notes on specially cut sheets of yellow paper, note cards, or anything he found handy to write on, lay hidden in storage for years after his death in 1961. Occasionally, a new box has been discovered, buried deep in some old closet. Sometimes without due credit to the man himself, Harrington's materials are slowly being studied, edited and published by others. However, he probably wouldn't have cared less about the lack of acknowledgment. All he wanted was to preserve cultures, not receive recognition. The legends and stories he was able to preserve speak across hundreds of generations, voices that would have otherwise been lost forever.

Hart and Tommy got back into the truck and drove for another hundred feet or so and stopped again; roadside botany. By noon the pair had barely covered a mile.

"I don't think we'll make it to the other end of the ridge at this rate," Tommy pointed out with a wry smile.

"Yeah, I suppose. So I guess there's no harm in pulling over for some lunch. Good time to tell you the whole drug and Indian story anyway."



John P. Harrington, 1927

The land of the Chumash was a very different place before the flood, a catastrophe of long ago. All the animals and plants were people then, including an old and very rich widow named Momoy. No one knew where she lived, but everyone knew that her home was in a very remote place. She was visited occasionally by her grandchildren and those she adopted, but the old woman was usually alone tending to her own needs. Being so old, she was also very wise and could predict the future, especially the deeds of her own grandchildren. Unfortunately for them, they often ignored her warnings.

Momoy's magic was expressed by her ability to change water into an intoxicating drink by washing her hands in a small bowl. The more she washed, the greater the drink's power.

One day Momoy's grandson drank the wash water from her bowl and slowly succumbed to its powers, growing drowsy. Momoy told the boy to go to sleep and to remember what he dreamed. He slept for three days, but remembered nothing.



Chumash elder Louisa Ygnacio

"I'll wash my hands again, little one, but this time I'll wash up to my elbows," Momoy said.

"Nene (*Grandmother*)!" the young boy responded, "why don't you take a bath and I'll drink from that?"

"No, my little one, if you drank such a thing you would not wake for ten days. You may never wake at all. You may turn into an evil animal. Washing to my elbows will be more than enough."

Such were the times before the earth changed.

After the great flood that covered the earth, Momoy transformed into a vine that grew along the ground like spilled water. The people revered the vine because, with the proper knowledge, Momoy's powers could be extracted from it. Her ability to see into the future could be acquired by drinking a specially prepared tea made from the vine's roots.

And so it was that the plant of Momoy became the center of a ceremony that would allow boys to become men.

"**T**hey lived right, the Chumash," Hart said. No

cell phones, no computers, no television. They sat around at night and told stories. They listened to each other. They knew the value of wisdom. Old people had worth."

"You're old. I listen to you," Tommy replied with a smile.

Hart let out a snort. "Good thing."

"Guess we're the last of the Chumash, you and me," Tommy said.

Hart looked over at and smiled.

"So Jimsonweed was part of the Chumash coming of age thing?" Tommy asked.

"Yeah, but it was a lot more dangerous than what any of us will probably ever go through. Jimsonweed is deadly stuff; a killer. A good cigar and a beer are much safer," Hart said.

"So you got drunk on your 21st birthday?"

"Long before that Tom-oh," Hart replied. "My 21st was anti-climactic. That's our problem, you know, we've done away with all the rituals, all the ceremony. So we just do it informally on our own, whenever. What do we have left? What else is there? Maybe some cheesy retirement party? Fat chance I'll ever get one of those."

"Guess we've got to make up our own rituals, Hart."

The two friends toasted each other with their soda cans and finished their lunch while staring out over the coastal plain and the ocean beyond.

Long before the land was invaded by white faces from the sea, a fifteen-year-old Chumash boy named Eyes-of-Dawn lived with his family in the coastal village of Alkash. His time had come. He would soon meet the old woman Momoy and enter the adult world.

Being fully aware of the story of Momoy and the dangers she posed, he was frightened. However, he knew that the ceremony being prepared for him that night was his only hope to gain acceptance into the world of his father. It

was his vision where he would find his spirit helper, his atiswin, without difficulty but he knew such a thing was not guaranteed. He knew he might never return from the spirit world.

The boy had known friends and men who never opened their eyes again after falling under Momoy's spell. His father had told him that such people had died because of their own weaknesses or had violated purification rites before their ceremony. Their violations had angered Momoy, his father had said, and had caused her to punish them. The fact that Eyes-of-Dawn had only thin acorn gruel for several days and had avoided meat as the restrictions required did not relieve his anxiety.

"One may lose his trail," a friend had warned, "after reaching the world beyond. He may never find his way back."

The boy had also heard of a man who had taken the drink of Momoy to contact the dead, only to become so involved with his vision that he chose not to return. With such fears clouding his mind, Eyes-of-Dawn would be taken to the village shaman that night to begin his journey.

"One may lose his trail," a friend had warned, "after reaching the world beyond. He may never find his way back."

In preparing for his task, the old shaman purified himself so as not to offend the spirit of Momoy or to destroy the power of her magic when he dug up her roots. For him, purification was obtained by abstaining from sex and avoiding any kind of animal meat or grease for several days before the ceremony.

With his keen knowledge of the plant's secrets, the village shaman searched for a fresh specimen of Momoy growing near the sandy stream bed behind his isolated hut. Having found one, he approached it with great respect and offered a prayer; a prayer seeking permission.

"Oh dear Nene, I have come to beg for one of your roots. I promise I will do you no harm. I

need to borrow your magic for tonight."

Carefully the old man dropped to his knees and dug underneath the plant from one side. Finding the proper root (for only he knew which one of the tubers would produce a vision), the shaman removed it and carefully replaced the soil. His selection was important. The potency of the drug found within the plant depended on a wide variety of factors. The amount of sunlight and water the plant had received, the time of year it was harvested, the soil's condition, and the plant's age all worked together to produce the powerful chemical. Although the roots were preferred, other parts of the plant contained the drug as well.

The task of preparing the potion was not one to be taken lightly. The slightest miscalculation would cause death. Even a properly prepared solution could have harmful and irreversible effects on the user. Dangerous hallucinations could haunt the mind long after the initial experience with Momoy. Yet the practice continued within the Chumash world, becoming an important part of their spiritual lives.

The old man returned to his reed and stick hut and prepared the drink of Momoy. First the root was crushed with a polished stone pestle in a small, ceremonial mortar. It was then carefully bathed with cool water. He worked with the precision of an artist to prevent the fatal consequences of an ill prepared potion; a tragedy that he had seen before. Under this pressure, the old man toiled. Still, the shaman was confident in his abilities. He had used Momoy many times to visit the other world and see into the future. He had used her magic to cure illnesses and rectify taboo violations of others. He had also used it to create sickness. A mere drop on an individual's property would cause harm. Such was the power of Momoy.

As twilight dusted the coast, Eyes-of-Dawn was taken to the shaman's hut on the western edge of the village. The outside grass door was open. The inner door was closed; a sign of a person at home but one who was requesting privacy.

“I am here,” Eyes-of-Dawn announced.

The old shaman invited the boy in. Smoke lingered inside the darkened chamber as Eyes-of-Dawn saw the image of a man sitting next to the smoldering fire.

“Sit down.”

The place seemed magical to the boy. Hanging from the hut’s walls were various objects of supernatural origin. Grizzly bear claws, feathers, and skins of many animals held their silent vigil. A raised bed of wood and reeds was off to the side and the earthen floor had been beaten down by years of use. Next to the old man sat a black bowl made of soapstone, imported from the Channel Islands across the sea. Within its depression, the spirit of Momoy awaited.

The boy sat down, the door was shut, and the shaman glanced up.

“It is time to begin.”

Putting the bowl to his lips, Eyes-of-Dawn slowly drank its contents. Immediately his mouth



Chumash ceremonial bowl

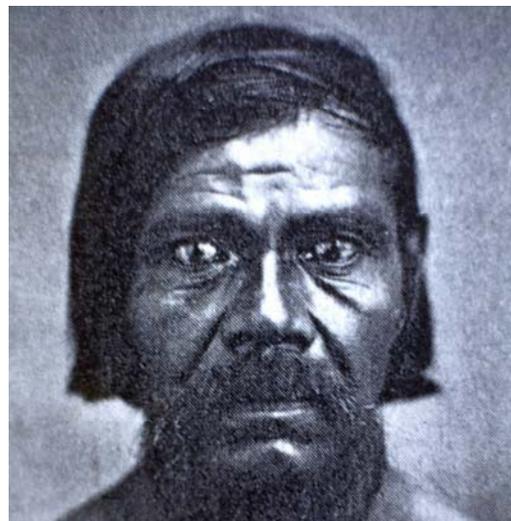


filled with a bitter dryness as the fluid slid down his throat. It wasn’t long before Nene Momoy began to gain control and the boy entered a world he had never known before.

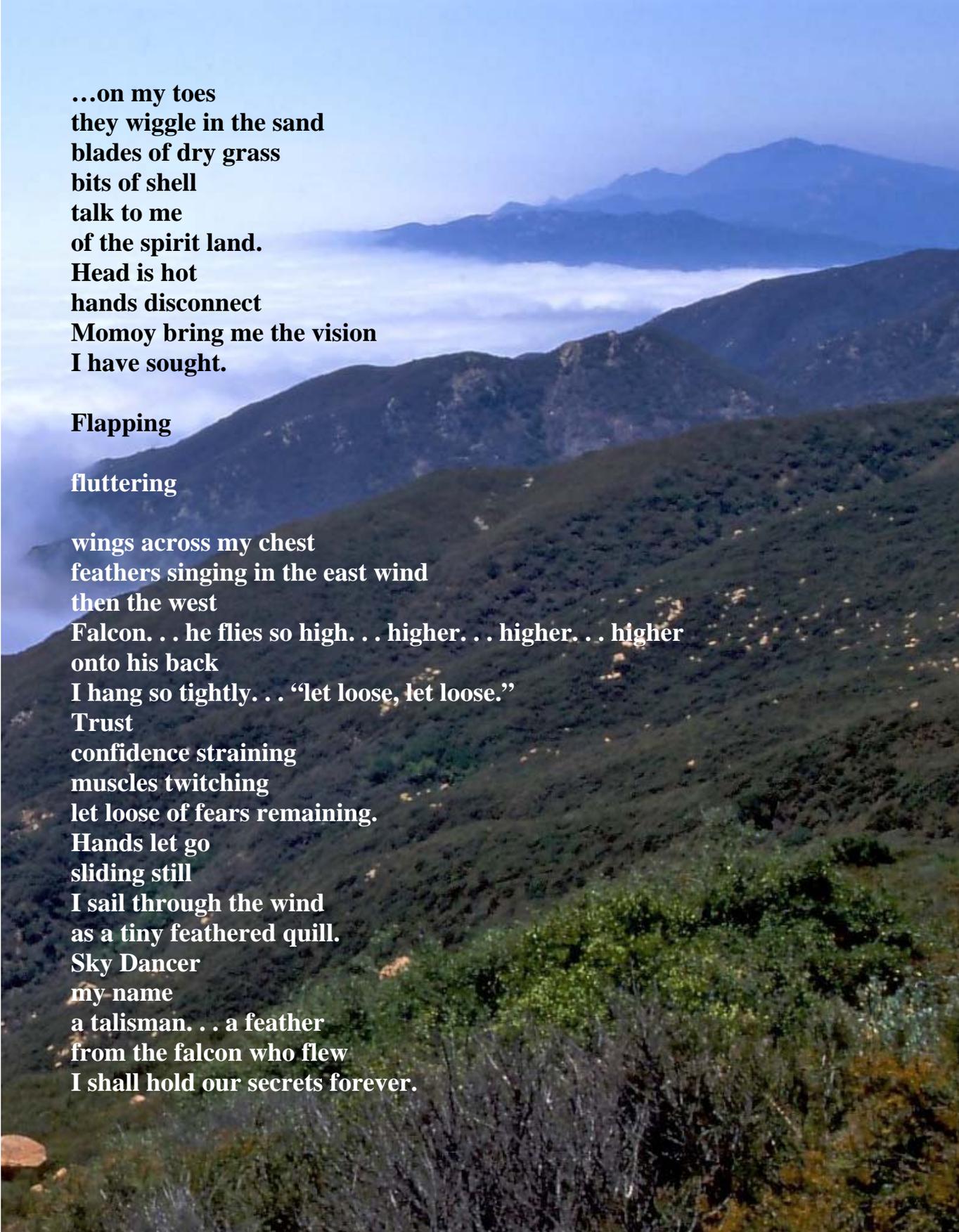
The boy’s body trembled and dizziness engulfed his mind. Aimlessly his eyes wandered within their sockets. His spine wiggled like a broken lizard’s tail on hot granite. The old man’s face and the hut itself expanded and then contracted as the boy’s heart pumped blood through his body in rhythmic pulsations.

“Take care and sleep. Watch and listen to your vision. Remember everything.” The shaman vanished from the boy’s reality.

Eyes-of-Dawn’s mind and body wondered to a faraway place...



Chumash elder Rafael Solares



**...on my toes
they wiggle in the sand
blades of dry grass
bits of shell
talk to me
of the spirit land.
Head is hot
hands disconnect
Momoy bring me the vision
I have sought.**

Flapping

fluttering

**wings across my chest
feathers singing in the east wind
then the west
Falcon. . . he flies so high. . . higher. . . higher. . . higher
onto his back
I hang so tightly. . . “let loose, let loose.”
Trust
confidence straining
muscles twitching
let loose of fears remaining.
Hands let go
sliding still
I sail through the wind
as a tiny feathered quill.
Sky Dancer
my name
a talisman. . . a feather
from the falcon who flew
I shall hold our secrets forever.**

“So if an Indian boy survived it all, what happened next?” Tommy asked.

“The shaman would interpret his visions. Everything he saw meant something. An animal he dreamed about would become his spirit helper. It would guide him through life. The kid would usually get some little trinket from the shaman, like a grizzly bear claw or feather, which would act as his talisman.”

“Talisman?”

“Rabbit's foot. Good luck piece; a physical symbol of their magical connection to the spirit world. Less formal nowadays, but everyone's got one.” Hart picked up a small stone and threw it into the chaparral covered slope below. “Let's go,” Hart said while shoving an unfinished bag of prunes into his lunch bag.”

“How can you eat those things?”

“Old age. You'll find out why eventually. Maybe I'll tell you on your 21st.”

“Shaman, oh my shaman!”

“You've got that right, Tommy.”

“So how long did those hallucinations last anyway?” Tommy asked while walking back to the truck.

“At least an entire day from what I understand. I'm sure some stayed high for a lot longer than that. They were the ones who probably didn't make it. Still happens today. Every once and awhile you hear about some stupid kids who try the

stuff and end up in the hospital, or worse.

Everyone wants to be an Indian; well, at least they did before people got jealous over their casinos. We white eyes have a pretty confused relationship with Native Americans. We feel guilty until they start exercising their rights as human beings instead just staying cigar store Indians.”

“Yeah, until they become inconvenient again,” Tommy replied as both doors slammed.

“Back in '04 a couple teenagers tried Jimsonweed tea in Joshua Tree National Park. One of them died.”

“Revenge,” Tommy speculated.

“*Cherokee Nation, will return...*”

“What?”

“Just a song back when.”

“There's no way I'd do Jimson weed.”

“That's because you've got me.”

“My shaman.”

“Your shaman.”

Hart started up the truck and shoved it into gear. Tommy opened his wallet and pulled out a folded, torn third of a dollar bill that was tucked behind his driver's license. Carefully unfolding it, he looked at the beginnings of three signatures scrawled across the left hand portion of the bill. One was Tommy's. One was Hart's.

“He was a great guy,” Hart said after noticing the torn dollar in Tommy's hand.

“You still have your piece?”

“Yeah. It's good magic Tommy.”

Photo Notes

Photo (pg. 5) “No Chumash was safe.” Unknown origin, but the building in the lower left hand corner is the Santa Barbara Mission. Chumash, along with most California Indians, were considered subhuman by American settlers and were treated accordingly.

Photo (pg. 6) “John P. Harrington.” From Blackburn, T.C. 1975. December's Child. A Book of Chumash Oral Narratives. University of California Press. 359 p.

Photo (pg. 7) “Chumash elder Louisa Ygnacio.” Louisa was one of Harrington's informants. From Blackburn Ibid.

Photo (pg.9) “Chumash ceremonial bowl.” This was excavated from a site in Santa Barbara County. It is a beautiful bowl carved from steatite (soapstone) that was quarried on the Channel Islands. Note the abalone shell patch. When found, the bowl contained cakes of red hematite, a red material used for body decoration.

Photo (pg. 9) “Chumash elder Rafael Solares.” Taken in 1877 by the French scientist, Leon de Cessac. From Grant, C. 1965. The Rock Paintings of the Chumash. University of California Press. 163 p. Also see Gibson, R.O. 1991. The Chumash. Chelsea House Publishers. 103 p.

Datura, Chungichnish, and Art

The use of *Datura* during initiation ceremonies for boys and shamanistic rituals was part of the spiritual life of most Native American cultures in central and Southern California from the Chumash to the Kumeyaay in present San Diego County.

Datura also became a key component in what may have been a desperate religious cult that swept through the region after European contact; the Chungichnish movement. Chungichnish was an all-powerful, supreme male deity whose divine commandments controlled the lives of believers through fear. The movement's similarity to Christianity and its swift spread after the arrival of Spanish explorers strongly suggests it was probably an attempt by Native Californians to make sense of a world that was falling apart. By incorporating some elements of Catholicism into their own religious practices they may have hoped their world would be set right again. Unfortunately, Chungichnish was too late to be much help.

Besides *Datura*, colorful sand paintings were also part of the Chungichnish movement. Circular in design, these spiritual artworks were anywhere from eighteen inches to eighteen feet in diameter. The sand paintings were used during both girls' and boys' puberty ceremonies, being destroyed at their conclusion. Unfortunately no photograph or painting of an original sand painting exists, however there are several detailed written descriptions by early anthropologists.

It appears the Chungichnish movement originated on Santa Catalina Island and spread southward. It didn't reach the southern most population of the Kumeyaay until approximately 1850. There is no record of it influencing the Chumash (see Fig. 1 on the following page). However, the origin of sand painting and whether or not it existed before Chungichnish will probably always remain a mystery. Some have suggested possible influences from the Pueblo nations in the Southwest, but their design elements are so different



Chumash Painted Cave

from those reported in Southern California that the connection is doubtful.

Fortunately a number of magnificent rock paintings still exist. Some of the most accessible are in Painted Cave in the mountains above Goleta just west of Santa Barbara. What relationship these paintings had in shamanistic rituals or with the use of *Datura* are unknown. However, it is possible some were drawn after hallucinogenic experiences as a way to honor the visions Nene Momoy provided. Whatever their meaning, the paintings are a testament to the remarkable richness and beauty of the Chumash culture.



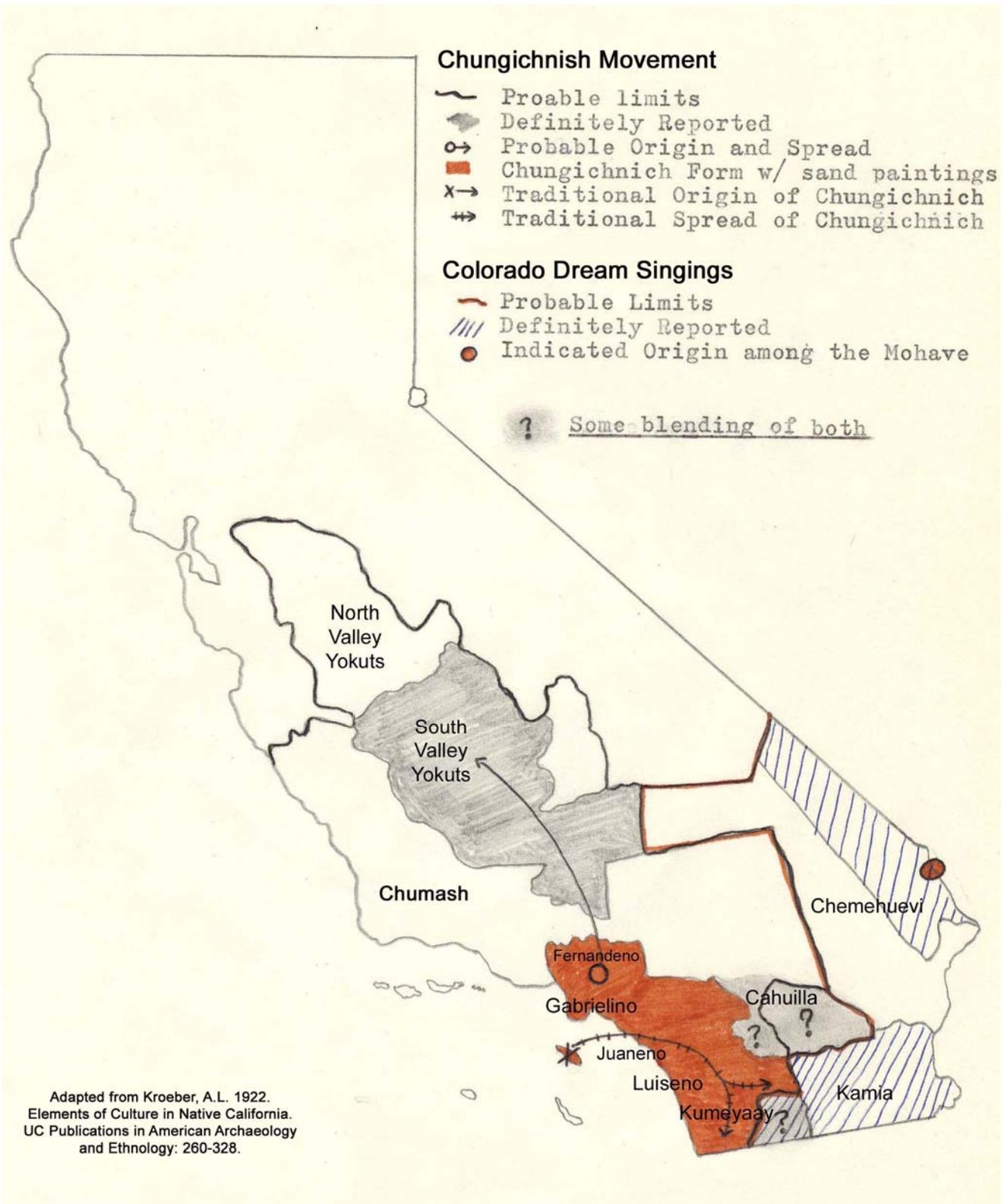


Figure 1. Flow of Southern California Native American Religious Movements. The Chungichnich movement, intimately tied to the taking of Datura, appears to have originated on Santa Catalina Island. There is no record of it influencing the Chumash. The unrelated Dream Singings ritual originated in eastern California with the Mohave Indians. This belief viewed dreams as the basis of everything in life. The two ideas may have influenced each other in the boundary areas. Map from Halsey, R.W. 1975 (a paper submitted as part of Dr. Frank Fenenga's course on California Indians at Long Beach State University, CA).

FLOWER POWER HOOKS HAWK

By Bill Howell

The biblical suggestion to be “fruitful and multiply” may not be that easy for most plants on this planet. The problem is that vegetation is stationary and cannot get around and locate mates for reproduction. Since the transfer of pollen precedes seed production, plants may need help with the task of pollination.

With proper persuasion, mobile animals may be willing to assist with this botanical shortcoming. In nature a cooperative venture between two different species is called *mutualism*. Natural selection does not always require that the fittest survivors fight, possess fangs and be lean and mean. The meek shall inherit too, it is written. We observe a kinder more gentle evolution when we examine mutualism.

The collaboration exhibited by plants and their pollinators is typified by birds, bats and insects. These animals will not transfer pollen for free, so plants have evolved special inducements like sugar-rich nectar and the protein-rich pollen itself to insure quality pollination. Night fliers rely mostly on scent and day fliers usually cue-in visually on colorful petals to locate their nutrient-rich gifts.

An example of mutualism in a chaparral community is illustrated by the extraordinary alliance between the hawk moth (*Manduca spp*), and a sprawling shrub with golf ball sized seedpods called thorn-apples. Jimsonweed

(*Datura wrightii*), with huge tubular flowers (up to six inches deep and nearly as wide) is a common roadside plant found along dry riverbeds, trail sides and other disturbed places throughout the southwest. These majestic flowers are usually open from dusk until mid day. The foliage of members of this genus possesses special alkaloids, including atropine and scopolamine, which have been known for centuries to affect the human nervous system. Depending on dosage, properties include drowsiness, intoxication, hallucinations and death.

Since this plant is visited by hawk moths in the evening, the adults are not commonly observed, but the larva is a well known caterpillar -- the hornworm. Because incredible camouflage rendered the huge, four inch worms nearly invisible, grandmother plucked them from her tomato plants after tracking them down from the droppings. The larvae also have another notorious feature: when disturbed, they will erect into a posture resembling an Egyptian Sphinx, thus another common name for the adult is sphinx moth.

This bond between night flying insects and large pale flowers has been documented for centuries. When Charles Darwin visited a tropical forest and observed a massive white flower with a foot-deep corolla, he predicted the pollinator would be a hawk moth with a twelve inch tongue. Years later he was



The straw for tasting drugs

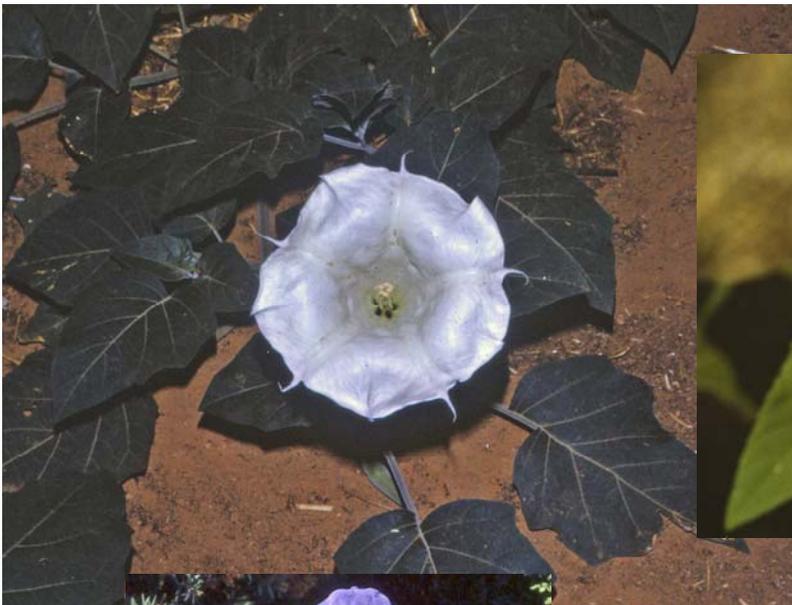


proven correct. Although a four inch corolla tube of jimsonweed and the four-inch hawk moth proboscis is a perfect coevolved arrangement, the relationship is not exclusive. Carpenter bees, bumble bees, and other smaller insects visit jimsonweed blossoms too. The intimate anatomical linkage between the moth's mouthparts and the shape and length of the plant's corolla may be remarkable, but it is the physiological connection between the two that is truly noteworthy.

Even though crushed plant tissue is noxious and loaded with potentially disastrous molecules, the magnificent white trumpets have a fragrant scent that belies the chemistry within. This is the hook for the hawk. Ecologists report that jimsonweed nectar is spiked with

intoxicating compounds that quickly convince this unfaithful moth to return. The drug addicted insects repeat night after night. Inebriated hawk moths can be observed clumsily ricocheting from petal to leaf to stem to ground and bouncing back again for more of the delightful drink. It is unclear if they ever sober up.

To insects, the sugary nectar appears to be reward enough for the chore of flying from flower to flower. To plants, the extra metabolic deficit to produce the carbohydrate laden bribe is a small price to pay for species immortality. Nectar serves no major function for the plant other than to coerce pollinators to visit. Indeed, this special incentive of jimsonweed explains why the hawk is so high on such a lowly shrub. The feeling is mutual -- ism.



Photos clockwise from left

Author Bill Howell sharing his knowledge about all things lepidopteron.

Looking down the throat of *Datura wrightii*.

A white-lined sphinx moth visiting a less addictive nectar source, the slender sunflower.

The Wilderness Bill is Signed by President Obama!

By Dianne Erskine-Hellrigel

On March 30, 2009, the Omnibus Public Lands Management Act was signed by President Obama. One of the bills contained within this vast Omnibus package was Congressman McKeon's Eastern Sierra and Northern San Gabriel Wild Heritage Act. What this means to California is 470,000 new acres of pristine, untouched wilderness will be protected in perpetuity. The majority of this exquisite land is in Inyo and Mono Counties and includes some of the most beautiful acreage in California. Also included are 40,000 acres in Southern California including Magic Mountain (the mountain, not the theme park), Pleasant View Ridge and Lower Piru Creek (with a Wild and Scenic Designation).

Pleasant View Ridge is located above the

Magic Mountain, the *mountain*, is one of the most beautiful natural areas around Santa Clarita.



Chamise in bloom.



Manzanita chaparral.

town of La Canada and stretches all the way to Palmdale in the north. It is considered one of the most beautiful hikes in all of Southern California with waterfalls, year-round running trout streams, and pine forest. The PCT runs across this mountainous terrain before it enters the desert region en-route to the Eastern Sierra.

Magic Mountain, the *mountain*, is one of the most beautiful natural areas around Santa Clarita. This gorgeous mountain is covered with dense chaparral, pine trees, perennial flowering shrubs and wildflowers. It is only minutes away from the hustle and bustle of Santa Clarita and offers a moment of respite from traffic and the noise of the city.

You may be familiar with the theme park, but not the mountain. Unless you're a hiker with the Community Hiking Club: www.communityhikingclub.org, you have probably never visited this awe inspiring place. Just stand on one of the ridges along the road for a few minutes, and you're apt to see deer browsing in the grassy areas, hawks flying over head, and if you wait long enough, you may even see a condor or two! Condors are known to congregate and feed in this area, and up to a dozen have been seen at once! This alone contributes to the "magical" factor of Magic Mountain. Travel a little farther down the ridge and on a clear day and you can get a glimpse of the ocean.

Magic Mountain, bordering the cities of Santa Clarita in the west and Acton to the east is a prime example of one of the fastest disappearing habitats in North America: Southern California

chaparral. The beautifully sloping topography is covered with dense chamise, *Ceanothus*, yucca, and manzanita. It is quite the site in spring when everything is in bloom. Vast rolling hills of several types of manzanita mix like a Van Gogh painting with the lavender and white varieties of *Ceanothus*, creamy chamise, and the bold, tall stalks of yucca. It is enough to inspire artists to this day, who sit patiently by the quiet roadside to paint Magic Mountain's virtues.

So many of us are proud that Magic Mountain has been protected for generations to come. It is an important part of our local animal corridor, being in a key position for animals traveling from the Sierra Pelona to the Santa Monica and Santa Susanna Mountains. It is also an important part of our watershed, so run off will remain clean and pure. Needless to say, untouched wilderness is a critical component in maintaining cleaner air.

Magic Mountain and the surrounding area are home to many endangered and rare species including the Least Bell's Vireo, the unarmored three spine stickleback, the arroyo southwestern toad, and the threatened Southwestern pond turtle. One riparian area at the base of Magic Mountain

is a lagoon that especially important to many species of birds, some of which are migratory. At the northernmost border of the mountain you can find the headwaters of the Santa Clara River that flows all the way to Ventura before it touches the ocean. Life here depends upon the runoff from the mountain to contribute to it's year round flow.

Once you've taken a look at this wonderful, indeed, *magical* place, or hiked in the glorious craggy peaks on Pleasant View Ridge, or fished for wild trout at Lower Piru Creek, you will know the true meaning of peace. Once you take a deep breath of the crisp, clean air, you might even be inspired to write Congressman McKeon and Senator Barbara Boxer to thank them for working so hard, for so many years to make these places safe for generations to come.

"A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain ..."

- The Wilderness Act, September 3, 1964



The San Gabriels

UNFOLDINGS



Sketch of Doc Sarvis in Ed Abbey's Monkey Wrench Gang. Drawing by R. Crumb

One final paragraph of advice: Do not burn yourself out. Be as I am—a reluctant enthusiast...a part time crusader, a half-hearted fanatic. Save the other half of yourselves and your lives for pleasure and adventure. It is not enough to fight for the land; it is even more important to enjoy it. While you can. While it is still there. So get out there and mess around with your friends, ramble out yonder and explore the forests, encounter the grizz, climb the mountains. Run the rivers, breathe deep of that yet sweet and lucid air, sit quietly for a while and contemplate the precious stillness, that lovely, mysterious and awesome space. Enjoy yourselves, keep your brain in your head and your head firmly attached to your body, the body active and alive, and I promise you this much: I promise you this one sweet victory over our enemies, over those deskbound people with their hearts in a safe deposit box and their eyes hypnotized by desk calculators. I promise you this: you will outlive the bastards.
-Ed Abbey

It is to these freedom-loving souls who will not march docilely in the ordered ranks to the piping of those who would sway them, that all freedom owes its life.

-Marshal South

I prefer the saddle to the street car, and the star-sprinkled sky to the roof, the obscure and difficult trail leading into the unknown to any paved highway, and the deep peace of the wild to the discontent bred by cities. Do you blame me then for staying here where I feel that I belong and am one with the world about me?

-Everett Ruess

Lots of people hardly ever feel real soil under their feet, see plants grow except in flower pots, or get far enough beyond the street light to catch the enchantment of a night sky studded with stars. When people live far from scenes of the Great Spirit's making, it's easy for them to forget his laws.

-Tatanga Mani



No one can stop the coming of spring.

-'Abdu'l-Baha