

Sojourns is a regular publication of the Peaks, Plateaus and Canyons Association. Each issue explores the extraordinary Colorado Plateau through a different theme. Purchasing *Sojourns* or subscribing to it through membership helps protect this rare region. For more information turn to the last page of this issue.



Marvels and Mysteries

OF THE COLORADO PLATEAU

(*Sojourns*)

Mirages

SOMETIMES PEOPLE WHO GET LOST IN THE LAND OF ILLUSIONS FIND THEMSELVES ON A TRUER PATH.

BY CRAIG CHILDS

6

What in the World?

VISUAL PUZZLES ABOUND IN THIS ENVIRONMENT. SEE IF YOU CAN SOLVE A FEW OF THEM.

12

Occurrence at Rocky Ridge

TWO HOLY BEINGS APPEAR OUTSIDE A NAVAJO HOGAN WITH A MESSAGE FOR THE PEOPLE.

BY SCOTT THYBONY

18

Two Weeks on *Mars*

IN A UTAH LANDSCAPE SO OTHERWORLDLY THAT IT'S A STAND-IN FOR MARS, A RESEARCH TEAM BONDS IN AN "EXTRA-PLANETARY" HABITAT.

BY ELIZABETH HOWELL

22

Signaling

FROM PINE CONES TO RAVENS TO SAGEBRUSH, ALL BEINGS COMMUNICATE THE ELEMENTAL MESSAGES.

BY MARA KELSON

34

42 *Mukuntuweap* by Lyman Hafen

44 AROUND THE PLATEAU: Bryce Canyon, Petrified Forest, Colorado National Monument, Dinosaur National Monument

48 ABOUT SOJOURNS AND PPCA





Mirages

The whole of the Colorado Plateau
... is a hall of mirrors pushed up
from inside the earth.

To use the word *mystical* seems like a
sparkly sales pitch. Rather, the place
mystifies. Every turn is an enigma.

BY CRAIG CHILDS

Remember a thread
of water pouring into
the shadowy sliver of a
canyon, and I swear I
could hear people talking.

When I reached the voices, I found no one there, only water burbling to itself, echoing and twisting around scalloped stone bends. Even seeing with my own eyes that I was alone, I could still hear the timbre of conversation, questions and answers, when there was only water. My rational mind gave this phenomenon a grid of physics and acoustic algorithms, explaining away the sounds until not a shadow of mystery remained, yet I heard the water talking. If I listened carefully, words whispered in the cool, dim space. I can't say now what was real and what wasn't.

The whole of the Colorado Plateau is like that, a hall of mirrors pushed up from inside the earth.

Geologically, it doesn't have the violent grandeur of a mountain range, but something more subtle. A layer cake of miles-deep rock-sediment has been exposed across four states, where wind and water have their way, and the earth resists. Here attraction and repulsion,

resistance and erosion, are almost perfectly balanced. What is left is what lies between the two, the legerdemain of interstitial spaces, sometimes more empty than solid. What remains is illusion.

The landscape looks like ghosts and spirits, but it's not, really. It is rock towers in moonlight, canyons water-sculpted into faces.

There are no ghosts and spirits here. Keep telling yourself that.

Don't mind the coyotes that walk on two legs.

Some of the early Anglo artists and lithographers who tried expressing these terrains resorted to exaggeration, making canyons too numerous and too tightly packed, buttes too towering, rivers too darkened by the shadow of too-deep gorges. I believe it was the only way these artists could say what they were seeing, their eyes not yet adjusted to the bewildering scale and intricacy of the land. They were under a spell.

This is not Paul Bunyan's territory—no bold swings of a giant axe chopped canyons out of rock. Dr. Suess is the god of these parts. You can't think in straight lines. Everyplace is a question, rabbit holes going every which way. No wonder it is sacred, great water spirits rising like hoodoo ghosts from the peaks every summer, their round-headed thunderstorms blistering the sky.

To use the word *mystical* seems like a sparkly sales pitch. Rather, the place *mystifies*. Every turn is an enigma.

GIVEN ALL PARTS OF THE PLATEAU, Lake Powell has got to be one of the strangest. With water on desert, it is catastrophically beautiful and sublime, the backed-up flows from the Colorado, San Juan, and Dirty Devil rivers filling a maze of desert cathedrals, the drowned hulk of Glen Canyon. If you want to grasp the illusory,

magical nature of this land, this is a good place to start.

Like most people, my first glimpse of this reservoir was from a houseboat. I was a Phoenix boy, probably ten years old, and my world consisted of saguaros and the piney Mogollon Rim. My dad brought me out of our local geography with a bunch of fishing buddies. They'd rented a houseboat, and we took it up the San Juan Arm. I'd sit on the point of the boat skimming my bare feet across water, wave-bounced as we entered sandstone gateways and the halls of red canyons.

Exploring like the Huckleberry Finns that we were, we fit that houseboat up into places we shouldn't have tried, engines cut as we drifted in winding narrows. Cliffs sailed above us till the sky was a ribbon and the air was the color of a peach. I remember our voices, not the echo-laughter of shouts, but softly spoken words that hummed as if in a cathedral.

Water shouldn't be here. The ground surrounding it is barren, humped into naked whalebacks of Navajo Sandstone. The Colorado Plateau is known for its hot summers and winters dropping to single digits or below. Rainfall is hardly predictable, and the earth pounds with flash floods that may run dry in three hours. It is not an especially hospitable place. The presence of lake water throws everything out of whack.

Lake Powell's shoreline is thought to have more fractal miles than the entire Eastern Seaboard. The landscape itself allows for this, canyons and side canyons crenulated by the thousands. It baffles the eyes. Remember the start of Planet of the Apes, the clash of gongs and Charleton Heston's spaceship spiraling out of control from a timewarp onto an unquestionably alien planet? The location for that scene was Lake Powell.

One evening on our summer's journey, our houseboat



Lake Powell's shoreline is thought
to have more fractal miles than
the entire Eastern Seaboard.

FACING PAGE: Tapeats sandstone, sculpted and polished by the swirling Colorado River.

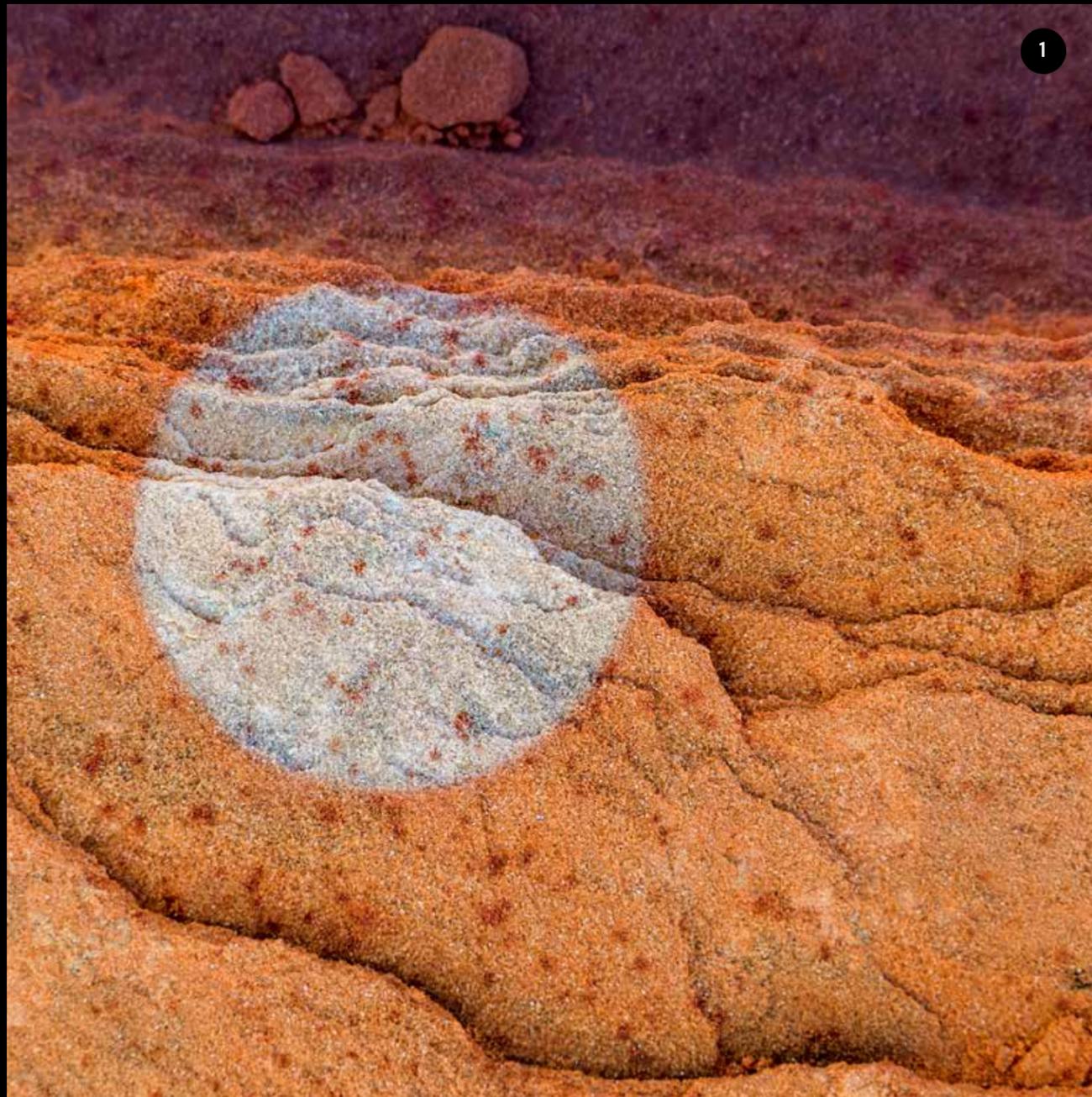
Photo by Jack Dykinga.

LEFT: An aerial view of Anasazi Canyon's ornately tucked and pleated shoreline. Photo by Gary Ladd.

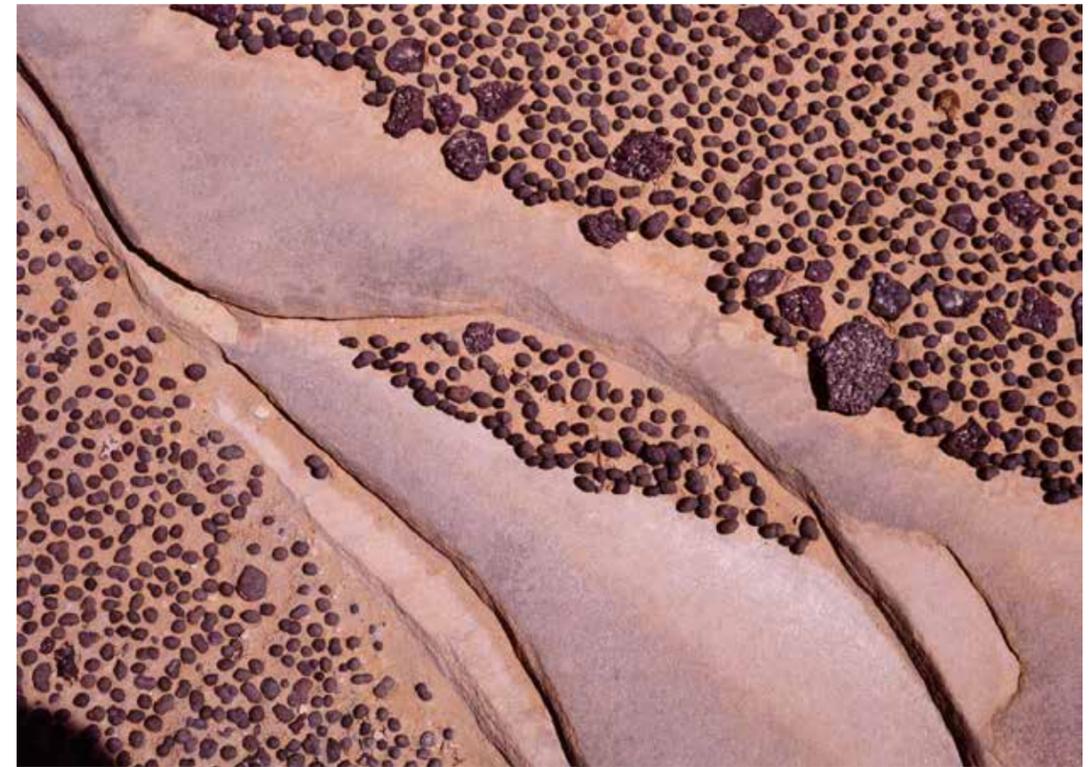
What?

... in the world is that? The Colorado Plateau is filled with mysteriously beautiful abstract vignettes, from close up or far away (that's a hint). Take your best guess, then check your answers against the captions.

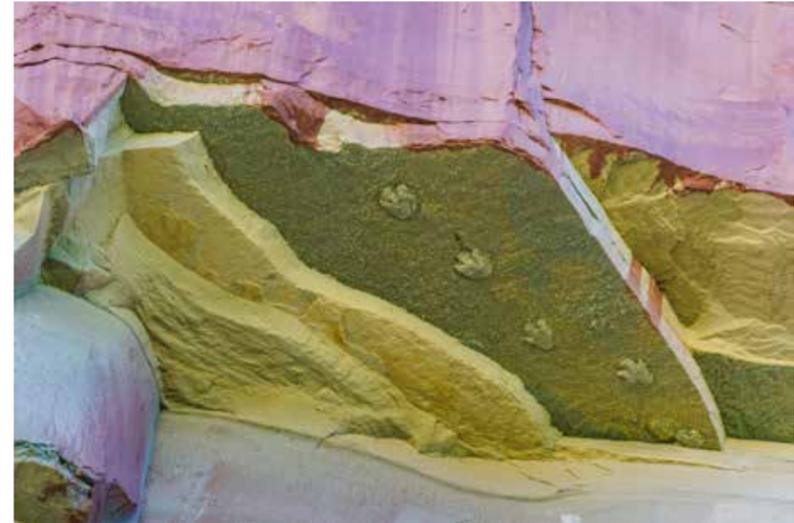
Images assembled with guest curator Christopher K. Eaton



1



2



3

4

- 1 A circular bleaching pattern in sandstone near Page, Arizona. Organic material provides a locally reducing environment that may cause the surrounding host rock to lighten. Photo by Kathy Mahan.
- 2 Hematite or iron stone concretions on a bed of Navajo Sandstone, Vermilion Cliffs National Monument, Paria-Vermilion Cliffs Wilderness, Arizona. Photo ©Fred Hirschmann. Read more about these "marbles" found on Mars and on the Colorado Plateau on page 47.
- 3 Mancos Shale south of Caineville, Utah. Photo by Michael Collier. Read more about the Caineville environs in the essay "Mars on Earth," starting on page 26.
- 4 Dinosaur tracks on the bottom side of an overhanging ledge, Lake Powell. Photo by Kathy Mahan.

Occurrence

AT ROCKY RIDGE

Two mysterious beings appear outside a hogan to deliver a message.

BY SCOTT THYBONY



FACING PAGE: The Talking God Ye'ii, considered the grandfather of Diné. Acrylic on canvas. By David K. John. Photo by Jerry Jacka.

Word of the incident swept across the Navajo Nation, stirring up fear in some and excitement in others. A friend from Window Rock called to let me know what was happening. “They have returned,” he said, though at this early stage no one was certain just who they were. One report described the visitors to Rocky Ridge as apparitions, another called the occurrence a vision. Most Navajo saw it as the return of the Holy People. Intrigued, I began to look into the story, and eventually would follow a sandy track beyond the Rocky Ridge Trading Post to see for myself.

A sense of mystery runs through the Four Corners country like the veining in a piece of turquoise. No matter what direction I head, I am never far from it. I have found it while on a pilgrimage with Catholics to a shrine in New Mexico, and while leaving offerings with a medicine man on a mountain sacred to the Navajo. I have found it while journeying into the Grand Canyon to leave Hopi prayer feathers, and while riding in a pickup with a Mormon historian who related the prophetic dreams and visions of his people. Many of these traditions take seriously the extraordinary.

In the spring of 1996, an elderly Navajo woman was living with her daughter in a hogan near Big Mountain. At the time, the region was suffering one of the worst droughts in decades. The stock tanks were dry, the sheep hungry, and the fields left unplanted. People were praying for rain.

“They are coming today,” the mother said in Navajo. Irene Yazzie, 96 years old, was blind and confined to a wheelchair.

“Who’s coming?” the daughter asked, surprised to hear her mother speak. She had not uttered a word since a recent stroke.

Getting no response, Sarah Begay moved the sewing machine closer to the window to watch the road. “They are coming,” her mother announced again. And as they waited, a strong wind passed over the hogan and abruptly died down. From outside came the whirling hum of what sounded like a bullroarer.

“They have come,” said the blind woman.

Hearing the notes of a flute, Sarah stepped outside. As she opened the door, she was forced to keep her head down as if facing into strong wind. Before her stood two white-haired men, one blue and the other white, and both wore moccasins. A glow surrounded them. Yellow corn was falling like rain from one and white corn from the other.

“Who are you?” the daughter asked, frightened by their sudden appearance.

“We have always been here,” they answered. “We have been to the mountains and there are no offerings. We are angry because the Navajo people are turning away from their traditions.

They no longer pray, they no longer do the ceremonies, they no longer take care of the old ones. The Navajo people must go back to their traditions. You are to tell them this.”

And then they disappeared. The daughter climbed in her pickup and left to spread the word. Her truck moved sluggishly at first, only gaining speed as it got farther from the homestead. She waved down the first passing truck she saw and told the driver what had happened.

A neighbor summed up the importance of the event as she saw it. “A powerfully sacred and important revelation,” said Roberta Blackgoat, “has happened at Sarah Begay’s.”

One of the tribal officials who went to investigate the incident was Alfred Yazzie, a medicine man with the

Traditional Culture Program. Highly respected among his people for conducting the Blessingway and Nightway chants, Alfred once served as chief of the tribal police. At Rocky Ridge he found people lined up to pray.

Within the first week 3,000 people had driven to the remote homestead, and many waited to hear the story told firsthand. The only clues left from the visitation were two circles of cornmeal, one white and one yellow, each holding a set of moccasin tracks where the holy beings had been standing. To protect the evidence washbasins were placed over the footprints. Diviners, known as hand tremblers, tested the authenticity of the occurrence, and soon Alfred and other key medicine men gathered to reach a consensus on what it all meant. They

eventually identified one of the Holy People as Talking God and the other as White Body.

Following the message of the Holy People, as related by Sarah Begay, Alfred Yazzie began a journey to each of the four cardinal mountains marking the Navajo homeland. I had once been invited to attend a ceremony conducted by Alfred on one of the sacred mountains. A wildfire had left a swath of charred trees in its wake, and he wanted to restore the necessary balance. The medicine man carried an attaché case holding ceremonial paraphernalia and wore a silver bracelet inlaid with stones representing the four sacred mountains. Before beginning the ceremony, Alfred put on a black ceremonial headband and draped



The only clues left from the visitation were two circles of cornmeal, one white and one yellow, each holding a set of moccasin tracks where the holy beings had been standing.

TWO WEEKS ON *Mars*

Welcome to Mars, Utah. The Mars Desert Research Station near Hanksville is as close to the real thing as a 21st-century earthling can get.

BY ELIZABETH HOWELL

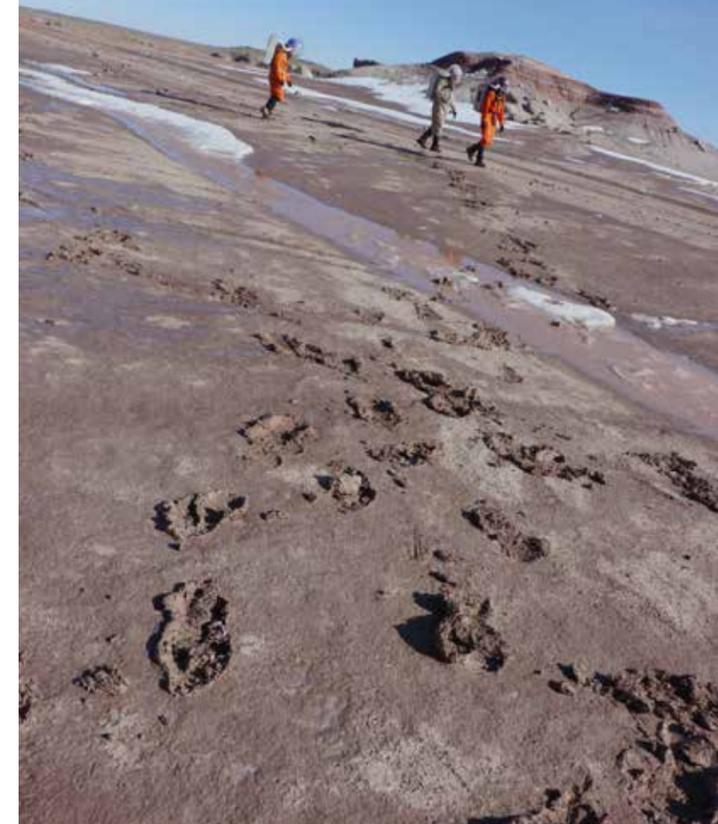
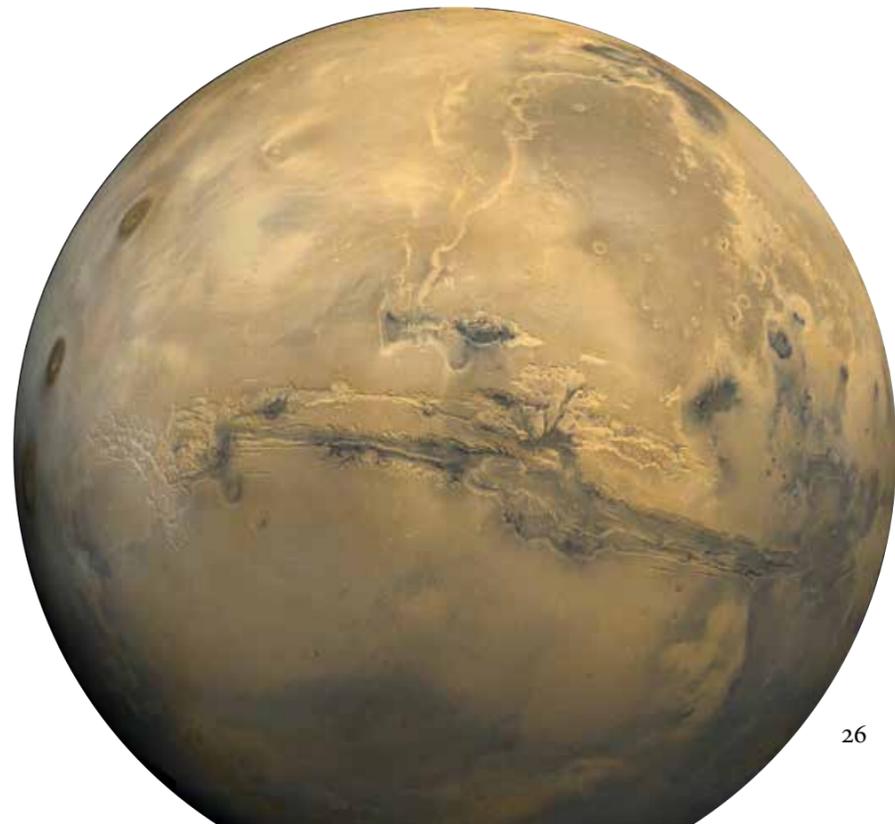
It was uncomfortably hot inside the spacesuit helmet and backpack straps sent a dull ache through my shoulders. I'd been walking about ninety minutes in this getup, dodging the muddy quicksand, in search of a better understanding of the geological history of "Mars," as we called our site.

Two of my crewmates strode quickly ahead of me. The other—recovering from flu—lagged behind, and every few steps I turned to check his progress. "Doing all right?" I would shout through the helmet, and he'd give a grin and

thumbs-up. It was not easy walking on Mars, but none of us would have given up the experience.

Our site was not actually on the Red Planet, but a place as much like it as possible: the desert of Utah, about four hours south of Salt Lake City. We were part of Crew 133 of the Mars Desert Research Station, a Mars Society-run facility that tests equipment and procedures that could one day be used for real.

For the two weeks we lived in a six-bedroom habitat amid muddy snow flats near Hanksville, Utah, we were prohibited from venturing outside without spacesuits. Between that and restrictions on phone calls and Internet



CLOCKWISE FROM TOP LEFT: The hills near the Mars Desert Research Station resemble that of Mars, although the snow shown here would likely not be as thick on the Red Planet; Crew 133 members Pedro Diaz-Rubin, Gordon Gartrelle and Matthieu Komorowski (l-r) during a "Marswalk"; Joseph Jessup and Gordon Gartrelle (l-r) set up a radio telescope. In the background is an optical telescope; Matthew Komorowski and Joseph Jessup (l-r); Crew 133 executive officer Gordon Gartrelle. Photos by Elizabeth Howell.

FACING PAGE: Mars globe. NASA image.



Signaling

Human language is just one tiny groove on the long-playing record of earthly communication. New research uncovers the multitude of ways that species “talk” among themselves and to other beings.

BY MARIA KELSON

When we consider the array of important messages that life forms can telegraph to each other, human language seems a mere tweet in the twittering melee of signals passed around since the dawn of life. Rather than a zenith of evolutionary achievement, language is just one tiny groove on the long-playing record of earthly communication. The most ancient messages on this planet are Come here! Go away! And maybe “Move it or lose it!” Between species, the grammar of chemicals supports a never-ending conversation.

Piñon pines say “I want you” to piñon jays, their primary seed dispersers, by showing off their firm, young cones. Juvenile piñon jays’ gonads are excited into growth just by the sight of green piñon cones. Yes, someone tested this. Young jays love pine porn! Egg and sperm producing organs develop after the birds have specific visual exposure to those green cones.

But jays may not be the only animals excited by pines. If you’ve ever felt the tingle of arousal in a ponderosa pine forest, it could be the scent of vanilla, held to be an aphrodisiac in many cultures. A vanilla-like fragrance pervades pine woods—especially in stands with older trees, which exude the scent more strongly. If you don’t find vanilla an aphrodisiac, you may yet be affected by the sea of pheromones in which you travel while traversing forest paths. Pines produce a chemical that beetles, which live in them, alter very slightly and exude as a pheromone. These pheromones become airborne telegrams to other beetles, telling them the living is good—we want you!—come join the party and populate this grove.

Dr. Lisa Floyd-Hanna, an ecologist at Prescott College, explains: “Pines produce terpenes, which are small, very smelly compounds such as alpha-pinene and limonene. Conifers are full of them, and those chemicals are part of how they interact with their native beetle. The beetles take the terpenes into their bodies and change them into pheromones.” This process initially results in the beetle exuding what’s called an “aggregating pheromone,” which acts as an airborne signal for other beetles to join in the feeding and breeding frenzy.



Up to a point, live-in beetles can be beneficial to pines. But when the population becomes so dense that it could actually do more harm than good for the pine, the tree changes its original chemical output very slightly so that what results through the beetles’ presto-change-o is a deterrent pheromone that repels additional beetles. “It’s a sneaky, cool way for the tree to interact with the beetles,” says Floyd-Hanna. A healthy tree can switch its interspecies message from “I want you” to “Go away” depending on its needs, draping itself in hormones with turn on/turn off effects as easily as some humans can go from head-turners to wallflowers with a change of wardrobe. The problems of beetle-caused mortality for pines in the West have resulted from overpopulations of beetles due to milder winters, which leave more larva alive in the spring, and drought stress in trees, which leaves them less equipped to defend against high numbers of beetles. When they reach high enough levels of infestation, the beetles no longer respond to the disaggregating signals.

The non-human “come-hither” message isn’t always for reproductive intent—it can also be a neighborly request to “come lend a hand with this.” Or “lend a bite,” as the case may be. Forest ecologist Bill Ripple speculates on how ravens in the Yellowstone ecosystem may send a “Hey guys! Over here!” message to wolves. “They follow the wolves around,” he explains, “keeping an eye out to see where the kill is made.” Ripple wondered if the ravens could be thinking a step ahead, trying to *show* the wolves where the elk were. He probed this theory in Grand Teton National Park while watching a group of ravens circling over a nearby ridge. Noticing their location, he thought to himself, “OK, there should be elk right on the other side of that hill.” When he hiked up the hill and got to the top, he saw a huge herd of elk just on the other side. “Now this was a sample of one,” Dr. Ripple says, “so I won’t say it’s always the case. But . . . I wouldn’t put it past them.” As toothless scavengers,

Piñon pines say “I want you” to piñon jays, their primary seed dispersers, by showing off their firm, young cones.

Young piñon pine bud.
Dreamstime image.