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Desert

SEPTEMBER, 1971 50c

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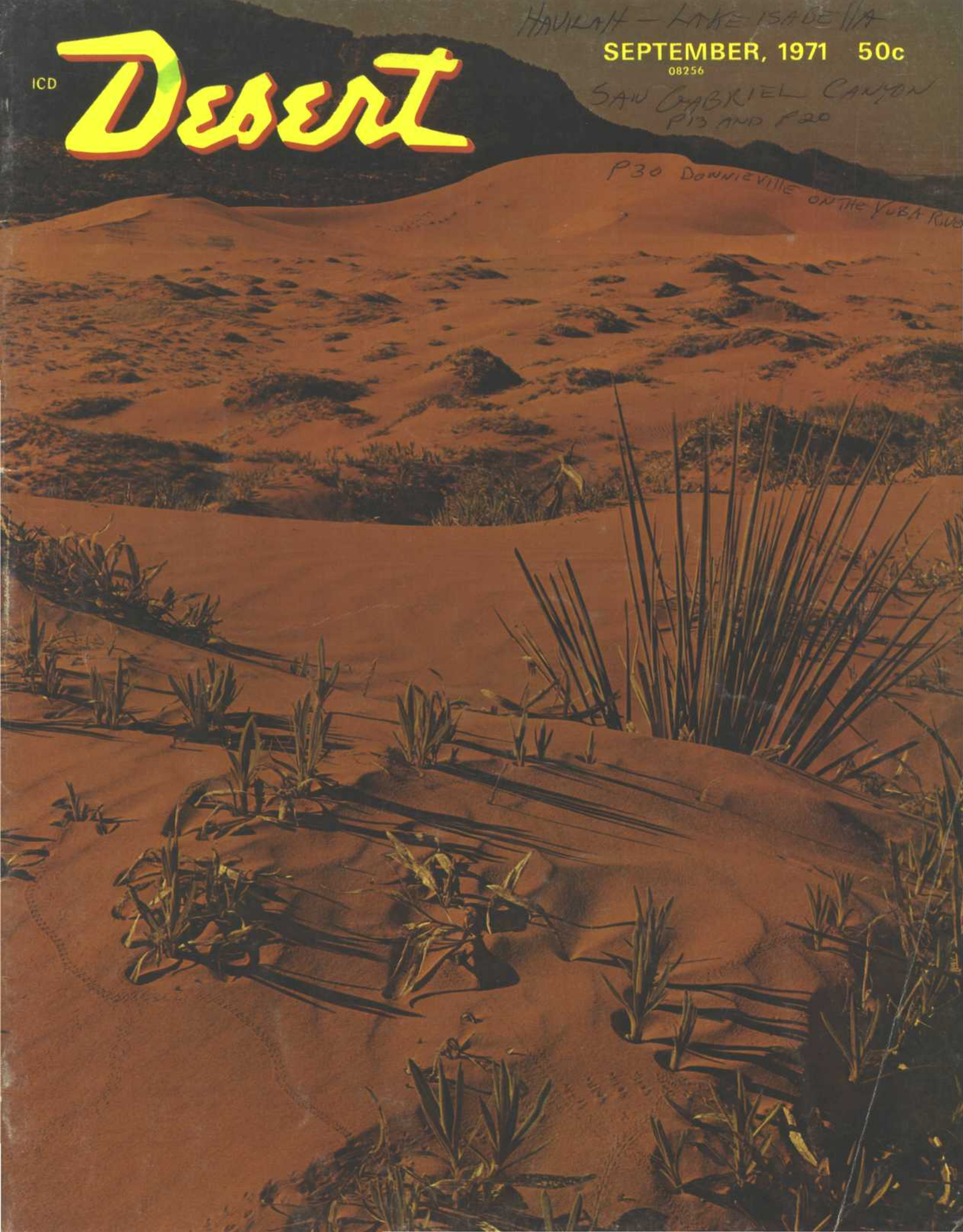
SAN GABRIEL CANYON
P13 AND P20

P30 DONNIEVILLE ON THE YUBA RIVE



Desert Magazine Book Shop

CALIFORNIA by David Muench and Ray Atkeson. Two of the West's greatest color photographers have presented their finest works to create the vibrations of the oceans, lakes, mountains and deserts of California. Their photographic presentations, combined with the moving text of David Toll, makes this a classic in Western Americana. Large 11x14 format, heavy slick paper, hardcover, 200 4-color photographs, 186 pages, $25.00.

NATIONAL PARKS OF THE WEST by The Editors of Sunset Books. A pictorial interpretation of the 23 scenic preserves that encompass within their 12 million acres most of the nation's finest mountain and desert scenery. Contains 247 photographs with 32 pages in 4-color, 43 2-color maps, drawings, geological diagrams, history and other informations. Large 9x11 format, heavy slick paper, hardcover, 286 pages $11.75.

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TRAVEL GUIDES TO BAJA CALIFORNIA by Ken and Caroline Bates. Published the Editors of Sunset Books, this is a useful book on Baja and should be a companion piece to Gerhard and Gulick's **Lower California Handbook** and Cliff Cross's **Baja by Road, Airplane and Boat.** The Bates' book takes the reader to the people with text, photographs and maps. Anyone going to Baja should have all three books. Large 8x10 format, heavy paperback, 80 pages, $1.95.

LET'S GO PROSPECTING by Edward Arthur. Facts and how-to-do-it on prospecting are presented by the author who has spent 30 years searching for gems and minerals in California. For those who think there are no more valuables left in California, they will find a new field in this informative book. Includes marketing data, maps, potential buyers for discoveries. Large 8x10 format, illustrated, heavy paperback, 84 pages, $3.95.

LOST MINES OF THE GREAT SOUTHWEST by John D. Mitchell. The first of Mitchell's lost mine books is now available after having been out of print for years. Reproduced from the original copy and containing 54 articles based on accounts from people Mitchell interviewed. He spent his entire adult life investigating reports and legends of lost mines and treasures of the Southwest. Hardcover, illustrated, 175 pages, $7.50.

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MOCKEL'S DESERT FLOWER BOOK by Henry and Beverly Mockel. The well-known painter of desert wildflowers has combined his four-color sketches and black and white photographs to describe in detail so the layman can easily identify wildflowers, both large and small. Microscopic detail makes this an outstanding book for identification. Special compressed fiber paper which will not stain. 54 full-color illustrations with 72 life-size drawings and 39 photographs, 316 pages, $5.95.

PALM CANYONS OF BAJA CALIFORNIA by Randall Henderson. The beautiful palm canyons and isolated areas of Baja California are described by the late Randall Henderson, founder of DESERT Magazine. Although these are his personal adventures many years ago, little has changed and his vivid writing is alive today as it was when he first saw the oases. Paperback, illustrated, 72 pages, $1.95.

LOST MINES & BURIED TREASURES ALONG THE OLD FRONTIER by John D. Mitchell. The second of Mitchell's books on lost mines which was out-of-print for many years is available again. Many of these appeared in DESERT Mgazine years ago and these issues are no longer available. New readers will want to read these. Contains the original map first published with the book and one pinpointing the areas of lost mines. Mitchell's personal research and investigation has gone into the book. Hardcover, 240 pages, $7.50.

WEST OF DAWN by Hugh D'Autremont. The author's account of his life of adventure which started in the 1930s during which he looked for lost mines, prospected for gold in Mexico and hardrock mined in California. Reads like a fictional wild west novel. Hardcover, 187 pages, $5.00.

INYO MONO JEEP TRAILS by Roger Mitchell. Author of DEATH VALLEY JEEP TRAILS, veteran explorer Mitchell takes you on 18 different 4-wheel-drive trips into the Sierra Nevada Mountains, where he explores ghost towns, Indian territory and scenic canyons and mountain passes. Paperback, 36 pages, illust., $1.00.

DUTCH OVEN COOKBOOK by Don Holm. Wildlife editor of the Portland Oregonian, the author has spent his life exploring and writing about the outdoors, so his recipes for preparing food in a Dutch Oven come from experience. If you haven't had food cooked in a Dutch Oven, you haven't lived . . . and if you have you will find these recipes new and exciting culinary adventures—as well as his style of writing. Heavy paperback, 106 pages, $3.95.

LOST DESERT BONANZAS by Eugene Conrotto. Brief resumes of lost mine articles printed in back issues of DESERT Magazine, by a former editor. Hardcover, 278 pages. $7.00.

A FIELD GUIDE TO WESTERN BIRDS by Roger Tory Peterson. The standard book for field identification sponsored by the National Audubon Society. 2nd edition, enlarged with new section on Hawaiian birds. 658 in full color. Hardcover. $5.95.

FOR COMPLETE BOOK CATALOG WRITE TO DESERT MAGAZINE, PALM DESERT, CALIFORNIA 92260

WILLIAM KNYVETT, PUBLISHER
JACK PEPPER, EDITOR

MARY FRANCES STRONG, *Field Trip Editor*
GLENN VARGAS, *Lapidary Editor*
K. L. BOYNTON, *Naturalist*
JACK DELANEY, *Staff Writer*

Desert MAGAZINE

Number 34, Volume 9 SEPTEMBER 1971

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FEATURES

THE COVER:
Not all sand dunes are too hot during the summer months. The cool Coral Pink Sand Dunes near Kanab, Utah make a giant playground for children and are a challenge to photographers. David Muench, Santa Barbara, California, captured this mood. For Muench's background see Book Reviews in this issue.

DEPARTMENTS

ELTA SHIVELY, *Executive Secretary*
MARVEL BARRETT, *Circulation Manager*

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A Peek in the Publisher's Poke

IMPORTANT NOTICE ! !

STEDMAN AREA CLOSED !

DESERT MAGAZINE is made up two months before the cover date and, in order to provide our readers with a balanced magazine, issues are planned many months in advance.

Due to the necessary planning and production time, it sometimes takes as long as three months to process an article before it appears in print. This is true of all monthly publications.

When an article is held this long, we make a last-minute check to see if conditions are the same as when the author originally visited the area.

In last month's issue (August '71) there was an article titled *Riding The Rails To Stedman,* by Mary Frances Strong. At the time she wrote the article the area was open to the public. Before going to press, as is our rule, we checked with outside sources (not the author) and were told the area was still open.

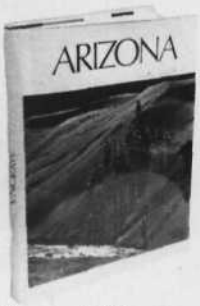
Unfortunately, we were given the wrong information and have discovered that now both the road to, and the Stedman mining area, are closed, posted, and NOT OPEN TO THE PUBLIC. It is now private property.

It has been many years since an incident like the above has happened here at DESERT Magazine. We will take extra care to see it does not happen again. Our apologies to Mary Frances Strong, who is a very factual and conscientious writer and to those readers who made a futile trip to Stedman.

William Kostyal

Book Reviews

by Jack Pepper



ARIZONA

By David Muench

It would be impossible to determine the millions of color photographs taken in Arizona by amateurs, let alone the thousands by professional cameramen. It certainly is one of the most photographed states in the Union.

The vast majority of the pictures appear as "slides" on screens for admiring neighbors after the family has made a whirlwind trip through the Grand Canyon State, usually stopping only for a few seconds as they "snap a shot" of a country which took millions of years to form.

Material by professionals appears in magazines, post cards, brochures and in a few books, which range from poor to excellent. Few have succeeded in capturing even a semblance of the moods of the 48th state.

Now there is a masterpiece on Arizona. With a background of comprehensive training at New York's Rochester Institute and the Los Angeles Art Center followed by 25 years experience in the field, David Muench knows his profession. But it takes more than technical proficiency to be a creative photographer.

There are other factors. First, David has an encyclopedic knowledge gathered during the 25 years he has explored the West. Second, during his field trips he has learned that time means success. If there is not the right combination of clouds, light, wind and feeling, he will close his camera, only to return day after day until the mood is felt. I have known him to spend a week in one spot for five minutes of shooting time.

Third, and probably the most important, is composition and his ability to actually see the picture in his mind's eye before exposing his film. (He generally uses a 4x5 Linhoff with many different kinds of lenses and filters.) This ability, coupled with his concept of time is a result of experience and his own personality.

He does not see a photograph as a slice out of time—a frozen moment without past or future. Rather he explains it as "to me it seems that a good landscape photograph includes the sense of on-moving time, that it captures the earth . . . between breaths."

The more than 160 four-color photographs are augmented by the moving text of David Toll whose presentation of the geological and historical picture of Arizona is also superb. Toll is a veteran writer and a long-time explorer of the West.

When I reviewed a photographic presentation by David Muench and Ray Ateson entitled *California* in the February '71 issue of DESERT I felt it could not be surpassed. *Arizona* is even a greater masterpiece. We are very proud that many of the covers of DESERT Magazine, including the current one, are works by David Muench.

Hardcover, 11x14, large format, 200 beautiful heavy slick pages. A book you will be proud to own, or give as a gift. $20.00, until Jan. 1, 1972; $25.00 after.

WHERE TO TAKE YOUR CHILDREN IN SOUTHERN CALIFORNIA

By Davis Dutton and Tedi Pilgreen

Although not always silent, another minority group has finally been recognized by the "older generation." The back seat is the logical place for children when traveling, but that position is discriminatory when planning a trip.

Now the kids have their own book so they can help mother and dad plan the next safari to places which are just as fascinating to parents as they will be to the youngsters.

The authors, both of whom have children, based the theme of the book on: "Where can I go and what can I do with the kids that's new, that's fun, that's different—and how much will it cost?"

To answer their own question they have listed more than 300 places and activities in Southern California. (Although this reviewer has been exploring Southern California for 15 years, many of the places listed are new to me and, even though a bachelor, I have put them on my travel list.)

The listings are preceded by a chapter on "When and How" which breaks the travel adventures down into the best times of the year, the best methods of transportation and suggestions on how to keep the kids occupied during the longer trips.

Places and activities are listed under each of Southern California's 11 counties, thus making it easy to determine how long the trip will take from the reader's home, or how to combine several places within one trip.

Each listing gives complete details such as location, cost (if any) hours open, history and what to see and do. The book is also well illustrated with interesting photographs and detailed maps. As the authors state:

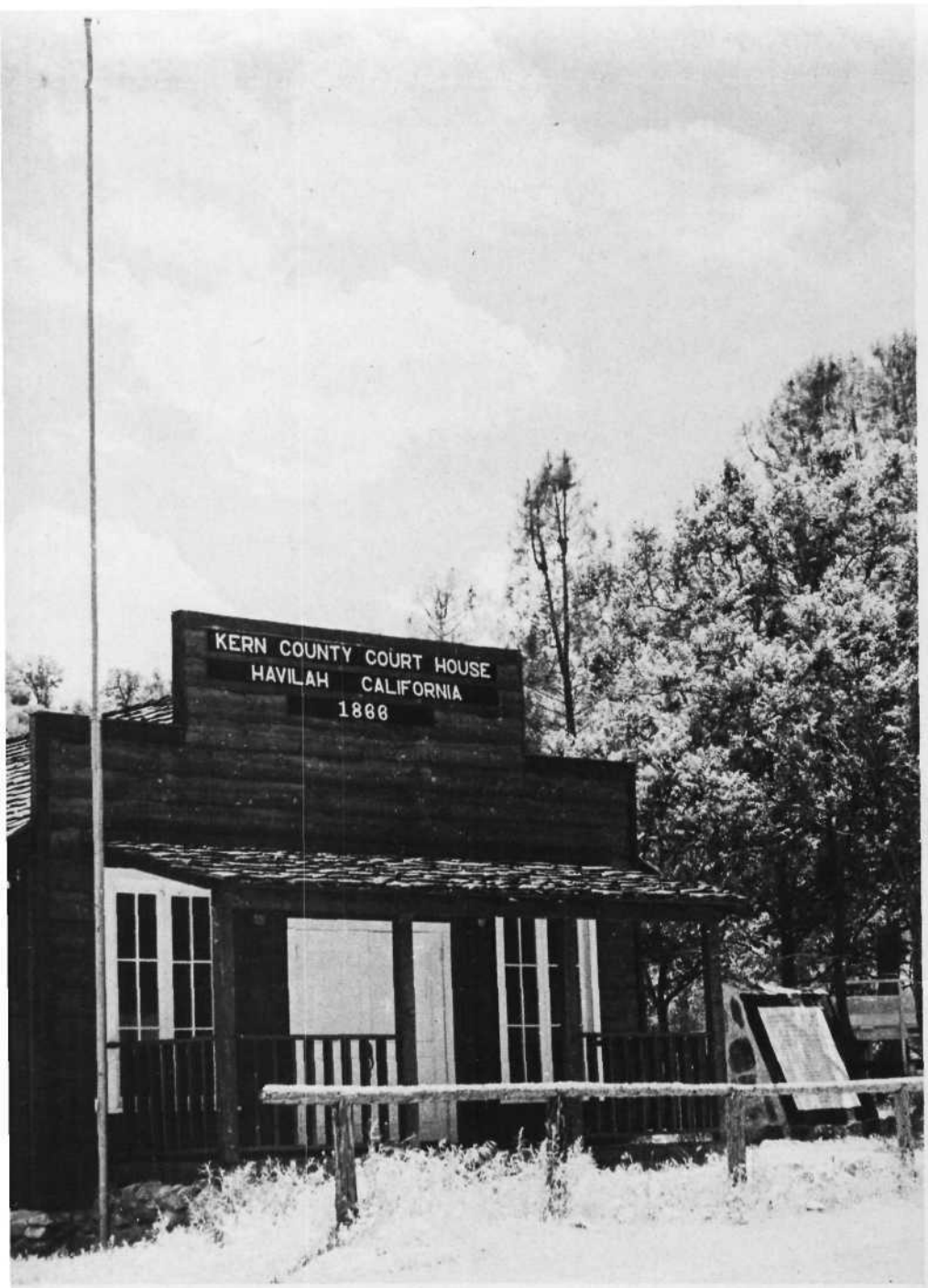
"You don't need to spend a lot of money to have a good time with kids. Often, you and your young ones can have as much fun in a free city or county park as in a highly commercial attraction.

"The secret of a good time with the kids lies in developing a sense of adventure: trying something new and out of the ordinary, keeping your schedule spontaneous and flexible, using your imagination. For this reason we have included a generous sampling of low-priced and free activities."

If there is a generation gap, this book will certainly help close it. Slick paperback, 121 pages, 1.95.

Books reviewed may be ordered from the DESERT Magazine Book Shop, Palm Desert, Calif. 92260. Please include 50c for handling. California residents must add 5% sales tax. Please enclose payment.

by
Mike
Engle



The original Kern County courthouse was built in 1866. This replica of the original on Main Street now is the Havilah museum housing many historical objects from the town's past.

"OUR TOWN has been unusually lively this week," reported the *Havilah Weekly Courier* in April 1867. "A man was committed to prison on a charge of murder . . . an Indian chief was 'jugged' for stealing horses . . . there was an attempt to break jail on Thursday afternoon . . . a dance at the Bella Union in the evening . . . and Thursday morning the sum of $450 was forwarded to San Francisco for the Southern Relief Fund."

Lively, reckless and wild! That was Havilah more than a century ago. Today this sleepy community straddles a paved road a few miles south of Lake Isabella and stubbornly refuses to die.

Once bustling with a population of over 3,000, Havilah was the county seat of Southern California's newly established Kern County until 1874. Today there are only a handful of residents.

In July 1864, prospectors panning along the streams south of the Kern River discovered placer gold in the gravels of Clear Creek near Copperas Basin. Word of the find quickly spread into the camps along the river and other prospectors swarmed into the basin. Among them was Asbury Harpending, a civil war rebel who had been convicted of attempting to hijack California's rich gold shipments that were destined for the east coast.

When word of the new discoveries reached Harpending, he was eager to find a safe retreat from the northern agents who had tracked him from San

HAVILAH...
Land of Gold

Francisco to Whiskey Town (now Kernville) on the Kern. The placers of Clear Creek beckoned invitingly, and Harpending was on his way. He prospected throughout the area and successfully filed claims on several rich ledges. As he prospected, he saw another possibility for easy wealth. In 1865 he laid out and established a townsite, and chose its name from the book of Genesis, "the land of Havilah, where there is much gold."

In a short time, lots were selling for as high as $20 a front foot, and hundreds of eager buyers were grabbing them. Before he left Havilah, Harpending had made over a half million dollars in real estate. Later, when he sold his mining claims, he profited by another $800,000. For Asbury Harpending, Havilah was indeed a land "where there is much gold."

During the early months of 1865, only a few temporary shanties were built to serve the needs of the growing population, but as soon as wealth of the mines had been established, Havilah boomed. In 1872, a newspaper reported that Havilah "sprang into existence and became the largest and most flourishing town in the county. In less than a month over 600 mining locations were recorded."

In December 1864, the first ore mill, a five-stamp battery, was hauled into the basin from Inyo's Coso district. Within a few months, other mills were either brought into the valley or built on the site. Soon the mountains were echoing to the ceaseless pounding of more than 25 different stamp mills.

During the summer of 1866, buildings were hastily erected along both sides of Main Street. Tenants were begging for houses to rent, but in spite of exorbitant rates, there were no vacancies to be had. At this time, there was a permanent population of 500 residents which included at least 25 families. Serving their needs were nine lawyers, four physicians, a surveyor, weekly newspaper, photographer and three blacksmiths. The commercial buildings included several stores, drug stores, boot shops, livery stables, bath houses, breweries, bakeries, billiard saloons, barber shops, fruit stores and a paint shop. There were numerous bars and saloons, as well as four hotels. One of these, the elegant Bella Union, had been built for a staggering cost of $16,500.

The Bella Union was the center of sophisticated living in Havilah. Visitors came from as far away as Walker's Basin, Kernville and Linn's Valley to attend the gala holiday festivities; dances and other exciting events that were regularly held in the hotel's spacious public rooms.

Havilah's many saloons, as well as the two breweries, kept the sheriff busy much of the time. Each saloon had its share of drunken brawls, knifings and gunfights. Shortly after Havilah became the county seat in 1866, a $1,600 contract was let for the construction of a courthouse, jail and sheriff's office.

The courthouse and jail were in constant use. By spring of 1867, a larger courthouse was required. When finished in June, the new building served the county for several years. Today, on Main

Weathered grave stones and markers, some sinking into the ground, in the little cemetery south of town are silent reminders of Havilah's pioneers.

Street on the north edge of town, a recently constructed replica of the courthouse serves as a county historical museum.

Havilah's merchants and saloon keepers prospered and they were naturally rankled by the passing of the "New Code" or "Sunday Law" in the 1870s. A few of them got together and, with tongue in cheek, decided to do away with the law forever. Unfortunately, their efforts were to no avail, and the law remained in effect for some time. The *Havilah Miner* reported in 1873: "A coffin was procurred, a copy of the New Code was land within it, pall-bearers selected and the funeral cortege in solemn procession marched down to the lower part of town. Then the sexton, who led the procession and carried a copy of Mark Twain's *Roughing It,* commanded a halt. 'This,' said he, 'is the most appropriate place to bury the great innovation on our time honored custom of 'getting even on Sunday!' The funeral song (Father Grimes) was sung and the service (Twain) was read by the sexton while those who composed the funeral stood with bowed and uncovered heads."

Not all of Havilah's funeral services were held in jest. On the south edge of town, on the east side of Main Street, is a small fenced cemetery which is the final home of many of Havilah's early pioneers. Here, leaning marble slabs and rotting faded wooden headboards silently pay tribute to a livelier era.

This silent cemetery, a few crumbling walls along Main Street, and here and there a basement cavity or mine shaft are all that remain of the Havilah of the 1860s. Most of the buildings that stand in Havilah today were erected during the last 50 years. The community was constantly threatened by wind-whipped flames that often swept unexpectedly down Main Street. The *Courier's* pages were filled with reports of the damage wrought by devastating fires.

In January 1867, the *Havilah Weekly Courier* reported a fire that "nearly laid the town in ruins." A year later a disastrous fire swept through five buildings. In 1869, a similar disaster was described by the editor as: ". . . leaving an unsightly amount of rubbish where only a short time ago all was bustle and life."

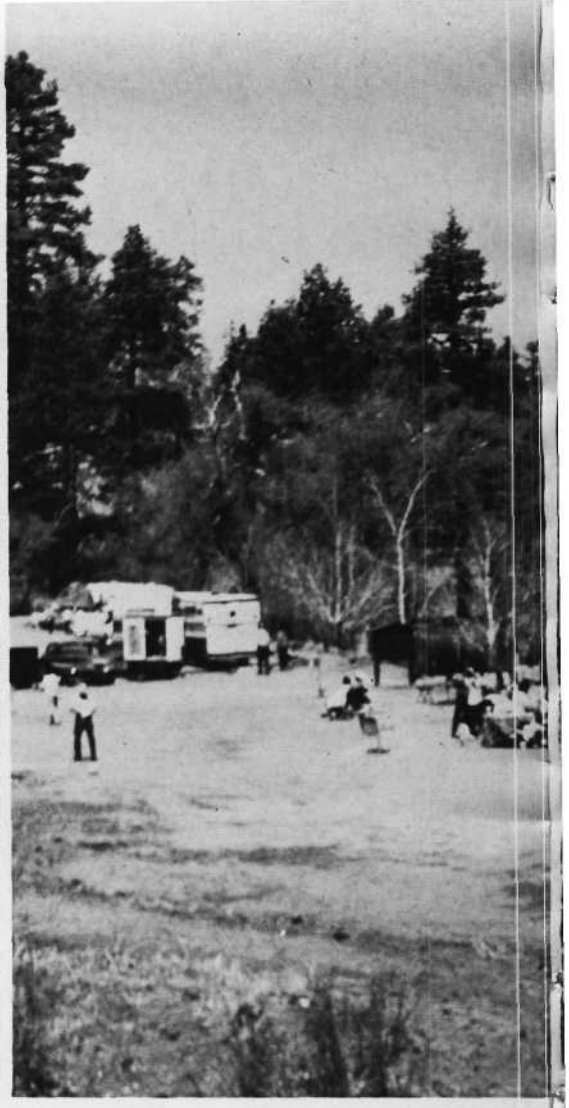
The simultaneous rise of agriculture

Of the original structures of the once lively gold rush town in California's Kern County there remain only a few crumbling walls. For back country travelers, it's a great trip into the past—and a fun pastime.

and the decline of the mines marked the end of Havilah's exciting times. Shortly before the end of 1869, the editor of *the Havilah Weely Courier,* with all of his printing facilities, followed a general migration to the growing city of Bakersfield. In 1874, a popular election moved the county seat to Bakersfield and the demise of Havilah became inevitable.

Though Havilah sprang into existence in 1865, blossomed forth in the late 1860s, and faded in the early 1870s, an occasional report from out of the past still filters into the metropolitan newspapers. A few years ago, the *Bakersfield Californian* reported an old safe that had been blasted open, was uncovered in the basement of Havilah's early blacksmith shop. Nearby was found a cap and ball pistol, a bullet mold, spurs, horseshoes, perfume vials, whiskey bottles and medicine flasks. The charred bones of a man and heat damaged glass were nearby. Inside the rusted safe, the remains of wood and paper ash were evident.

We can only wonder at what mystery was uncovered with this find, or what may yet be hidden by the fences and houses of Havilah today. □



RECREATION

by Mary Frances Strong
Photography by Jerry Strong

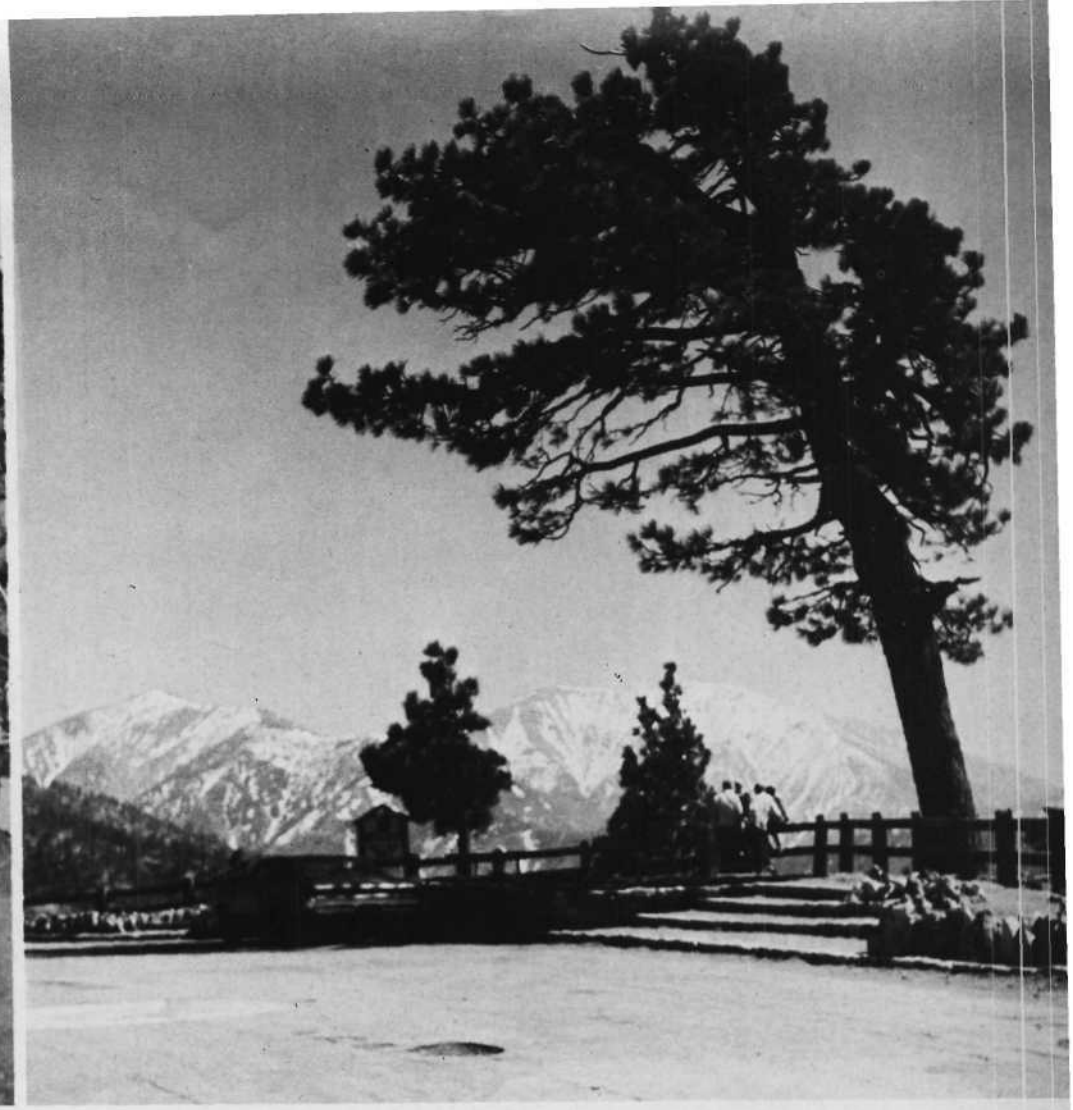
The San Gabriel Mountains and the Angeles National Forest in Los Angeles County are only a few hours driving time from the metropolitan areas, but are rich in recreational facilities and great for rock hounding as described in this month's trip by DESERT Magazine's Field Trip Editor.

There are many camping, recreational and vista sites in the San Gabriel Mountains. Photos above, from left to right: Cabin Flat Campgrounds is away from the more populated camping areas; Jackson Lake offers swimming, fishing and picnic sites; the two highest peaks in the San Gabriels, as seen from Inspiration Point, are Pine Mountan on the left and Mt. San Antonio on the right.

WHEN THE hot breath of summer hovers over the land, desert dwellers and city folk, too, begin to dream about lofty mountains, tall pines, cool lakes and murmuring streams. Even the most devoted of desert enthusiasts needs a cooling-off period in mid-summer. Mother Nature's Wisdom took this into account by conveniently bordering the Great Mojave and Colorado Deserts with a series of high mountain ranges.

Abruptly separating the eastern Mojave Desert from the Los Angeles Basin are the rugged San Gabriel Mountains and the Angeles National Forest. This combination of 9,000 foot peaks and deep, forested canyons provides unlimited activities for everyone who enjoys the great outdoors.

Whatever your cup-of-tea — hiking,



IN THE SKY!

swimming, photography, painting, bird-watching, botany, exploring, rock collecting or just plain relaxing—the Big Pines Recreation Area has it! Located less than 80 miles from Los Angeles, you will seem to be a thousand miles removed from the hubbub of suburbia. The next time you long for cool climes and the fragrance of pines, pack up the old camping gear and head for some "Recreation in the Sky."

The San Gabriel Mountains sweep from border to border across northern Los Angeles County. This east-west trend is unusual for a major mountain range on the North American continent. Unusual too, is the deceptive steepness of the range with over half of its slopes at or beyond a 70% grade. This is the angle of repose, beyond which rocks slide if they are loose.

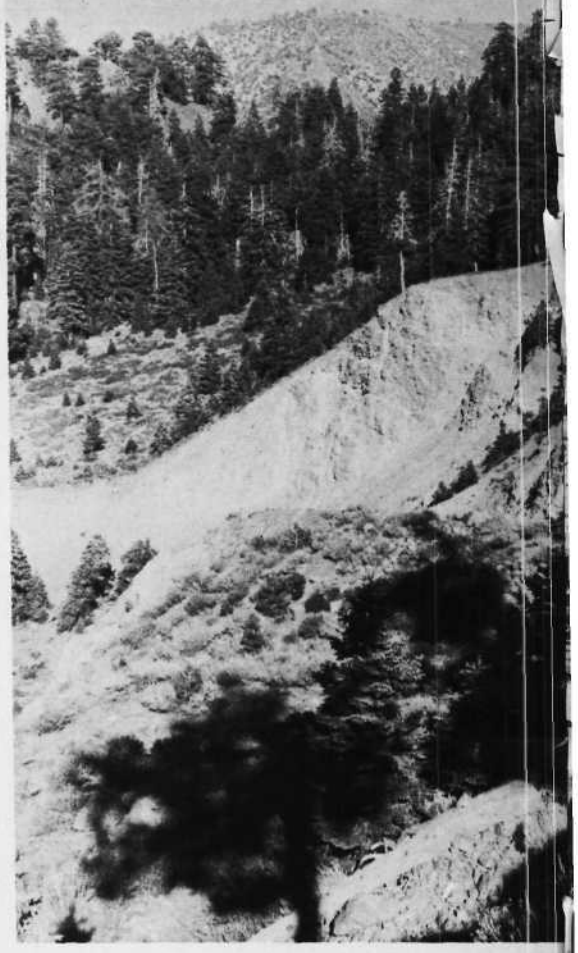
Geologists refer to the San Gabriels as a gigantic *horst* (an upstanding mass between two faults) that is transected by numerous shear, fault and shatter zones. No other large mass of crystalline rock in Southern California is believed to have been subjected to such thorough fracturing. The result of this faulting and attendant metamorphism is visibly evident in the talus slopes and the faces exposed by road cuts.

The Big Pines Recreational Area lies, for the most part, along Blue Ridge at the eastern end of the San Gabriel Mountains. Here, the jagged backbone of the range reaches its zenith at 10,000-foot Mt. San Antonio (Old Baldy). Lying between two great faults, the San Andreas and Vincent Thrust, Blue Ridge forms a high, very narrow, ten-mile wedge between two 9,000-foot peaks.

Its southern flank is a sheer, 2,000 foot escarpment marking the head-waters of the east fork of the San Gabriel River. It is this striking culmination of geologic forces which gives the area its diverse topography and recreational value.

The hub of the Big Pines Area is the Visitor's Center; a short distance east of the junction of Angeles Crest (2) and Big Pines (N-4) Highways. The center is ably manned by U. S. Forestry personnel. We found Ranger Frederick Marshall most accommodating.

A stop at the center will provide the visitor with maps and nature trail guide books. Information regarding the special programs being offered—Saturday evening programs in the amphitheater and



Actinolite crystals are found throughout this area near the huge scarp on Wright Mountain at the head of Heath Canyon.

conducted auto tours on weekends—will be available. Trail conditions should be checked here by anyone planning back country hikes. A very interesting exhibit of trees in the Angeles National Forest is on display in the lobby.

From the center, roads lead in all directions to the many points of interest. Immediately west, a paved road goes north one mile to Table Mountain Campground. A short distance beyond, it ends at the ski area and the amphitheater. The conducted auto tours also start from this point.

Table Mountain Campground (el. 7,000') is the largest in the Big Pines Area. It is well laid-out among the trees and each unit has a table and stove. Water and restrooms are within a reasonable distance of every campsite. This is the only campground having adequate trailer space. Trailers may be taken to Blue Ridge (el. 8,000') and Guffy (el. 8,000') via a very narrow, dirt road and to Grassy Hollow (el. 7,300'), though there is limited space for them. Forestry Service does not permit trailers in Lake, Peavine, Appletree, Lupine or Cabin Flats campgrounds.

Highlights of the many things to see and do during a visit to this area include swimming and fishing at Jackson Lake. A nice picnic site is also provided.

Three self-guided nature trails will take you on interesting tours through the forest. There is one leaving Table Mountain campground, another takes off near Inspiration Point and travels along Lightning Ridge. The third and longest trail begins near the Visitor's Center and climbs up to the Blue Ridge campground.

A drive west on Highway 2 to Vincent's Gap follows along Blue Ridge. You will see spectacular views of the Great Mojave Desert and the deep valley of the East Fork of the San Gabriel River. Stop at Inspiration Point for an "airplane" view of this mountain country. A diorama identifies the various peaks.

Vincent's Gap is a narrow rib joining Blue Ridge and 9,400-foot Mt. Baden-Powell. The awesome angle of the sheer

slopes of the San Gabriels is well illustrated from this vantage point.

Two popular trails begin at the Gap. One leads up to steep, switch-backs to the summit of Mt. Baden-Powell. Ancient Limber Pines will be observed along the trail. They are believed to be over 2,000 years of age and the Forestry Service proudly points out, "They are the oldest living things in the Angeles National Forest."

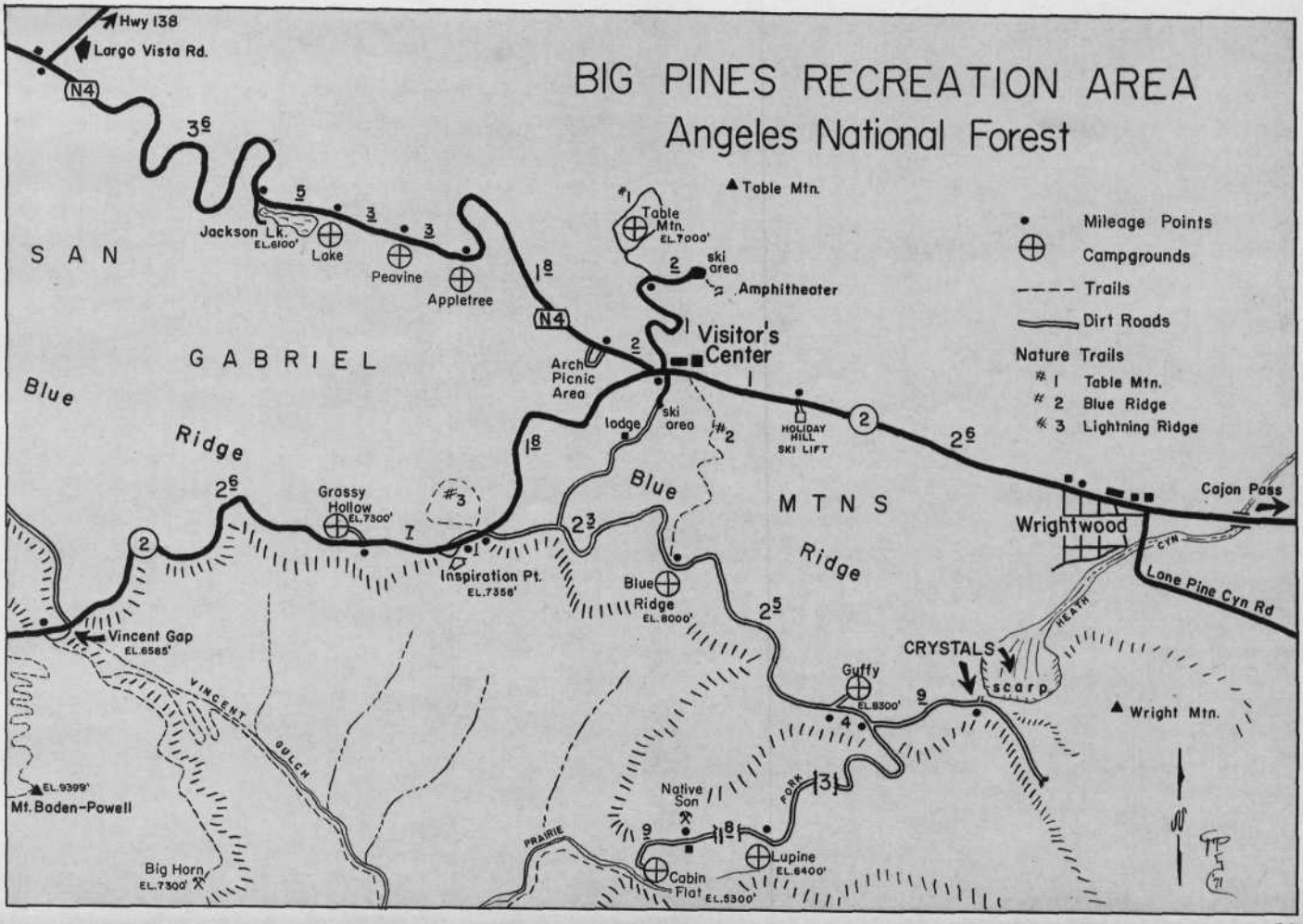
A second trail leads out and around the eastern flank of Mt. Baden-Powell to the old Big Horn Gold Mine. This is not a difficult hike—1.8 miles with a gradient of a little over 1,000 feet. The breath-taking views are reward enough; though the ruins of the mine operation are photogenic and will cause wonder at the difficulties men can overcome to obtain the golden treasure.

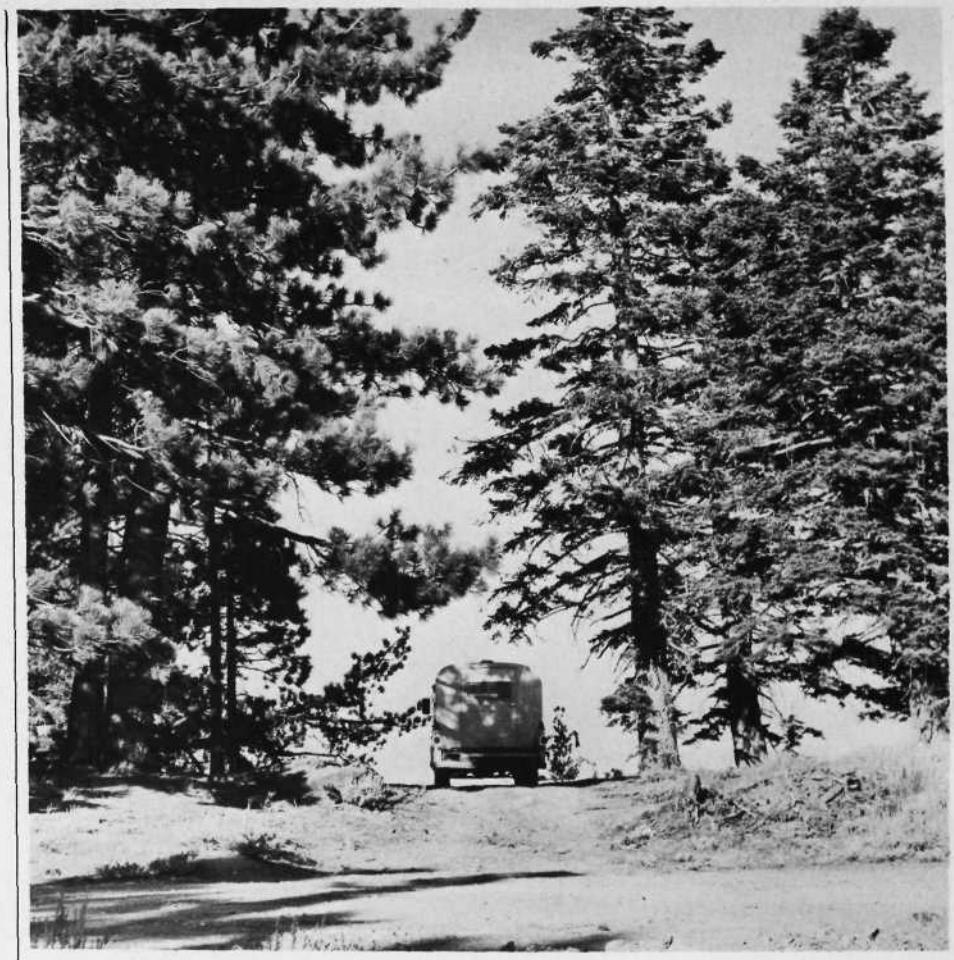
The Big Horn Mine's greatest period of activity was from 1903 to 1906 when a reported $40,000 was taken from six adits driven into a 25-foot quartz vein. There was a resurgence of mining in the 30s. The ore averaged $2.55 per ton and values were recovered with a 50-ton flotation mill. The mill has long been idle.

Fine cabinet specimen of actinolite crystals from Blue Ridge.

A number of bottle collectors have tried their luck around the old camp without much success. The bottles were probably tossed over the mountainside and didn't survive the steep drop.

For an off-pavement trip, try the dirt road just north of Inspiration Point .It wanders east along the Blue Ridge for five miles then rapidly drops, via switch-backs into Prairie Fork. Spring comes late in the high country and June should find Indian Paint Brush, yellow composites, Scarlet Bugler, Yucca and Elderberry among the many flowers in bloom. Blue Ridge (el. 8,000') and Guffy (el. 8,300') campgrounds will provide visitors an al-





Good graded roads provide easy access into the wilderness areas of the San Gabriels where high elevation and pine trees make for cool weekend trips during the hot summer months.

pine vacation site bathed in the splendor of spring.

The rapid descent into Prairie Fork brings warmer temperatures due to the lower elevations (5,300'). A clear, rushing stream will be forded, Lupine campground and the Native Son Mine passed, before the road ends at Cabin Flats campground. A hiking trail leads west along the creek to the main trail down the East Fork of the San Gabriel River.

Rockhounds will find good mineral collecting in an exposure of Sierra Pelona schist along the eastern end of Blue Ridge. The location is one mile east of Guffy Campground. A huge scarp on the northern side of Wright Mountain is the result of intense shattering and rapid weathering along the fault zones. The bedrock eventually breaks away and forms great talus slopes in the canyon below. Actinolite crystals occur on the ridge and in the talus slopes.

Actinolite is one of a series of complex silicates of magnesium, iron, calcium and aluminum of the amphibole group—the common rock-forming minerals to be found in igneous and metamorphic rocks. It is abundant at this location where it is generally found as well-worn, rounded, dull-greenish boulders of intertwining, coarsely-bladed crystals. When broken, they reveal the good color and crystallization typical of this location. Needle-like groups and single crystals may also be collected. Of particular interest are the specimens with bright-green actinolite crystals deposited upon milky quartz.

Bird watchers will find the Arch Picnic Area an excellent locale for observations. The number of species which may be seen during the morning and late afternoon hours is surprising.

These are but a few of the numerous recreational experiences to be enjoyed within the Big Pines area. Each year the region's popularity increases as more and more people escape the confinement of city and urban life. A few hour's drive brings them to the soft quiet of a pine forest so naturally fragrant it is intoxicating. Embraced in the comforting arms of nature they can find peaceful relaxation and "Recreation in the sky." ☐

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— A COLORFUL WORLD OF ADVENTURE —

Misleading Mourning Dove

by K. L. Boynton

THE SOBBING notes of the mourning dove, trembling out into the desert's vast desolation sound like the last farewell of a poor, lonely bird whose brave battle against terrible odds is about to end. Indeed, it would seem so, for how could so frail a creature survive in this torrid land of sunscorched sage and whirling dust devils—so far, far from water?

But then there's a stir across the face of the desert; a whir of strong wings as dove after dove rises from the sage swiftly skyward, dropping fantailed to vanish into the brush again. Far from being about to hand in his dinner pail, the lamenting mourner is obviously hale and hearty, very much at home in the open desert, and with plenty of company.

He is also a great believer in tribal increase with broods produced early and often. Mourning dove housekeeping jumps the gun in the spring, getting off to a start in early March and continues with vigor well into September. At least three, and perhaps as many as six batches of offspring are turned out in one season. Most of the youngsters therefore hatch in the peak heat and worst of the drouth in summer, yet they are raised successfully even far from water.

This is a most astonishing situation, for while the adult birds can fly to distant water holes, the hatchlings and nestlings can't and they need even more moisture if they are to survive and grow.

Research shows the mourning dove's association with arid conditions must be a very ancient one to account for the exceedingly durable product around today. For here is a bird unusually well equipped, both physically and psychologically, to cope with the worst the desert has to offer.

Mourning doves, first of all, are temperamentally a calm, collected lot, relaxed of mien, with a life style exceedingly offhand. Why make a complicated nest, for instance, when a plain old platform made of a few sticks or coarse grass is all that is needed to keep the eggs from rolling off? And why make a big deal of building even this? Mr. Mourner brings a few odds and ends of material for mother to arrange after a fashion. What with frequent times out for cooing, preening and eating, the pair may take three to six days to build a flimsy structure that could be slung together in a matter of minutes if they put their minds to it.

Eventually Mrs. M. gets around to depositing a couple of white eggs and then the calm but highly efficient incubation of 14 days gets underway. She handles the sitting job during the night. Late in the morning her spouse arrives to begin his long stint of eight hours, not to be relieved until late afternoon when she takes over again. The eggs are thus sat on constantly for the entire time, protected from the night's cold and the heat of day. Papa's yen for such long egg-sitting is a surprise, since broodiness of such pronounced nature is not common in gentlemen birds. Biologists checking into this have found that his frame of mind is produced by the same hormone that promotes egg sitting in the female: prolactin, manufactured by the pituitary gland.

Nor is broodiness all that prolactin does to these birds. As the incubation period draws to a close, this hormone becomes increasingly busy in their crops. It enlarges their size considerably and works on the cell lining. A milky secretion begins to come, chemically quite close to the milk of mammals, which incidentally is also produced in these animals by

action of this same hormone. This "crop milk" manufactured by the dove parents will serve as food for the soon-to-hatch young until they are old enough to take on the tribal diet of seeds.

Feeding begins a few hours after hatching. The two youngsters are fed at the same time. The adult bird opens its beak, the youngsters put theirs in and the crop milk is literally pumped into them in a kind of bowing motion. All the moisture the squabs need is supplied by this liquid died—compliments of their parents' interiors. This is the basic reason why the young can be raised anywhere in the open desert, far from water. Composed of some 13 to 18 percent protein and 6 to 12 percent fat, crop milk is so nutritious that the youngsters develop at astonishing speed. Ten days from hatching they can fly, and in another couple of days leave home for good. The whole time needed from egg to farewell is only thirty days, when the parents can then check off this batch as done, and commence all over again.

Key to the mourning dove's remarkable production schedule lies in the ability of the adult birds to thrive under hot and arid conditions while under the strain of egg-making, egg-sitting, crop-milk production and feeding the young. It isn't easy. Papa, for instance, sitting on the nest in the heat of day, can't leave the eggs exposed to the sun for a minute. Yet he has to keep his own temperature within safe bounds, his water balance adequate, and do it without food or water for eight long hours. To be sure, his being a seed-eater is an advantage, for a twice-a-day feeding schedule is all he needs. Stuffing his crop full while he's off work he's set to let his digestive works process the food while he's sitting. But how does he keep cool enough to make it through the hot day without leaving his post of duty?

Desert biologists Bartholomew and Dawson put them through their paces in the laboratory. Attaching temporary thermometers, they recorded how the bird's deep body temperature and that of various locations on its body responded to differences in air temperatures. Normal for them is about 106 degrees daytimes which they maintained easily in air temperatures up to 97 degrees. As the heat increased, the temperature of their feet and legs went up with it. When the temperature fell, these bare areas cooled quickly, helping to unload excess heat from the whole body. Panting and throat fluttering gets rid of heat via the respiratory system, and when fast action is needed, the doves hold their wings out exposing places on their sides which are very thinly feathered, and through which more heat is lost quickly. All in all these birds have excellent tolerance for high temperature, and keep their body temperature below that of the air for as long as two hours, at very low humidity, even though the sun is making the air 113 degrees around them.

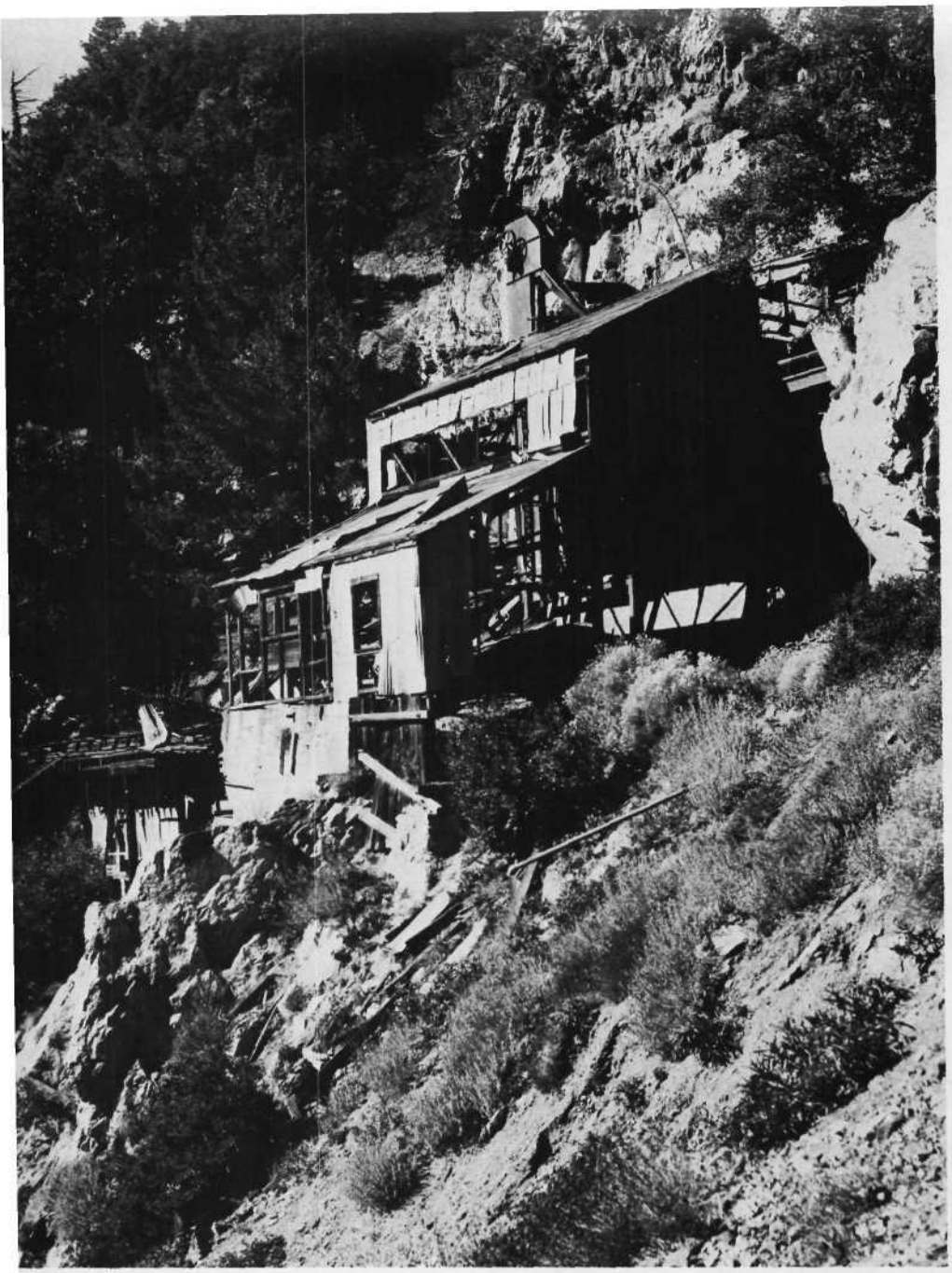
So much for temperature control. But how about water loss? Bartholomew and Dawson found the mourning dove has a fancy anti-dehydration system of its own. It can suffer a body weight loss of 17 percent in going without water in high temperatures for 24 hours with no ill effects simply by taking its first drink of water, dove style. It seems that while most birds can only take a billfull of water at a time and must then tilt back their heads and let these few drops trickle down their throats, the dove-pigeon tribe can leave their bills in the water, and with the pumping mechanism in their gullets, pull in quantities fast. Within minutes the body weight lost in previous dehydration is restored. The mourners also have now tanked up enough to get them safely through the next day —a physiological setup much like that enjoyed by burros. For the doves, the quick loading system is a great advantage since they may nest as far as thirty miles from a water hole, and must make a daily round trip to drink. Extra water is needed

out to attract the ladies, coo about three times a minute. Mated males, busy with household chores, get out a coo every six minutes or so, unless it is between batches when they do somewhat better. (Mourners pair for the season at least, so there's no need for added wooing song, which helps make up for the work involved in dove fatherhood.) High winds discourage cooing as it is hard for a fellow to keep his balance on a cooing perch. Time of day is important. Mackey noted that in a two and a half hour period just before sunrise, a mourner may deliver as many as 309 coos without half trying—the last one sounding just as dejected and mournful as the first.

Aside from the bachelors who may be lonesome but expect to correct the situation immediately, the mourning dove has little to lament about. Nor is his song in reality a sad one. It is an ancient melody, telling of the close harmony that has evolved through the ages between his clan and the timeless desert. □

for egg production and making crop milk during the breeding season, and since doves are such avid family raisers, this is most of the time.

The song season is likewise most of the time; one big coofest from March 1 through September. Cooing, it seems, according to Zoologist Mackey's findings, varies in frequency depending on a number of factors. Marital status is one. The bachelors,



Despite the high elevation, rugged terrain and vulnerability to the elements, mining engineers constructed buildings housing heavy equipment (left) and dug extensive tunnels into the mountains (opposite page) in their search for gold.

GOLD MINING, both placer and lode variety, has played a long and prominent part in the saga of man in the San Gabriel Mountains of Southern California. Stories of gold in the mountains go back as far as the 1770s, although most of these early reports are vague and undocumented.

The first real gold rush in the range was in Placerita Canyon, near present-day Newhall, in 1842—six years before Marshall's famous discovery on the American River.

The largest gold strike took place on the East Fork of the San Gabriel River. The precious metal was discovered in the canyon gravels in 1855, and for the next seven years the East Fork was the scene of frenzied activity, an estimated two million dollars being recovered. Soon afterward, smaller strikes occurred in Big Santa Anita Canyon and on Lytle Creek.

During the next half century, prospectors rushed into the mountains at every rumor of bonanza, tearing up stream beds and hillsides in their frantic search for wealth. Few other Southern California mountain ranges have felt the trod of miners' boots and the thud of his tools as have the San Gabriels.

Of all man's prospecting in the San Gabriels, none were as spectacular nor as harrowing as the high altitude lode mining, far up on the rugged slopes of the highest peaks in the range, undertaken around the turn of the century. The Hocumac and Gold Ridge on Baldy, the Allison and Stanley Miller above the gorge of the East Fork, the Baldora, Eagle and Gold Dollar high up on San Antonio Ridge, the Big Horn on Mt. Baden-Powell — these were incredible feats when you consider the elevation, rugged terrain, inaccessibility and vulnerability to the elements.

Most of these gold mines had a stamp mill perched on a mountain shelf nearby, with heavy machinery for crushing ore. The task of lugging this machinery up steep slopes and hauling out the tons of crushed ore required a high degree of fortitude and strenuous work.

The most famous and longest lasting of these high-altitude lode mines was the Big Horn, perched at almost 7,000 feet on the precipitous east slope of Mt. Baden-Powell.

Charles "Tom" Vincent (after whom Vincent Gap and Vincent Gulch are named) discovered the Big Horn in 1896, the climax of a long search for the lode that fed the rich placers of the lower East Fork. A mountain man, prospector and big game hunter, Vincent lived for years alone high up in Vincent Gulch. His rustic log cabin, which he hand-hewed, was filled with the heads of big horn sheep, grizzly bear, black bear and deer. He discovered the promising quartz veins while tracking big horn sheep high on the mountain slopes, and for this reason named his prospective mine "The Big Horn."

Vincent formed a partnership with two other prospectors named Delaney and Lockwood to develop the mine. Several tunnels were dug deep into the mountainside and some paying ore was recovered. But the need for expensive crushing equipment and the difficulty of transporting the ore out was more than these three prospectors could handle.

In 1902 Vincent and his partners sold their holdings to the Lowell and California Mining Company.

It was under Lowell and California that the Big Horn Mine went through its brief "golden age." First, a rough wagon

Gold Rush in the San Gabriels

by John W. Robinson

road was hacked out of the mountainside, traveling from Valyermo in the Mojave Desert up Big Rock Creek, across Vincent Gap and around the steep slopes of Baden-Powell to the mine. The road was completed in 1903.

Then a 10-stamp mill for crushing ore was erected on precipitous slopes outside the diggings, and a series of tunnels and shafts reaching far into the bowels of the mountain were gouged out, following the discontinuous quartz veins. Ore was hammered from the veins deep in the mountain, then loaded onto small ore cars and rolled out to the stamp mill for crushing. Large horse-drawn wagons then carried the crushed ore down from the mountains.

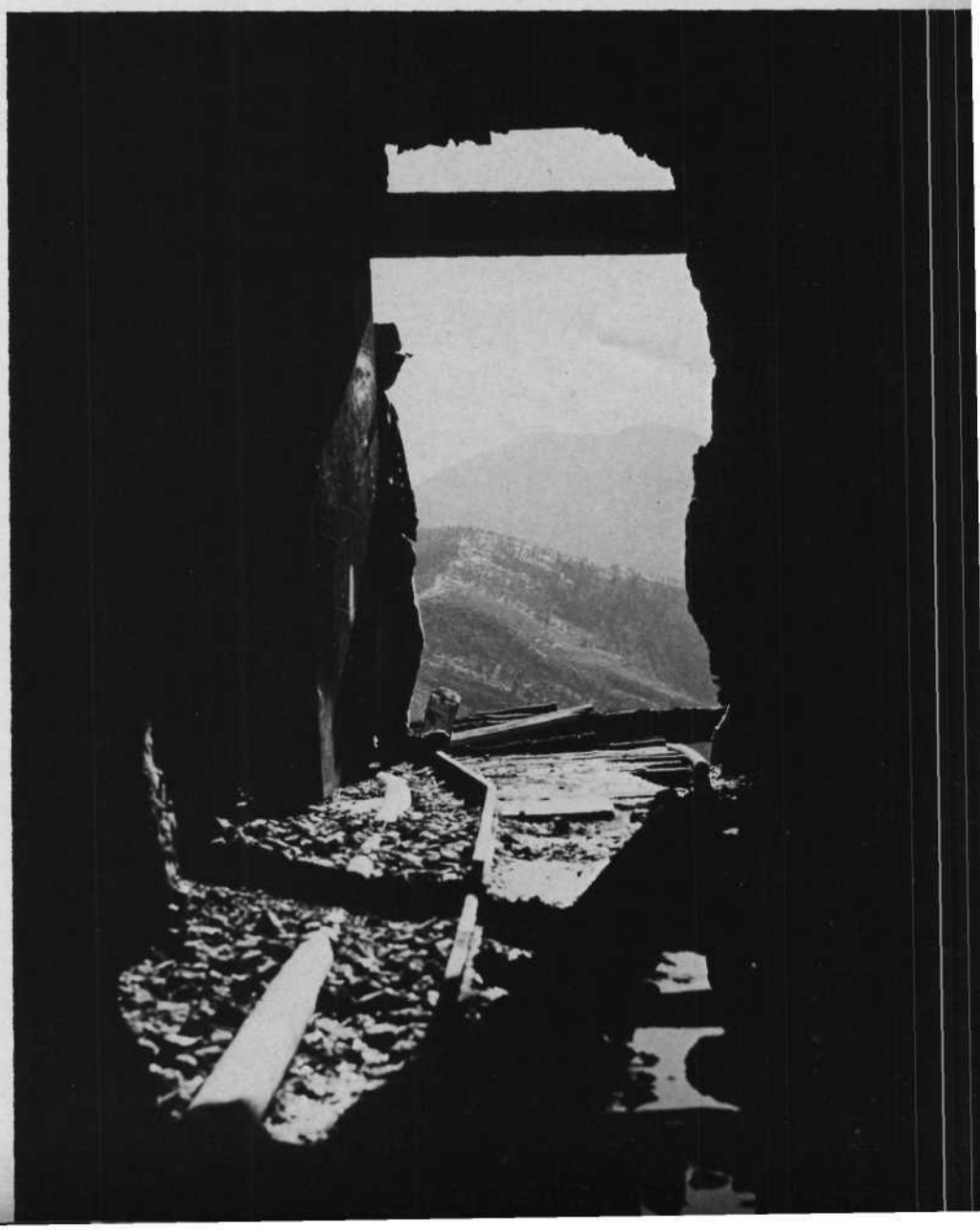
For a decade the Big Horn prospered, employing over a hundred men at its peak of activity (1903-08), yielding several hundred thousand dollars in gold. Then, the rich veins petered out or became low grade, the company began losing money, and the effort was abandoned. Mining gold has always been an enterprise wrought with risk; feast one month can be followed by famine the next, and there is no sure way of predicting the course of events.

There was a brief renewal of activity in the 1930s, when the American Metal Company leased the Big Horn and put in a 50-ton flotation mill operated by power brought from the Southern California Edison Company. But the returns were not worth the expenditure, and the mine was given up in 1936. One last minor flurry occurred in 1941, then the Big Horn shut down completely.

Today it lies crumbling and forgotten, a slowly fading monument to man's quest for mineral wealth in the San Gabriels.

You can walk to the Big Horn Mine from Vincent Gap on the Angeles Crest Highway. From the Vincent Gap parking area, a wide trail—the remains of the old wagon road—contours around the massive east flank of Mt. Baden-Powell to the mine ruins. The route, shaded by stands of Jeffrey pine and white fir, offers an almost continuous panorama down into the East Fork of the San Gabriel, with Old Baldy and its sister peaks rising as a massive backdrop.

In two miles of walking you pass an old mine building, round a bend, and reach the old stamp mill, clinging precipitously to the rocky hillside. The big mill building is dilapidated and dangerous to enter. Above and behind the mill is the entrance to the main tunnel, dark and watery. The walk to the Big Horn makes an ideal afternoon jaunt for both history buff and photography enthusiasts. You can not but marvel at what man once did high on this lonely mountainside. □



Color photograph of the ruins of the Sinagua Indians at Arizona's Walnut Canyon National Monument on opposite page was taken by Robert F. Campbell, Concord, California.

ARIZONA'S WALNUT CANYON

by Milo A. Bird

On November 30, 1915, President Woodrow Wilson proclaimed Walnut Canyon, seven miles east of Flagstaff, Arizona, a national monument. He was not a bit too soon for vandals were rapidly destroying the only heritage left by the Sinagua Indians when they deserted their canyon somewhere around 1250 A.D.

Fortunately, the establishment of a national monument ended the vandalism and preserved about 400 cliff-dweller homes. Archeologists called the Indians *Sinaguas* from two Spanish words meaning "without water" because they were masters of dry farming.

About 200 million years ago that part of Arizona was a vast sea-level plain covered by wind-swept sand dunes. Eventually, it submerged and for millions of years was the bottom of an ancient sea where silt and sediment covered the ancient dunes to a depth of several hundred feet. Then during an uplift era some 3 million years ago it was raised until it became a high plateau covered by dense vegetation.

Rivers meandering across the plateau gradually cut canyons through it, of which Walnut Canyon is but one. While the river was cutting Walnut Canyon deeper, massive erosion widened it and rain water running down its sides washed softer layers from between harder ones creating a series of limestone overhangs well below the rim and somewhat above the Toroweap Formation.

Prehistoric Sinagua Indians lived in structures such as this in Walnut Canyon for centuries until, for some unknown reason, they abandoned their homes around 1250 A.D. Note limestone overhang which made natural roof. Black and white photos courtesy Walnut Canyon National Monument.

During the early part of the Twelfth Century—1120 A.D. by tree ring dating—a group of Indians moved into the canyon and built their homes by erecting rock walls along the fronts of the recesses, and cross walls to separate one home from another.

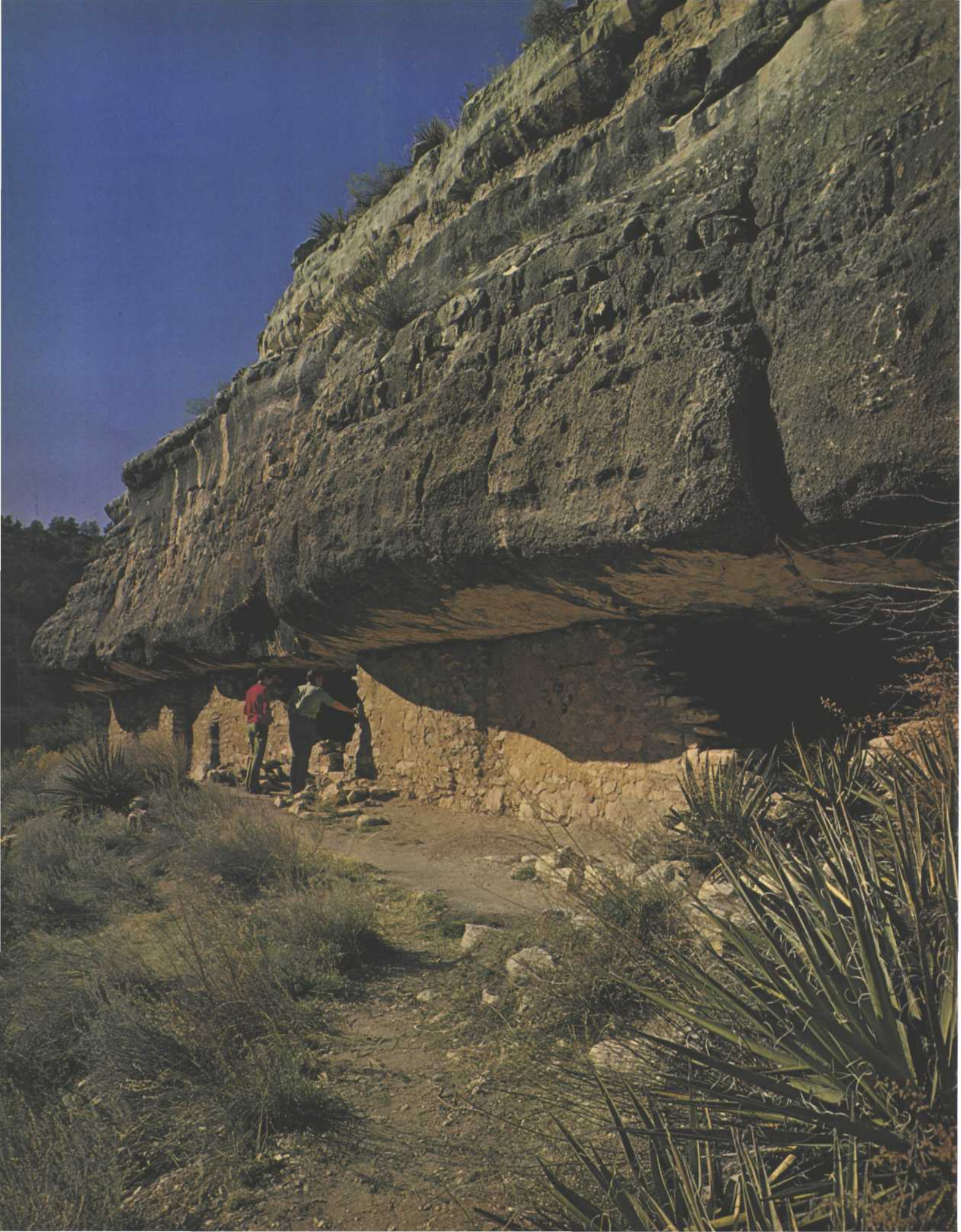
Since the boulders used in the walls were of odd sizes the Indians did not attempt to lay them in rows like bricks but set them haphazard fashion using clay for mortar and for inside plaster. In every case the front walls were set far enough back under the overhang that water running down over it would not wash out the clay mortar. Furthermore, those walls had to be erected far enough back from the edge of the precipice to leave a path over which they could travel.

Two things made this location attractive to the Indians. Food and edible shrubs abounded in the canyon and in surrounding forests while deep soil a mile or two north of the rim was covered with volcanic ash which retained what little moisture fell upon it, thus making it an ideal place to practice their dry farming techniques.

On this ash-covered land, they had little difficulty raising corn, beans, and squash, although they had to maintain constant vigil during their 115-day growing season to protect their crops from animals.

Another important consideration was a constant supply of water which was available in the river below their homes. The young women, those with strong legs and good climbing ability, could go to the river and return with clay pots filled with water whenever necessary.

Living on such a precipitous hillside, however, had one serious drawback. Mothers who have trouble raising children



in a flat yard today can appreciate the troubles those Indian women had raising theirs on a ledge barely four feet wide with a hundred-foot drop on the outside! Therefore, it must have befallen the lot of the old women, the grandmothers, to tend the toddlers while the mothers were kept busy grinding grain, harvesting edibles in the woods, and cooking meals.

A trip around the "Island Trail" in Walnut Canyon is well worth while. After paying your fee at monument headquarters on the canyon rim, obtain a pamphlet describing objects at numbered signs and then descend by stone and concrete steps 185 feet to the trail which is safe and easy to follow.

As one progresses around the "island" which is a high peaked peninsula extending into the canyon, one finds numbers corresponding to those in the pamphlet, each describing a house, a tree, a bush or a geological feature which might otherwise be overlooked.

In addition to 25 or 30 houses along the trail, one's attention is called to various plants used by the Hopis at present and which archeologists assume were also used by the Sinaguas. Elderberry grows as do numerous wide-leaf yuccas, all parts of which seem to have been used. The Indians ate yucca buds, young stalks, other fleshy fruit and seeds. They produced fibers from its leaves and wove them into clothing, nets, ropes, quivers for their arrows, baskets and ceremonial objects. They wove long yucca leaves into mats and sandals. Since yucca roots contain saponin they used them for soap while bathing or shampooing their hair.

Joint fir, commonly called Mormon tea, was used medicinally. Bark from Rocky Mountain juniper was used for sandals while branches were used for digging. Barberry shrub branches were used for arrow shafts, and portions of its inner bark made excellent dye.

Black walnut trees now growing in the canyon gave rise to its present name. Nuts from these trees were used as food by the Indians and by any rodent with

San Francisco peaks as seen through the pine forests from Walnut Canyon.

TREE RING DATING

Since tree ring dating has been mentioned in this article it might be well to explain how it is done. It is based on the fact that trees grow more during a wet year than they do during a dry one. Therefore, their rings are wider or narrower, indicating wet and dry years. By taking a core from an old tree it is possible to determine what the weather has been like in the past, and since it is not unusual for some of the largest trees to be 400 years old or older they will give a record back that far. A comparison of its wide and narrow rings with those of a dead tree may give a record still further back in time.

When rings of trees used in the construction of homes in Walnut Canyon were compared in this way it was determined that those trees quit growing about the year 1120 A.D.

This method was also used to determine the year a volcano erupted a few miles north of Flagstaff, and it established the years of the great drought which occurred from 1276 to 1299.

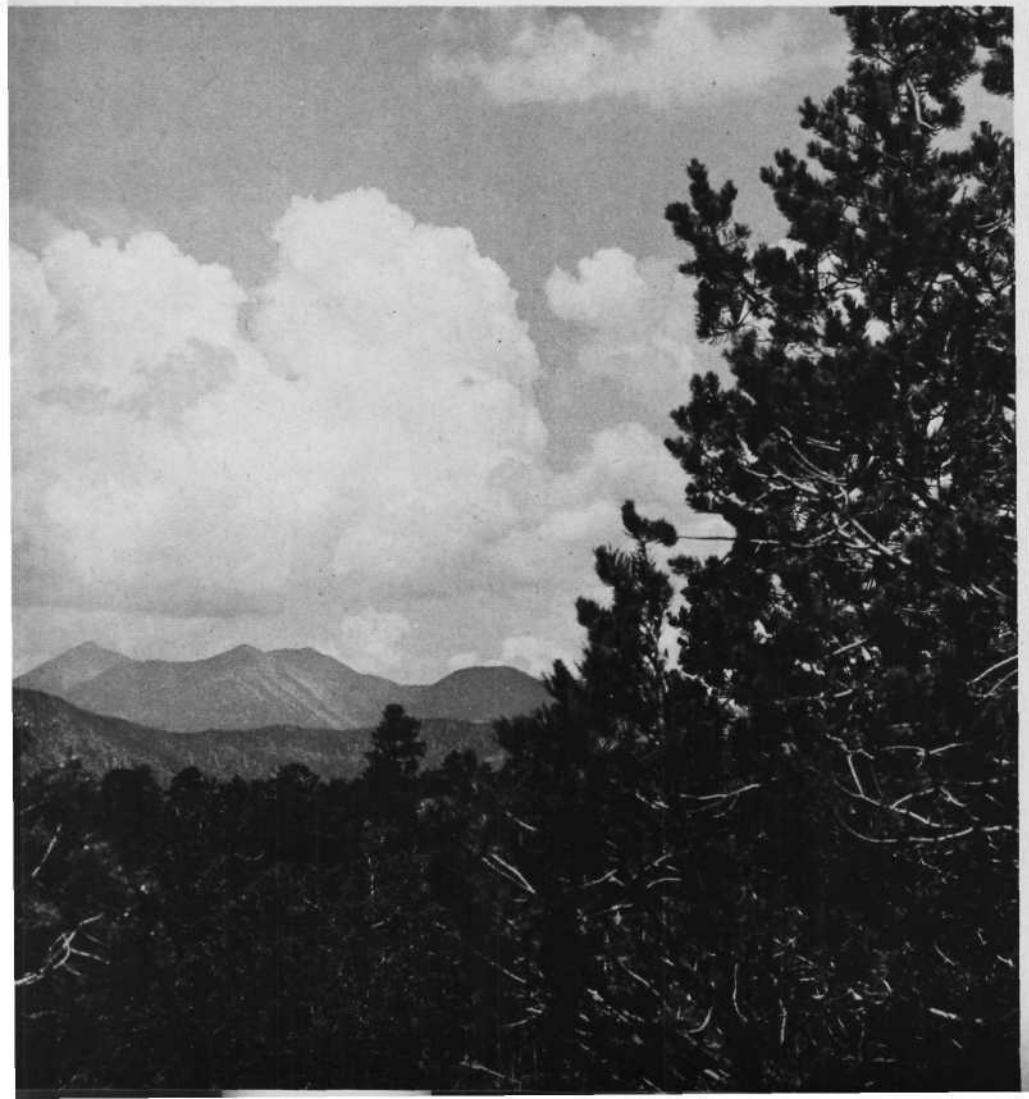
Ruins under the ledges on the east side of the canyon are shown in the top of the photo with the precipitous cliffs below.

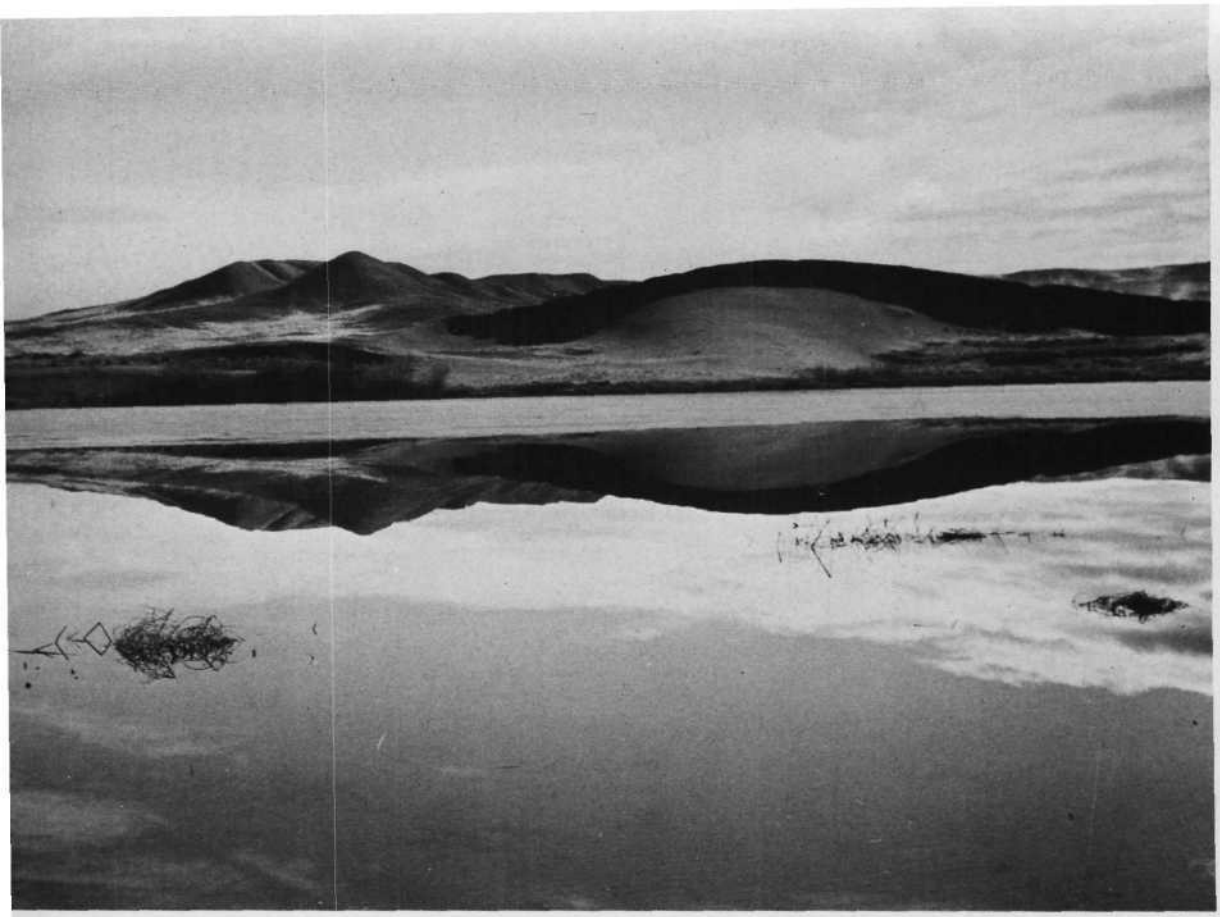
teeth sharp enough to cut through the shells. Black walnut husks were used to make a golden-brown dye.

Normally, food was plentiful along the canyon, but judging by bones found in kitchen middens, there were times when the Indians were forced to eat anything they could get. Whether it slithered, walked or flew, if they could get their teeth into it, they ate it.

Archeologists believe the Sinagus deserted the canyon about 1250 A.D., possibly because of a drought which preceded the great drought of 1276 to 1299. They also believe that some of them joined other tribes for certain Hopi legends deal with life in Walnut Canyon.

Although the homes in Walnut Canyon are not as large as Montezuma's Castle or as those in Canyon de Chelly they are easily accessible from Highways 66 and 40, seven miles east of Flagstaff, and are well worth a visit. □





Bruneau Sand Dunes are reflected in the clear waters of the lake created in 1952 by the construction of the Strike Dam on Idaho's Snake River. Some of the dunes are even higher than Africa's Sahara Desert.

IDAHO'S BRUNEAU DUNES

by Mike Misner

WITHIN THE boundaries of Idaho are desert lands with a spell that seem to compress all eternity into a small bit of time. The Bruneau Dunes is such a land.

For three and one-half million years, streams have borne sand and gravel from the nearby snow-capped Owyhee Mountains to the Snake River Valley. Southwesterly winds, sweeping across the valley floor, have picked up the deposited sand particles and over the countless centuries have formed a range of dunes towering 468 feet above the desert floor.

This spectacular display of Nature's handiwork is in Idaho's remote southwest desert near State Highway 51, between Mountain Home and the town of Bruneau, (the nearest place to purchase food, gasoline and other supplies).

Considering the uniqueness and the height of the dunes—surpassing even the mighty Sahara Desert's highest by 150 feet—it is not surprising that the State of Idaho recently acquired 2,800 acres of land here for a major state park.

The parched grasses, bent by the wind, reflected the fading afternoon sunlight as we entered the area. Our first stop was at the recently completed Visitor Center manned by the Idaho Department of Parks. In addition to offices and rest rooms, the Center contains several excellent exhibits and illustrations. The Park Manager described the area's plants and animals and related some of its human history.

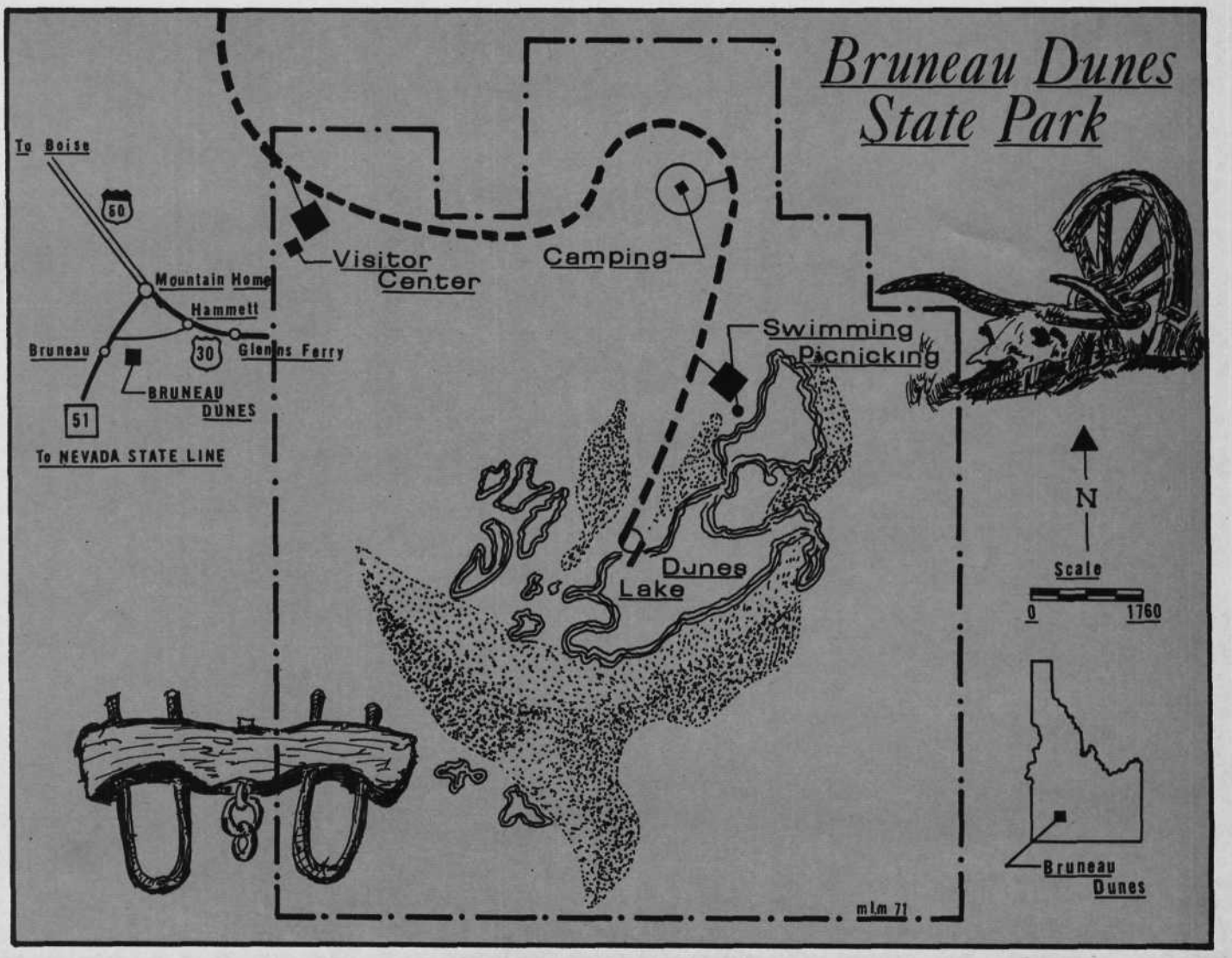
The campground is located a mile or so inside the park. This modern campground is open from about April 15 to October 15. It has 48 developed units complete with fireplaces, tables, drinking water and a centrally located utility building containing flush toilets and hot showers. Sixteen of the units have electrical hook-ups for campers and trailers.

In the campground we asked one of the Park rangers about the origin of the impossible seaside-like scenery of the park. "The Bruneau Dunes are unique in several ways," he explained. "They are composed of fine basalt and granite sand winnowed from the surrounding desert floor by a process known as deflation—removal of the loose particles from the desert floor by the wind. As you travel through the park you will note that the sagebrush and other plants appear to be growing on sand pedestals. The wind removes the sand where it is not held down by the roots."

"The absence of vegetation growing on the dunes indicates that they may move," I said.

"They are shuttling dunes. They travel only a few feet each year," he replied. "During the winter months the largest of the dunes migrate a few feet to the southwest and in the summer they migrate

As it has been for centuries, man's footprints in the sands of time are quickly erased by the desert winds, leaving only a configuration of sun and shadows. Black and white photos and map by the author.



Giant sand dunes stop short of the lake making the location ideal for family picnics. The 2800 acres of land form Idaho's newest state park.

northwest since the prevailing winds reverse direction as the seasons change. These reversible air currents keep moving the sand towards the top of the dunes from both sides. This accounts for their world record height."

"Still another unusual feature of the Bruneau Dunes is the vortices or conical-shaped depressions in some of the dunes," he continued. "The largest of these is between the two highest dunes in the Park. Here, a small depression was formed as the wind direction changed. The whirling action of the wind enlarged the depression by scooping out sand. As the crater grew, the wind action became more violent until the vortex reached the old desert floor. As one looks down into this massive hollow, sagebrush can be seen growing where the old desert floor is exposed."

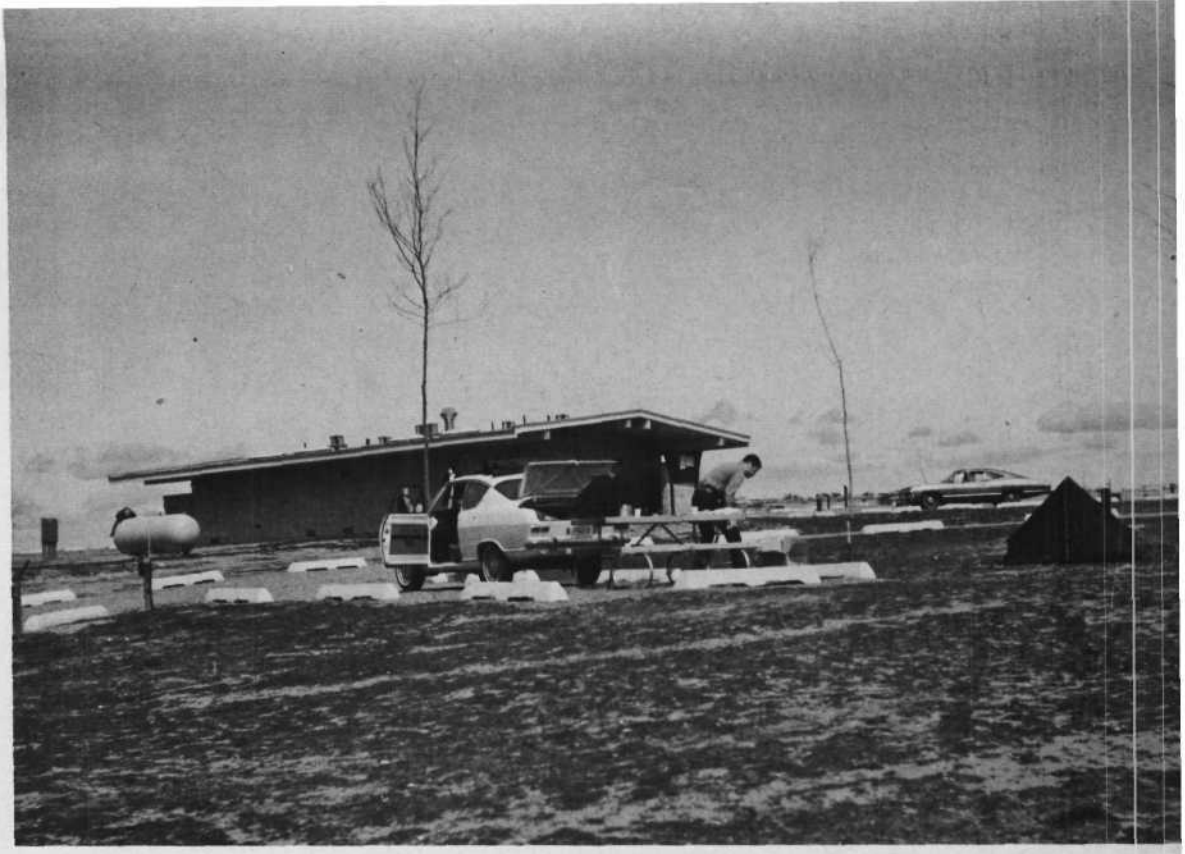
After securing a campsite, we drove to the Dunes Lake for a little fishing. Its crystal water, over 40 feet deep in some spots, abounds in bass, perch and bluegill. The 140-acre lake appeared mysteriously in 1952 after the construction of C. J. Strike Dam located nearby on the Snake River. Geologists report that two small isolated springs were present where the lake now stands. As the water level rose behind the Dam, the discharge of the springs increased noticeably, forming small ponds. In the fall of 1959, the northern-most lake broke through a narrow neck and the two small lakes became one.

A pyramid-shaped sand dune near the lake shore beckoned to us. We scrambled up the steep side of the dune, the fishing forgotten. It took several minutes to reach the top. The view from the summit was superb—the sea-green lake lay directly below; the blond and grey quartz sand of the dunes rolled away to the brown desert floor, and 30 miles to the south, on the Idaho-Nevada border, the magnificent snow-capped peaks of the Owyhee Mountains thrust skyward.

A new bathhouse and dressing room facility, located on the northwestern side of the lake, was an invitation for a refreshing swim after our romp in the sand. Swimming can be a bit daring, however. At certain times of the year the lake harbors a skin fluke which causes a rash called "swimmer itch." The Idaho Park Department periodically treats the lake to control the fluke. Inquire about the itch before swimming.

Several dune buggies and motorbikes churned up long plumes of sand near the campground as we prepared the evening meal. The picturesque dunes offer tremendous sport for off-road vehicles. The bike riders prefer the late winter when the moist sand provides good traction. Then, bikes can climb even the highest dunes.

Wheeling across the rolling dunes in 4-wheel-drives and sand buggies is great fun, too. Most buggies can't master the steep slopes when the sand is dry. Even when the sand is wet, rigs usually spin-out far below the dune crests. As a result of the increasing number of visitors to



The modern campground has paved parking, tables, drinking water, hot showers, fireplaces and rest rooms. It is open from April 15 to October 15.

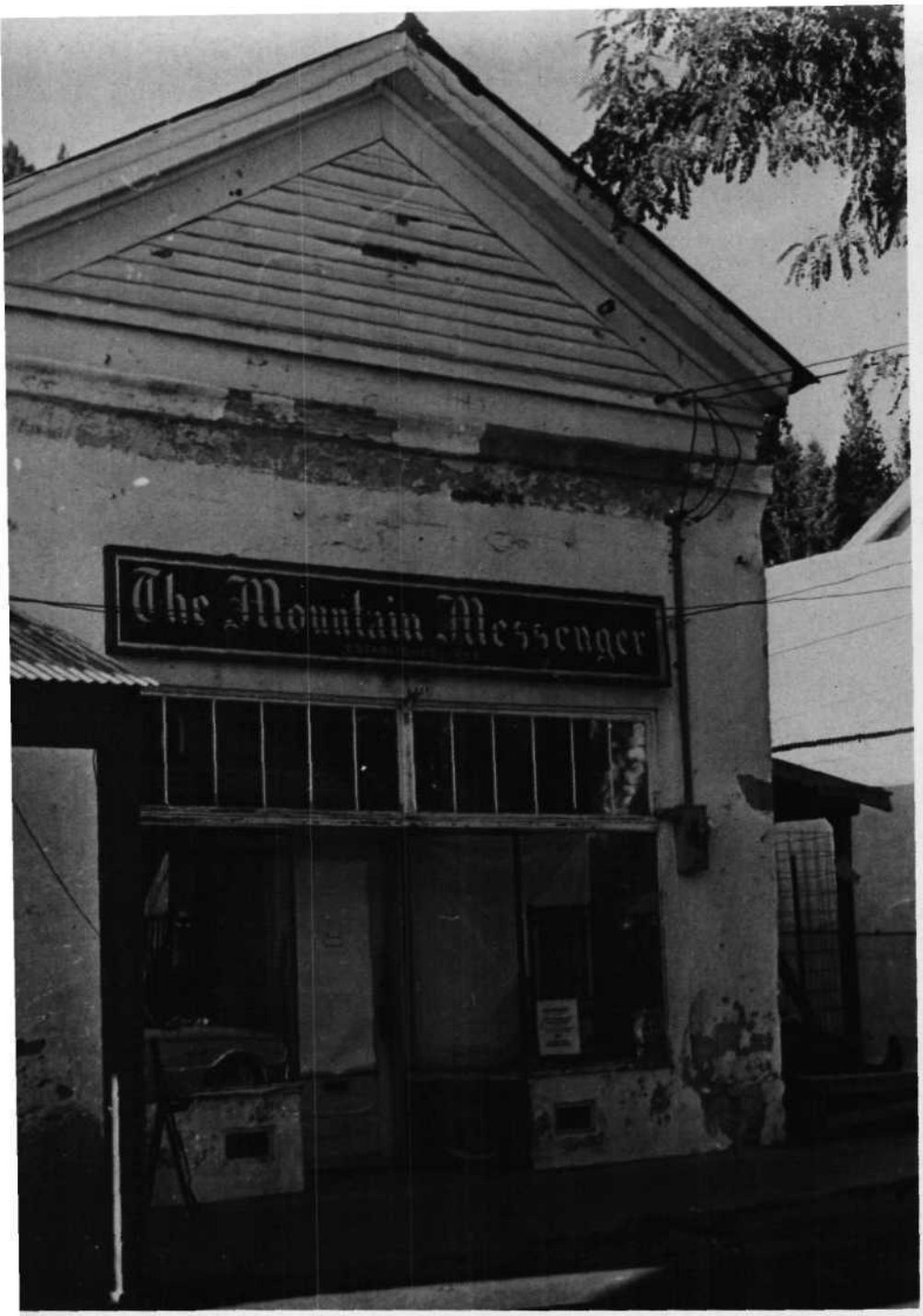
Bruneau Dunes, the Park Department has restricted motorcycles and dune buggies to those areas not frequented by the general public.

The following morning a brisk wind rippled the unstable surface of the migrant dunes as we hiked along the nature trail on the west side of the Park to a small square-edged bluff rising out of the sand.

The sediments of the bluff were deposited in what was once an ancient lake. At the foot of the bluff are several horizontal beds with scalloped edges. The scallops are ripple marks left in the sand by the wave action of the old lake. Many prehistoric animals visited here, including the otter, rabbit, peccary, camel, horse and mastodon. Their remains, in the form of petrified bone fragments, are found scattered around the area. Fresh water mollusks inhabited the lake during this period. Snail, clam and mussel shells may be found in the beds that were deposited in deeper water.

On our return to camp we stumbled across the rotted hub of an old wagon wheel half buried in the sand. The earliest mention of this Bruneau country was from the diaries of the first pioneers who entered the area in their narrow-wheeled wagons. Now the caravans of weekend nomads appear along the desert highway driving truck-mounted campers, buses, motor homes or towing travel trailers. Some even arrive as early as March. The weather favors those who visit Bruneau Sand Dunes State Park in the spring or late fall because the desert shimmers in the searing heat of summer.

When we drove away from the area that evening the dune crests, subjected to the whims of the wind, trailed long streamers of flying sand. And as we looked back on the great serpentine ridges of sand we vowed to return another day to the timelessness of the Sahara-like Bruneau Dunes of Idaho. □



Three of the original structures in Downieville which have survived the ravages of time. First issue of the Mountain Messenger (left) was printed in 1853. First building constructed now serves as a museum (right) with original stone walls still sturdy. The only thing moving on the old gallows (lower right) is the trap door which sways in the wind.

by
Helen
Walker

Nostalgic Downieville

THE NOSTALGIA of gold rush days still lives in the mining town of Downieville in northern California's Sierra County. Although time has dulled its veneer, historically it still recalls the days when it was the richest, wildest and perhaps the most picturesque mining town of that period.

The phenomenal richness of the area was first brought to light when Major William Downie and his motley band of followers stopped along the banks of the river to set up a winter camp in November, 1849. The tempestuous Yuba River had retired under a film of ice, and the gravel along its banks was glazed with an icy cover.

Despite freezing temperatures, Downie and his men picked at the icy crevices in the rocks, and panned the gravel along with its ice and snow. Their efforts were rewarded with a take in gold amounting to $100 to $300 a day.

When it became apparent their provisions would not last until spring, Downie sent part of his men to lower elevations for supplies. Since neither men nor supplies made it back until early spring, starvation had nearly claimed the lives of those left behind. News of the

rich strike along the Yuba spread far and wide. Consequently, when the men and supplies did return to camp, the curious were following close behind.

The newcomers pitched tents and made camps on every gravel bar and piece of flat land available. Now that the snow was melting, and the waters again began to flow in the Yuba River, the earth exposed her ore and yielded her nuggets. Men picked it, panned it and shouted their good fortunes. By summer the banks of the river were so crowded with prospectors that news was said to have traveled 70 miles by word of mouth, in just a mere 15 minutes.

Soon permanent cabins were built to replace earlier tents. One side of the river was called Durgan's Flat — the opposite flat where Downie and his men had wintered was called Jersey Flat. Together they were referred to as the "Forks."

Stories told by miners that experienced those first incredible days of discovery would fill volumes. Jim Crow told how he killed a 14-pound salmon on the bank of the river. He boiled it for a feast—then picked gold from the bottom of the kettle. Men working Zumwalt Flat bragged they were able to produce 5 ounces of gold working only a three-hour day. The Tin Cup diggin's topped that by filling a tin cup with gold each night before quiting.

On Durgan's Flat, a crew of three men working a 60-foot square claim took out just under $13,000 worth of ore in 11 days. Over a period of six months, their take amounted to $80,000. Another party sunk a hole five feet deep, and panned coarse gold amounting to $2,500 in a short two hours.

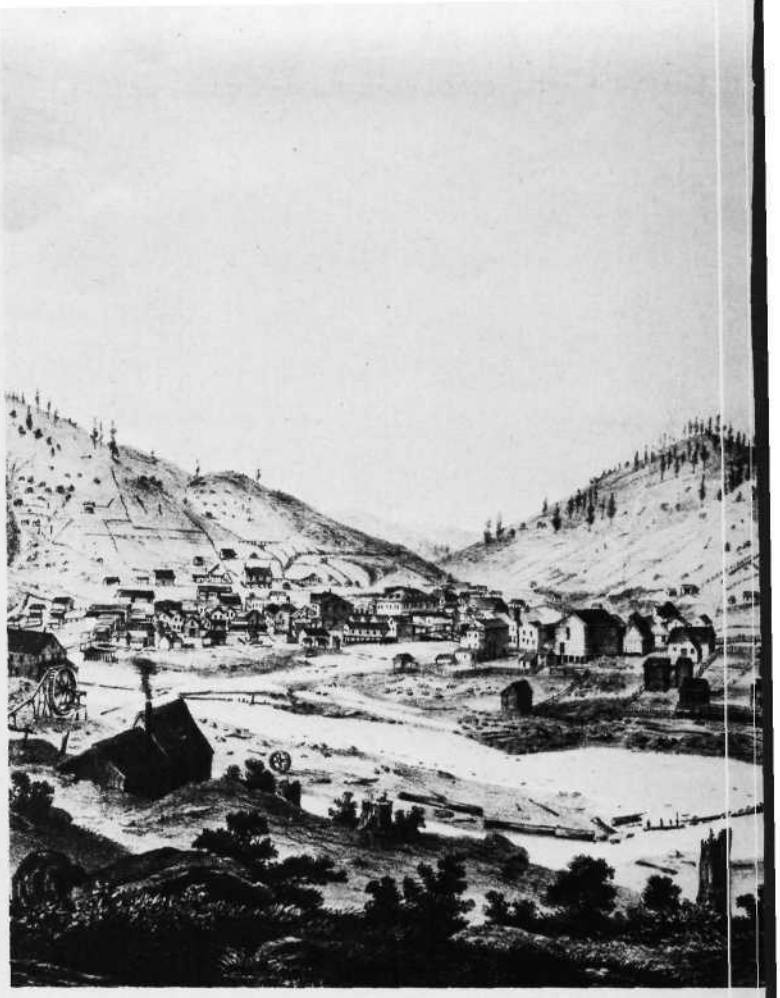
Newcomers were pushed both north and south of the Forks—but vast new discoveries continued to be made in both directions. The honor for the largest single take went to Gold Bluff — two miles north of the Forks. It was a solid gold nugget weighing in at 25 pounds.

Before the first frost settled on the gravel beds in 1850, miners along the banks topped 5,000. A city was born of necessity—it was named Downieville in respect of its first mayor, Major William Downie. Restaurants, hotels and a theater vied for space along with saloons and gambling houses. Mountain schooners and colorful pack trains risked the perils of narrow mountain trails to bring in supplies. Their hazards reflected in the prices they charged for the goods that were hauled in.

Whiskey sold for $16 a bottle, sugar cost $4 a pound and flour brought $1 a pound. Miners were outfitted with pick, shovel and pan for $200. Other commodities followed the same pattern.

Payment for materials was in gold dust. A pinch of dust, or what could be held between a thumb and forefinger, was equal to a dollar. A whiskey glass held $100 worth of dust, and $1,000 was measured into a wine tumbler.

Crime had not been a major issue along the river. However, one infamous incident went down in history as the tragedy of



Downieville as it appeared around 1856. Photo courtesy of the California State Library.

Downieville. A gigantic celebration was planned. It was to be the first Fourth of July since California had been made the 31st state. Miners from all settlements up and down the river collected. Speeches were given, old friends tried to out-brag and out-drink each other.

Fred Cannon, a popular miner on the river, and his two buddies left the saloon late that night. Arm in arm they zigzaged their way down dimly lighted streets. As they walked past the house where a young Spanish woman lived, Cannon fell against the front door of her house and knocked it off its hinges. Early the next day, Cannon returned to make his amends. An argument resulted, and the Spanish woman, Juanita, stabbed him. Cannon died!

The incident had a quick sobering effect on the town. The woman was taken into custody, a jury selected, a judge appointed, and a trial was held. It took place on the same platform where the speeches of the previous day had been delivered. Everyone turned out for the event, which lasted most of the day. When the jury returned their verdict—Juanita was found guilty. Friends of Cannon's improvised a gallows on the bridge that spanned the Yuba River. Juanita was hung. Cannon's death had been "avenged."

Miners continued to work the river and its banks—the harder they worked, the more gold they found, and the more impatient and greedy they became. One group managed to flume the entire Yuba River from its bed between Downieville and Goodyear's Bar. Their efforts came to a disastrous end when the winter flood waters swelled the river and swept the flumes away—leaving only splintered wood and disappointment!

Downieville's spirit has survived seven decades without a great deal of change. Electric lights have replaced whale oil lamps; silver coins are exchanged in place of gold dust, and the boardwalks along main street have weathered and creak under foot. Houses, reflecting the quaintness of their day, peer down from steep mountain sides — time seems to have stood still.

The county courthouse, built on Durgan's Flat in 1855, still serves as county seat of Sierra County. Resting on its front lawn is an old arrastra. Alongside the courthouse stands the old gallows used for executions after the year 1857.

Main Street winds quietly through the business area of Downieville. Many of the original buildings still stand and are

in use today. The theater where once Lola Montez, Edwin Booth and others gave performances and were rewarded with gold coin and pokes of dust—today shows a weekly movie.

The *Mountain Messenger Newspaper* building still stands on the left side of the main street. Its first issue came off the press in 1853. Near the end of the quiet street stands the first building to be erected in Downieville. Its walls are typical of substantial mining camp construction where stones laid one atop another in a horizontal fashion. Today this building houses a museum displaying many artifacts of those exciting days of yesteryears.

Today the Mother Lode Highway, State 49, skirts the Yuba River and intersects the business area of Downieville. There are hotels and motels along the river. There are also several campgrounds, both north and south of the town. Summer visitors amuse themselves by sight-seeing, fishing, or panning the banks and streams. Gold is still bought at Costa's store in Downieville—and who knows—there may be a still larger nugget laying in wait along the shore—perhaps for you. Good luck—whether it be fishing or gold panning! □

Notes from the Field

ARIZONA

Apache Trail—Roosevelt Lake

EDITOR'S NOTE: In the March '71 issue we published an article and map on following the Apache Trail from Phoenix to Roosevelt Lake. At the time of the article this was a good graded road. However, since then, it has badly deteriorated. It has not been graded and there are washouts and heavy dust sections. Also, Roosevelt Lake is very low with no camping facilities. This road should NOT be traveled until it has been improved and the lake is once again up to normal.

CALIFORNIA

Gil's Oasis, Inyo County

There is always a feeling of nostalgia and deep regret when another desert landmark falls to the progress of civilization. Gil's Oasis on U.S. 395, seven miles north of Little Lake, has been razed to clear the route for freeway construction. Gil's was not a pretentious place but on a warm summer day it was a pleasant stop for a cool drink or lunch under the shady elms.

Charcoal Kilns, Inyo County

Members of the Eastern California Museum Association have erected a shelter to protect the eroding Cottonwood Creek Charcoal Kilns (see June '71 issue). The Museum Association is very active in preserving historical sites in the Owens Valley. The kilns are located a mile east of U.S. 395, seven miles north of Cartago. A marker and sign identify the road.

San Bernardino County, Wildhorse Canyon

A road has been completed into a new recreational area in the Mid Hills and Providence Mountains region. The Bureau of Land Management has two campgrounds under construction—Mid Hill and Hole-in-the-Wall Recreation Sites—which were scheduled to be ready for use by July.

This region is one of the most picturesque on the great Mojave Desert. There are interesting geological formations, old Indian campsites, former bandit hideouts, ruins of an army fort and extremely fine stands of desert flora including the Joshua tree and Mojave yucca.

The Wildhorse Canyon road lies 25 miles north of Essex or 2½ miles south of Cedar Canyon road.

Mitchell Caverns State Park

Frank L. Fairchild, area manager, advises the Caverns have recently been classified as a State Park instead of Reserve. The park encompasses 5,300 acres and two caverns are now open to the public. A completed tunnel makes the walk-through tour continuous. A new self-guided nature trail "Overlook Point" has also been added for the enjoyment of visitors.

The park and caverns are open the year-round. Tour hours are weekdays, 1:30 P.M.; Saturday, Sunday and Holidays, 10:00 A.M., 1:30 P.M. and 3:00 P.M. Special tours for groups can be arranged by writing to the park office: P. O. Box 1, Essex, Calif. 92332. Tour fees are: 18 years and over, 50¢; 6 through 17 years, 25¢; 5 and under, free. Camping is $1.50 per car.

Fee Areas

If you have a good gem or mineral collecting area open to the public at a reasonable fee, please let us know about it. We would also like to learn about any private recreational sites open to the public.

This column will act as a clearing house for short news items of interest to DESERT's readers. We welcome letters. If you know of a change in status, road conditions, special event being planned, had good luck on a field trip, enjoyed a new recreational site—please tell us about it. Address your letters to: Field Trip Editor, DESERT MAGAZINE, Palm Desert, Calif. 92260. I will be glad to answer any queries provided they are accompanied by a self-addressed, stamped envelope.

Mary Frances Strong

RETREAT IN TH

The Coachella Valley as seen from the Santa Rosa summit. Little San Bernardino Mountain range lines the distant horizon.

AROUND NOON on an early June day in 1971, I stood on top of Santa Rosa Mountain in Southern California with two friends, Baylor Brooks, geologist, and Ralph Phillips, electrical engineer. Through a nearby car radio, a broadcast station 8,046 feet down in the valley below reported a temperature of 110 degrees. Close by, a thermometer suspended in open sun indicated a relatively cool 74 degrees. This was our introduction to the Santa Rosas — an ideal retreat for hot summer days.

About one hour earlier we turned off from State 74 to begin the eight-and-one-half mile drive to Santa Rosa Mountain, the second highest peak of the Santa Rosa Range. The basic structure of the range is similar to the adjacent San Jacintos and from a geological viewpoint could be considered as just an extension of them.

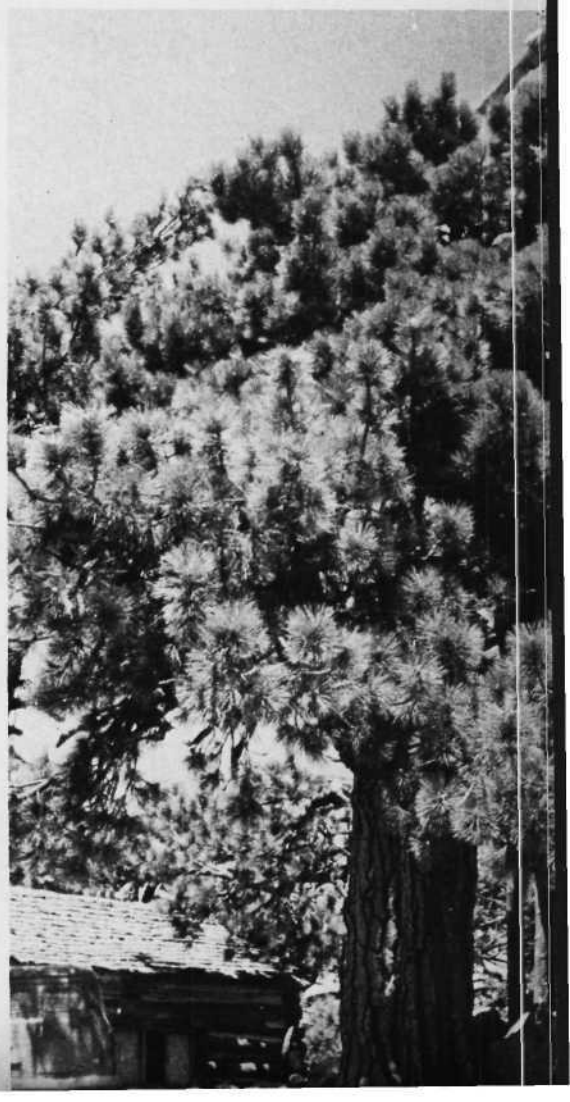
However, since mapmakers think of the San Jacintos and Santa Rosas as separate ranges, an imaginary line paralleling State 74 where it passes between them may well serve as their division line. From that point the Santa Rosa Range extends southwesterly for approximately 22 miles, reaching a height of 8,716 at Toro Peak, then dropping down to the lesser heights of Rabbit and Villager Peaks before merging with the sands of the Anza-Borrego Desert.

The road up Santa Rosa leads off State 74 at an elevation of 4,500 feet and begins a gradual climb up the north and west slopes of the mountain, with each turn revealing some new and impressive scene. Far to the north the higher peaks of the San Jacinto and San Bernardino Mountains present inspiring views that are further intensified if their slopes still retain some of the winter snow.

Closer at hand on the western side you can look down into the Santa Rosa Indian Reservation, formerly known as Vandeventer Flats, which appears as pleasant and peaceful as it must have seemed to author George Wharton James when he passed through the area 66 years ago.

Accompanied by Carl Eytel, a young artist, James left Mecca during May, 1905, to visit the old Santa Rosa Indian Village high up on the slopes of Toro Peak, by way of Martinez Canyon. While they were trying to find the trail to the village, which storm waters and cattle had obliterated, one of their burros slipped off the trail. During the confusion of rescuing it, their other burro ate their only map which James had left on a rock. With no map to guide them, they gave up their attempt to reach the village and moved on to Vandeventer Flats.

The natural enchantments of Vande-



Steve Ragsdales viewing tower is built on top of this pine tree.

E SANTA ROSAS

by Walter Ford

venter Flats seem to have completely overshadowed the disappointments of the day. In his "Wonders of the Colorado Desert," published in 1906, James wrote:

"Evening finds us jolly and happy in a first-class camping place where, under the shade of a yellow pine, we watch the setting sun as it pours its stream of golden light over the dark green chaparral and the ever-inspiring pines. A pure stream of snow water from Santa Rosa gives added pleasure, and affords us a good, cold bath in the early morning."

It is of interest to note that the sketches and paintings of the young artist who accompanied author James are in heavy demand today and that, "Wonders of the Colorado Desert," in which much of his early work appeared is now a collector's item.

As the road skirts the western side of the mountain, sections of Coyote Canyon as it heads toward the Borrego Badlands come into view. At 4.6 miles from State 74, crumbled stone cabin walls on the west side of the road mark the location of an old-time mining operation known as the "Garnet Queen." Little could be learned of its early history, but since author James mentioned it in his book, it must have been in existence at least as far back as 1905.

The late Steve Ragsdale lived in this mountain retreat during the hot summer months. It is now under the National Forest Service.

The name of the mine and the type of structure in which it was located indicate that the mineral mined was garnet, but whether it was gem or abrasive type could not be determined. The location of the original mine excavation, which the Forest Service filled in to avoid accidents to visitors, is now outlined with long logs.

A short distance beyond the Garnet Queen, the road leaves the chaparral through which it has been winding and enters a stand of pinyon trees. Continuing its upward climb it passes two public camp and picnic grounds and several springs from which cool, pure water may be obtained. Just short of the summit, a branch swings sharply to the right and continues several hundred yards to the top of Santa Rosa where the late Steve Ragsdale built his home.

The house is a large one-room structure, made with logs gathered from the surrounding 560 acres of timber-land that Steve owned. The huge stone fireplace which stands at one end of the room conjures up scenes of congenial friends, drawn around a warming fire to listen to some of the stirring tales Steve knew so well. He had one for every situaation. The Ragsdales must have spent many happy hours in their mountain retreat.

A 40-foot viewing tower that Steve built over a pine tree provides a "top of the world" look for miles around. In his *Guidebook to the Sunset Ranges of Southern California,* Russ Leadabrand states that Steve once wrote that from his viewing tower he could see the moun-

Calendar of Western Events

AUGUST 27-29, INDIAN & WESTERN ARTIFACT SHOW, Frontier Hotel, Las Vegas, Nevada. Complete Indian and Western American exhibits and artifacts. Indian personalities, trophies, door prizes. For information and space, write P. O. Box 5574, Las Vegas, Nevada 89102.

AUGUST 28 & 29, GEM and MINERAL SHOW sponsored by the Santa Ynez Valley Club, Veterans Memorial Building, 1745 Mission Drive, Solvang, California.

SEPTEMBER 18 & 19, ARTISTS' ROUND-UP sponsored by Twentynine Palms Artists Guild, Belle Campground, Joshua Tree National Monument, Riverside County, Calif. Family campout for artists and art lovers. Admission free. Write P.O. Box 115, Twentynine Palms, Calif. 92277.

SEPTEMBER 19, ANNUAL ROCK SWAP of Fresno Gem & Mineral Society, Burris Park, 6th Street and Denver Avenue, Fresno, California.

SEPTEMBER 25 & 26, GEM & MINERAL SHOW, "The Show That Shows How" sponsored by the Mother Lode Mineralites, Fairgrounds, Auburn, Calif. Free admission. Write J. F. Lambert, 191 S. McDaniel Dr., Auburn, Calif. 95603. g

OCTOBER 2 & 3, FESTIVAL OF GEMS sponsored by the East Bay Mineral Society, Scottish Rite Temple, 1947 Lakeside Drive, Oakland, California.

OCTOBER 2 & 3, WEST COAST CHAMPIONSHIP TREASURE HUNT, Fourth Annual Convention of the Prospectors Club of Southern California, Galileo Park, California City, California (near Mojave). Metal detectors contests, gold panning, exhibits, booths, childrens' activities. Public invited either as competitors or spectators. Write Jim Carmichael, 25930 Pennsylvania Ave., Lomita, Calif. 90717.

OCTOBER 2 & 3, JEWELS FROM LAND AND SEA sponsored by East Bay Mineral Society, Scottish Rite Temple, 1547 Lakeside Drive, Oakland, Calif

This column is a public service and there is no charge for listing your event or meeting—so take advantage of the space by sending in your announcement. However, we must receive the information at least three months prior to the event. Be certain to furnish complete details.

OCTOBER 2 & 3, HARVEST OF GEMS sponsored by the Centinela Valley Gem and Mineral Club, Hawthorne Memorial Center, Inglewood, Calif. Free parking and admission.

OCTOBER 7-17, FRESNO GEM & MINERAL SOCIETY'S 20th annual show, Fresno District Fairgrounds, Fresno, California.

OCTOBER 9 & 10, HOLE-IN-THE-ROCK SAFARI, Blanding, Utah. Two-day 4WD trip retracing trail used by Mormons who crossed the Colorado and settled San Juan County. For information write San Juan County Tourist and Publicity Council, P. O. Box 425, Monticello, Utah 84535.

OCTOBER 10, SACRAMENTO DIGGERS MINERAL SOCIETY'S Rock Swap and Fun Day, Farmers Market, 30th and S Streets, Sacramento, Calif. Tailgaters welcome.

OCTOBER 16 & 17, WHITTIER GEM AND MINERAL SOCIETY'S 22nd Annual Gem Show, Palm Park Youth Center, 5703 N. Palm Ave., Whittier, Calif. Free admission and parking. Write P.O. Box 66, Whittier, California.

OCTOBER 23 - 25, TWELFTH ANNUAL SPACE FAIR, Point Mugu, Calif. "America's Biggest Air Show" is held at 10:30 A.M. and 3 P.M. each day. Also carnival and midway and U. S. Navy exhibits.

OCTOBER 30 & 31, NINTH ANNUAL SAN DIEGO COUNTY ROCKHOUND GEMBOREE sponsored by the Council of the San Diego County Gem & Mineral Societies, Scottish Rite Masonic Memorial Center, 1895 Camino Del Rio South, San Diego, Calif. Large and excellent annual event.

NOVEMBER 6 & 7, THE GEM BONANZA sponsored by the Clark County (Nevada)Gem Collectors, Inc., Riviera Hotel, Las Vegas, Nevada. Write Guern Royster, 3286 Brentwood, Las Vegas, Nevada 89030.

NOVEMBER 6 & 7, GEMS AND MINERALS FOR PEOPLE sponsored by the General Dynamics-Pomona Rockhounds, GD-PRA area, Corona Freeway and Mission Blvd., Pomona, Calif. Dealers, swap table, faceting, overnight camping. Write C. A. Purdy, 693 Emerald St., Upland, Calif. 91786.

NOVEMBER 12 - 14, SECOND ANNUAL DESERT FIESTA, Wenden, Arizona (on Interstate 10, 60 miles from the California border toward Wickenburg). Tailgating, rock and mineral displays, guided field trips, non-commercial carnival for kids, plus other activities. Ample room for all types of camping and campers.

NOVEMBER 13 & 14, 29th ANNUAL DESERT WEED SHOW sponsored by the Twentynine Palms Women's Club, Twentynine Palms, Calif. To encourage diversified uses of weeds in all forms of art.

tains of Old Mexico, the Panamint Range near Death Valley, and many cities of Southern California.

From the Ragsdale turn-off the road continues south for about three miles, where it divides. A locked gate on the lower section bars entry to cars. There is also a locked gate a short distance on the upper section of road and to reach Toro Peak, the highest point on the Santa Rosa Range, it is necessary to hike the remaining distance. The U.S. Marine Corps has radio communication installations on the summit and a helicopter landing field close by.

Like Santa Rosa Mountain to the north, Toro Peak presents some magnificent panoramas. Rockhouse Canyon, the site of the old-time Cahuilla Indian dwellings, lies directly below. Beyond appears Coyote Canyon by which the route of Captain Juan Bautista de Anza's expedition of 1775 may be traced far out across the Anza-Borrego Desert.

The Ragsdale home and acreage are now under the control of the National Forest Service. We found the door of the house unlocked and although the interior indicated that it has been occupied from time to time, perhaps by campers, there were no indications of vandalism. Visitors may be mindful of the signs Steve posted around the area, some of which may still be seen: "Enjoy but don't destroy."

The road to Santa Rosa leads off State 74 three miles west of Pinyon Flat campground. You will find the road rough in spots, but that may be to your advantage. The slower pace required will permit greater appreciation of the incomparable views which unfold with the upward climb. □

Desert Life

by Hans Baerwald

The top of a high saguaro is the favorite resting place for the Western Red-tailed Hawk which can be identified in flight by his prominent red tail markings. Baerwald shot this youngster with a 35mm Bessler using a 135mm lens.

Rambling on Rocks

by
Glenn
and Martha Vargas

POLISHING: That Final Glow

ACQUIRING A polish on a cut stone makes it into a gem. As the job is often fraught with difficulty, it stands to reason that gems are usually not reasonably priced. Many books are filled with complex instructions as to the best method to polish gem minerals. There is one great difficulty with this, the word has not reached the minerals so many of them will sometimes refuse to take a polish with the usual methods. There are, on rare occasions, those that will not polish with any method.

What is a polished surface? The definition is long and complicated, but it has something to do with the fact that a scratch—or the space between scratches—being no larger than 1/50,000 of an inch. To the eye, and even under low magnification, this is the same as no scratches. In spite of careful work in all preparatory stages, a perfect polish is not easy to produce.

In the early part of this century, an Englishman named Beilby did some experimenting with polishing, and found that the surface of a mineral actually melted and flowed over small scratches, thus producing the polish. He proved this by noting a certain scratch pattern, polishing the piece, and recovering the same scratch pattern by etching the polish away with acid. This flowing layer became known as the Beilby layer. For his efforts, he was knighted.

A few years later, another Englishman reviewed Beilby's findings and found that there was a group of minerals that would not flow, as their melting point was too high, and the surface remained with exceedingly small scratches. Diamond is one of this group. Also, it was found that there were two other types of polish. These would flow as Beilby had found, but one type would immediately recrystalize just as the mineral beneath; and another would recrystalize along certain directions only.

Thus there was the type of complete flow, that did not recrystalize, a second that might partially recrystalize, a third that completely recrystalized, and a fourth that would not flow. This made a complicated picture, but did not perturb the gem cutter. He did not really care what the surface actually did, as long as it appeared to be polished. There were those that noticed that at times things did not exactly happen as they should have, but the unusual behavior during polishing was forgotten, or attributed to other causes. Beilby's layer theory was accepted for about 50 years.

Rapid advances in science today, especially in the electronics field, needs perfectly polished surfaces in order to make transistors, lasers work. The question soon arose as to how to produce a desired polish with the least effort and cost. Top grade scientists looked into the matter, and their findings gave the gem cutters a shock. They maintained that the Beilby layer was not true, and that polishing is really the removal of surface material a few molecules at a time, leaving a scratch-free surface. Their findings have answered some of the questions that have vexed gem cutters.

In our minds, there is something still missing in the story. We do not dispute men of science, as they certainly know more about many aspects of the story than we do. At the same time, we find

it very difficult to believe that Beilby and the men who checked his findings were mistaken. If Beilby could recover scratches after polishing, and others duplicated his work, then there must still be some truth remaining in his findings. On the other hand, many of the polishing operations that we have carried out in the past certainly did not depend upon a flow layer.

We have just recently come into possession of an article written by an engineer concerning the polishing of pure titanium for use in a space missile. He noted cracks on the surface, polished them, and then etched away what was definitely a flow layer and recovered the cracks. At this point we, and many other lapidaries, are some confused and are rapidly approaching an opinion that history is repeating itself. If Beilby overlooked three possibilities, then perhaps there are still more to be found. We would not be surprised if it were decided that polishing was different for all minerals, and that flow happens at times, and not at others, and that molecular removal behaves likewise.

To get back to the gem cutter, we find there are some "tried and true" situations and methods that have always worked, and we assume always will. It has been found that the polishing of cabochons of certain members of the quartz family (quartz, agate, jasper) goes smoothly and well on a wheel made of canvas or leather, using a fine powder of a material known as cerium oxide. Cerium is a very rare element and is known as one of the "rare earths." It is fairly common in some ores, and is a by-product that helps pay for the expenses of refining some of the more well-known metals. Quartz will sometimes polish on other kinds of wheels using other types of polishing powders, but the first-mentioned pair is the most used.

Many other minerals (such as topaz, tourmaline or garnet) will seldom, if ever, take a polish on canvas with cerium oxide. If instead, we use a leather wheel, and apply a fine sapphire powder (aluminum oxide), we can polish many of these. Sometimes we find that we can use tin oxide on either of the above wheels to polish a gem that would not respond to the first two combinations.

Gem cutters have at their disposal a number of kinds of wheels that are usually soft and resilient, and on these is placed a finely powdered chemical. The fine powder evidently does the polishing. The interesting part of the story is that practically all of these powders are oxides; a combination of a metal and oxygen. As well as those named above, some gem cutters use rouge (iron oxide), tripoli (silicon dioxide), chromium oxide, and others. Some are widely used; the sapphire powder, called alumina, is made from synthetic sapphire, and is probably the best polishing agent available to us. Some are very messy and will stain hands and clothing, such as rouge (red) and chromium oxide (green). Some will work, when all others fail; some will work for many minerals, others will always work on one mineral, but seldom on others. The story is endless.

The techniques of polishing are also endless, but nearly always call for the placing of the future gem against a revolving wheel covered with a thin layer of polishing agent. The stone is held in place until it becomes warm, and whether the surface flows or not, polishing will not take place until it is warm.

It might appear to the reader that we are ignoring the true action of polishing, and somewhat taking refuge behind the fact that usually we obtain a polish. This is undoubtedly true. We still have many questions that neither the old or the new explanations seem to answer. Until they can be answered, the gem cutter will go on polishing as usual, modifying his methods as conditions might dictate, and leave the research and arguments to those that are capable of carrying them out. □

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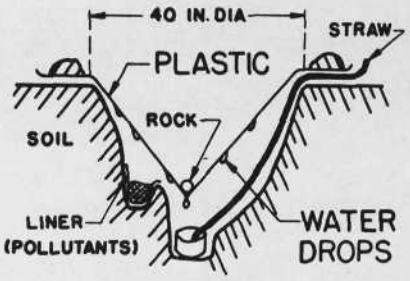

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Letters to the Editor

Letters requesting answers must include stamped self-addressed envelope.

Stedman Area Closed . . .

Regarding the article "Riding the Rails to Stedman" in the August '71 issue, we want to inform you the Stedman mining area is not only closed but is posted and barricaded and that "Violators will be Prosecuted" signs are throughout the area. This includes the road and the railroad tracks also.

MAC. R. MANSFIELD,
Huntington Park, California.

Editor's Note: The Stedman area was closed to the public after the article was written. It is private property and DESERT asks its readers NOT to visit the area as described in the article. See Page 4 for additional information.

Tortoise Tidbits . . .

Your letter of June 25 forwarded to me by DESERT Magazine has just reached me, and I am glad to tell you what I know about what desert tortoises like to eat.

They are primarily vegetarians, as you know. In the wild they eat mesquite grass, cheat grass, and any green succulents available. When the desert blooms they dine on the leaves and blossoms of these annuals, and the tender buds and flowers they can reach of various good desert shrubs. They undoubtedly get insects along with the blossoms. All this natural food is loaded with vitamins.

These fellows have considerable ability to adapt to different kinds of food, so when they are away from their natural habitat and living as pets or in zoos, they eat a great variety of plants not found in the desert: many different kinds of grasses, fruits, buds, flowers, clover, lettuce, bananas. They seem to have very good color vision, some preferring yellow, and eating dandelions with relish.

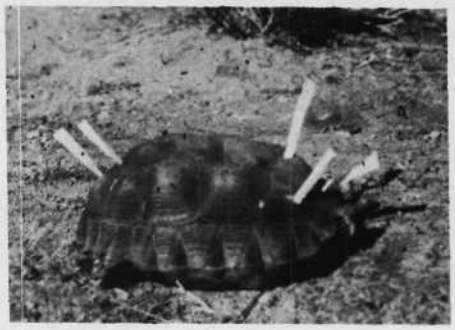
One I heard about had refused to eat anything at all after being captured, and could not be tempted. One day he was seen opening his mouth towards a pink design on a dress, and when offered pink peach blossoms, promptly ate them, and thereafter ate many things he had refused before. You know Gus likes hamburger.

So much of our food available today is low on vitamin content, forced in growth by artificial fertilizers and sprayed with insecticides that it's a wonder we all survive. But since Gus is a member of the family, he will have to get along the best he can on the vegetables and fruit available in Salina. There are good vitamins in grass, and in this he is luckier than we are, for he can eat it, if he wishes.

I hope this answers some of your questions and that you will let me now when you have time what Gus decides to do about augmenting his present diet.

K. L. BOYNTON,
Manchester, Iowa.

Editor's Note: In answer to a reader's query about what to feed a tortoise, K. L. Boynton, DESERT Magazine's Naturalist, offers the above information which we are passing along to other tortoise lovers. (On the dark side see other letter and photo on this page). If you have any questions relative to Mr. Boynton's articles, send them to DESERT Magazine, Palm Desert California 92260 and we will forward them to him for an answer.



Wanton Killing . . .

This tortoise didn't have a chance. Someone pumped five .22 caliber slugs into the defenseless creature. This wanton killing must stop or there will not be any desert wildlife left.

CHARLES T. OLSEN,
Quartz Hill, California.

New School Site . . .

Relative to the article entitled "The Valley of the Whale" in the June '71 issue, enclosed is a photo of the newly restored Witch Creek School on its new location in Julian. It was moved to a place of honor on a knoll above the musuem as you arrive from the west on State 78.

JUDY EVANS,
La Mesa, California.

Pegleg Gold . . .

I have been an avid follower of the mystery of the lost (or found?) Pegleg gold since you published the anonymous article in the March '65 issue. There has been nothing for more than a year and then in the August issue the appeal by "Southworth" in a special box. Is DESERT holding something from its readers?

BILL JOHNSON,
Los Angeles, California.

Editor's Note: We have not heard from the anonymous "Mr. Pegleg" for more than a year. If, and when, we do we will publish his letters as we have in the past. John Southworth's articles on the Pegleg gold theory have been published in DESERT. He wants two of the nuggets and paid for the advertisement which we placed on the Letters Page so "Mr. Pegleg" would be certain to see it. Any correspondence addressed to "Southworth" will be forwarded to him without being opened.

Misplaced House . . .

Mike Engle's article on Independence, California in the July '71 issue was a great tribute to this fine town. However, not many people know that his statement that a third house on the site where the courhouse now stands was torn down is not true—the third house is still somewhere in Independence.

The house belonged to Kate Spainhower and was moved by my father in 1920 with a team of horses to another part of town. He jacked it up and then used wooden rollers to pull it. I think it was to the south part of town but I am not certain.

Underneath the old house was a large cellar with jams and jellies evidently made in the 1870s which had turned to sugar. There was also a lot of ammunition which would not fit any of the guns in use when we moved the house so we took the ammo to a dump . . . I still remember the loud explosions when we set it afire. My father freighted the first load of supplies taken into Owens Valley for the aqueduct by mule train.

S. R. WILKINS,
Torrance, California.

Another Mission . . .

It is an historical fact that Father Garces was one of the pioneers of the lower Colorado River area; that he founded a mission near Yuma, Arizona and was finally killed during an Indian revolt.

There is also a story he founded another mission near what is now Laguna Dam on the California side of the Colorado River. The story has been handed down through generations by mouth. I cannot find any historical records proving the story.

I would appreciate any reader of DESERT who has knowledge of this second mission. If the location could be found, a team of archeologists could explore and preserve the site for all to enjoy.

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