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Volume 36, Number 12

DECEMBER 1973

CONTENTS

FEATURES

- | | | |
|--------------------------------|----|----------------------------|
| CHIEF NINO COCHISE | 8 | <i>Ida Smith</i> |
| THE DESERT DIAMONDBACK | 12 | <i>K. L. Boynton</i> |
| GHOSTS OF THE CARSON SINK | 16 | <i>Mary Frances Strong</i> |
| LOST LEDGE | 22 | <i>Joe Rodriguez</i> |
| YUMA, FIFTY MILES OF FUN | 24 | <i>Al Pearce</i> |
| DUNE BUGGIES ARE FUN! | 28 | <i>Joe Kraus</i> |
| EARTHQUAKE AND A MISSION | 32 | <i>Pat Holmes</i> |
| ADVENTURE ALONG THE YUMA TRAIL | 36 | <i>Jack Pepper</i> |



THE COVER:

Desert primrose blooms on the Algodones Dunes, near Yuma, Arizona. Photo by David Muench, Santa Barbara, California.

DEPARTMENTS

- | | | |
|------------------------------|----|--------------------------------|
| PEEK IN THE PUBLISHER'S POKE | 4 | <i>William Knyvett</i> |
| BOOKS FOR DESERT READERS | 5 | <i>Book Reviews</i> |
| RAMBLING ON ROCKS | 42 | <i>Glenn and Martha Vargas</i> |
| LETTERS TO THE EDITOR | 46 | <i>Readers' Comments</i> |
| CALENDAR OF WESTERN EVENTS | 46 | <i>Club Activities</i> |

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A Peek in the Publisher's Poke

ANOTHER YEAR ends and it is a fitting occasion to salute the area of Yuma, Arizona. December being one of the great "winter season" months, is an ideal time to sample its offerings. This issue should help you plan a pleasant week or weekend in the "Middle of Fifty Miles of Fun," as author Al Pearce titles his article.

Special Feature Editor, Jack Pepper, tells about the fun and games available in the immediate vicinity, while Joe Kraus takes us dune hopping at Hugh Osborne State Park. Top that off with a tale of a lost ledge of gold, and it should provide a little something for everyone.

Naturalist K. L. Boynton throws us a mean curve as he describes *crotalus atrox*, our Desert Diamondback rattlesnake, a critter we should be cautious of in our desert wanderings.

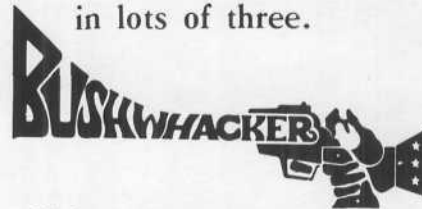


December also heralds the last issue of Volume 36 of *Desert Magazine*, and my wife, Joy, and I and our staff would like to take this opportunity to thank all our advertisers and subscribers for their wonderful support of the magazine, and to wish each and every one of you a Very Merry Christmas and a Happy and Prosperous New Year.

William H. H. H.

This year was a MERRY YEAR for all of you who played the new game, BUSHWHACKER. If you wish to share your funtime with friends or relatives in 1974, send along their name, complete address and zip code, plus a small signed gift tag that Funtrötter will put in each BUSHWHACKER game from you. Funtrötter Games will send your BUSHWHACKER gift game to the CHRISTMAS TREE of your choice.

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December, 1973

Books for Desert Readers

HOPI SILVER The History and Hallmarks of Hopi Silversmithing

By
Margaret Wright



Years of research and a high degree of perseverance have made this book a historically descriptive piece on the sometimes nebulous works of the Hopi silversmiths.

In the beginning of her research, the author collected the "silvermarks" of the pueblos she visited where Hopi craftsmen worked with silver. Her method of collecting these hallmarks began by having the silversmiths hammer their stamps or marks into a copper sheet that was carried on her trips to the pueblos of Northeastern Arizona.

From shells, turquoise, bone and wood came the new approach to working with metals and leather in the last part of the 19th Century. This led to a further show of the talents of the Hopi when they began to specialize in silver, mostly for their own use. Soon tourists and traders made the demands that eventually led to commercial outlets and the need for more Indian silversmiths.

The book is illustrated with many photographs of silverwork of all kinds as shown at the Museum of Northern Arizona with whom the author worked closely during the writing of this book. In it she covers everything from jewelry, dishes, bowls, and the tools of the trade. The silverwork is described in many combinations, such as that with leather, carved with the use of Hohokam figures, animal and human figures in motion, the elaborate detailing, all a mark of the Hopi crafts design. Stylized symbols are indicative of their work, and many times they may de-

sign a piece with a personal meaning or thought.

In any event, the author is certain that the Hopi will continue to produce a vital and distinctive art form . . . the craft is still vigorous and silversmithing provides an ideal occupation for Hopi men and women who want to remain in the Hopi villages.

More than a dozen pages at the end of the book are devoted to the various hallmarks beginning in 1890 and continued through 1971, naming the silversmith (if known), the clan, the village, dates worked (if known) and whether or not the silverwork is still being made.

Paperback, well illustrated, 100 pages, \$4.95. □

FROSTY, A Raccoon To Remember

By
Harriet E. Weaver



Harriett Weaver was the only uniformed woman on California's State Park Ranger crews for 20 years. In addition to carrying out countless ranger duties, she conducted the evening campfires and led nature hikes.

Thus it was natural that, on a spring day in Big Basin Redwood Park, a small boy brought an orphaned raccoon—little more than a month old—to the cabin of California's "first lady ranger." He was hungry, frightened and alone and he had to be given a bottle (and be burped) just like a human baby. But most of all, he had to be loved. Harriet recounts that, at the end of the first day, ". . . Sleepily he put his head on my shoulder and closed his eyes . . . just before he slipped into

coon dreamland, he laid a soft hand on my cheek and snuggled comfortably against my neck. With that, I became the only mother he would ever again know."

Of course, being "mother" to an inquisitive, mischievous raccoon can turn out to be far from simple, for how do you discipline a raccoon who insists on playing at 1:30 in the morning? Or what can you do when he discovers a pick-up truck full of live chickens in a supermarket parking lot? You will enjoy the humor in Frosty's wonderful discoveries of life, and in his terrifying ones, too. But most of all, you'll enjoy the warmth in this story of how Frosty educated and converted the author (and everyone else who came in contact with him) into raccoon lovers, and convinced them that these animals are the smartest, most lovable of Nature's creatures.

Illustrated with line-drawings by Jennifer O. Dewey, hard cover, \$5.95.

Books listed may be obtained from our Desert Magazine Book Shop, Box 1318, Palm Desert, Calif., 92260. California residents please add state sales tax.

Golden Chia

Ancient Indian Energy Food
By HARRISON DOYLE

The author of "Boy's Eyeview of the Wild West," first saw the Mojave Desert through the dust curtains of a Concord "Mud Wagon" Stage Coach as a boy of nine in 1896. In this one he takes up the cudgels for "the real chia," proving conclusively that it was *Salvia Columbariae*, the chia which grows on the high Southwestern American deserts, that was documented by Dr. John T. Rothrock, Surgeon-botanist of the 1875 Wheeler United States Geographical Survey when he wrote, "A handful of the chia seeds sustains an Indian on a twenty-four hour forced march."

The book amply illustrates the great difference between the high desert chia, and the Mexican variety, *Salvia Hispanica* sold presently in the health food stores.

It also identifies the energy-factor, a little known trace mineral found only in the high desert seeds, suggesting in this a possible breakthrough in human nutrition.

To round the book out, a section on the vitamins, minerals, proteins, enzymes, etc., needed for good nutrition, has been added.

From some of the letters received: "Instructive; entertaining." The seed that's worth its weight in gold! "The only reference book in America on this ancient food."

100 pages, illustrated. Paperback, \$4.75; cloth cover, \$7.75, postpaid. (California residents add sales tax.)

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BOOKS OF

MAP OF PIONEER TRAILS Compiled by Varna Enterprises. Publishers of popular maps on lost mines and ghost towns in California, Varna has released a new large map on pioneer trails blazed from 1541 through 1867 in the western United States. Superimposed in red on black and white, the 37x45-inch map is \$4.00.

LOAFING ALONG DEATH VALLEY TRAILS by William Caruthers. Author Caruthers was a newspaper man and a ghost writer for early movie stars, politicians and industrialists. He "slowed down" long enough to move to Death Valley and there wrote his on-the-spot story that will take you through the quest for gold on the deserts of California and Nevada. Hardcover, old photos, 187 pages, \$4.25.

BALLARAT, Compiled by Paul Hubbard, Doris Bray and George Pipkin. Ballarat, now a ghost town in the Panamint Valley, was once a flourishing headquarters during the late 1800s and 1900s for the prospectors who searched for silver and gold in that desolate area of California. The authors tell of the lives and relate anecdotes of the famous old-timers. First published in 1965, this reprinted edition is an asset to any library. Paperback, illustrated, 98 pages, \$3.00.

DEATH VALLEY GHOST TOWNS by Stanley Paher. Death Valley, today a National Monument, has in its environs the ghostly remains of many mines and mining towns. The author has also written of ghost towns in Nevada and Arizona and knows how to blend a brief outline of each of Death Valley's ghost towns with historic photos. For sheer drama; fact or fiction, it produces an enticing package for ghost town buffs. Paperback, illustrated, 9x12 format, 48 pages, \$1.95.

TEMALPAKH by Lowell John Bean and Katherine Siva Saubel. Temalpakh means "from the earth," in Cahuilla, and covers the many uses of plants used for food, medicine, rituals and those used in the manufacturing of baskets, sandals, hunting tools; and plants used for dwellings. Makes for a better understanding of environmental and cultural relationships. Well illustrated, 225 pages, hardcover, \$10.00; paperback, \$6.50.

OUTDOOR SURVIVAL SKILLS by Larry Dean Olsen. This book had to be lived before it could be written. The author's mastery of primitive skills has made him confident that survival living need not be an ordeal once a person has learned to adjust. Chapters deal with building shelters, making fires, finding water, use of plants for food and medication. Buckram cover, well-illustrated, 188 pages, revised edition boasts of 96 4-color photos added. \$2.95.

PAN BREAD 'N JERKY by Walter L. Scott. Now in its third printing, this is the life story of the author. Walter worked at everything from placer mining, freighting and for the U.S. Fish & Wildlife Service. The book is an interesting account from days gone by when wood furnished heat, horses provided transportation and one lived off the land. Paperback, illustrated, 174 pages \$2.50.

THE DESERT IS YOURS by Erle Stanley Gardner. This is the late author's fifth book written on the desert but the first that is devoted to the western desert of the United States. With parties of hunters and companions, he proves to be the true adventurer, combing the vast reaches of trackless land, and shows how the good outweighs the bad in the perils of the desert. Hardcover, well illustrated, 256 pages, \$7.50.

GEM TRAILS IN CALIFORNIA by A. L. Abbott. This compact little book can easily be carried while hiking or riding and combines detailed map drawings with pictures. In addition to gem and mineral names with their specific locations, there are other leads to nearby ghost towns, fossils, campgrounds and recreation areas. Paperback, well illustrated, 84 pages, \$2.95.

PADRE ISLAND (Treasure Kingdom of the World) by William Mahan. At the age of 13 the author had done research on lost treasures and completed a scrapbook on the subject. In later years, he discovered "Padre Island," off the coast of his home state of Texas. Bill Mahan is well qualified for his work having made countless trips to Padre where he relates in historical detail of lost treasures, shipwrecks and savage Indian tribes. If you are an historian or treasure hunter, you'll "dig" this adventurous accounting. Hardcover, illustrations, maps, translations of Fray Marcos de Mena from Spanish to English, 139 pages, \$6.95.



CORONADO'S CHILDREN by J. Frank Dobie. Originally published in 1930, this book about lost mines and buried treasures of the West, is a classic and is as vital today as when first written. Dobie was not only an adventurer, but a scholar and a powerful writer. A combination of legends and factual background. Hardcover, 376 pages, \$3.95.

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.

ROCK DRAWINGS OF THE COSO RANGE by Campbell Grant, James Baird and J. Kenneth Pringle. A Maturango Museum publication, this book tells of sites of rock art in the Coso Range which, at 4000 feet, merges with the flatlands of the northern Mojave Desert. Paperback, illustrated, detailed drawings, maps, 144 pages, \$3.95.

BAJA (California, Mexico) by Cliff Cross. Updated in 1972, the author has outlined in detail all of the services, precautions, outstanding sights and things to do in Baja. Maps and photos galore with large format, 170 pages, \$3.50.

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.

PONDEROSA COUNTRY by Stanley W. Paher. A scenic and historic guide to Reno and vicinity, the author tells in words and pictures the many scenic byways and colorful country to be found within an hour or two of downtown "Casino Row." Various tours are outlined and a final chapter is devoted to a pictorial history of Reno. Paperback, 48 pages, 9x12 format, \$1.95.

FLOWERS OF CANYON COUNTRY by Stanley L. Welsh, text; and Bill Ratcliffe, photographs. Brigham Young University Press. Two professionals have united their talents to present an informative, scholarly and artistic promotion of the beauty found in flowers and plants of vast regions of the Southwest. Paperback, 51 pages, \$2.95.

ROCKS AND MINERALS OF CALIFORNIA, Compiled by Vinson Brown, David Allan and James Stark. The 1972 printing is the third revised edition of a book that will save you hours of time by the description and pictures of rocks and minerals found in this state. Color pictures with clearly developed keys show you how to identify what you have found and gives you the fine tools to increase your ability as a field collector. Paperback, well illustrated with photos, locality maps, charts and quadrangle map information. 200 pages, \$3.95.

GOLD RUSH ALBUM. Editor in Chief Joseph Henry Jackson. 352 authentic first-hand pictures with text. The complete story of the most exciting treasure-hunt in history when some 200,000 persons sought gold in California. Orig. pub. at \$10.00. New, complete edition only \$3.95.

TURQUOIS by Joseph E. Pogue. (Memoirs of the National Academy of Sciences) First printed in 1915, *Turquois* has in its third printing (1973) been updated in many ways. Among them are listed currently-operated Turquois mines, more color plates. The book is full of incredible results of research and an in-depth study of this fascinating mineral of superficial origin. Hardcover, 175 pages, beautifully illustrated, \$15.00.

WESTERN GEM HUNTERS ATLAS by Cy Johnson and Son. A helpful book of detailed maps showing gem and mineral locations, from California to the Dakotas and British Columbia to Texas. Markings note private claims, gem claims (fee charged) and rock and gem locations. Also suggested reading for more detail on areas included and other rich areas not included in this publication. Paperback, maps galore, collector's library, 79 pages, \$3.00.

LAS VEGAS (As It Began—As It Grew) by Stanley W. Paher. Here is the first general history of early Las Vegas ever to be published. The author was born and raised there in what, to many, is considered a town synonymous with lavish gambling and unabashed night life. Newcomers to the area, and even natives themselves, will be surprised by the facts they did not know about their town. Western Americana book lovers will appreciate the usefulness of this book. You don't have to gamble on this one! Hardcover, large format, loaded with historical photos, 180 pages, \$10.95.

NATURE AND THE CAMPER by Mary V. and A. Willam Hood. If you consider yourself a tenderfoot, you will have been caloused by "experience" when you've finished this informative book. Its objectives: to remove false fears; to alert the prospective camper or hiker to the relatively few natural hazards to be found, to help parents and counselors appreciate the privilege of introducing youngsters to the fun of being out-of-doors; and to save lives of innocent creatures. Paperback, excellent drawings of animal and plant life, 157 pages, \$1.95.

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THE WEST

LOST MINES AND HIDDEN TREASURES by Leland Lovelace. Authoritative and exact accounts give locations and fascinating data about a lost lake of gold in California, buried Aztec ingots in Arizona, kegs of coins, and all sorts of exciting booty for treasure seekers. Hardcover, \$4.95.

DESCRIPTIONS OF GEM MINERALS by Glenn and Martha Vargas. More than 250 gem materials and their complete characteristics, both physical and optical will be found in this easy to use volume. The author's comprehensive experience in gem cutting and the teaching of same, plus extensive research, has put them in an ideal position to write this book. Of particular value to the cabochon or faceted gem cutter. Hardcover, tables and index, 155 pages, \$10.00.

THE ROCKS BEGIN TO SPEAK by LaVan Martin-eau. The author tells how his interest in rock writing led to years of study and how he has learned that many—especially the complex petroglyphs—are historical accounts of actual events. Hardcover, well illustrated, glossary, bibliography, 210 pages, \$8.95.

ROAD MAP TO CALIFORNIA'S LOST MINES AND BURIED TREASURES AND ROADMAP TO CALIFORNIA'S PIONEER TOWNS, GHOST TOWNS AND MINING CAMPS compiled by Varna Enterprises. Both roadmaps are 38" by 25" and scaled. Southern California on one side and Northern California on the other. Both contain detailed location of place names, many of which are not on regular maps. Treasure Map is \$4.00 and Ghost Town Map is \$2.95. When ordering, be certain to state which map, or both.

SAN BERNARDINO MOUNTAIN TRAILS by John W. Robinson. Easy one-day and more rugged hiking trips into the historic mountains. The 100 hiking trails are described in detail and illustrated so you will not get lost. Heavy paperback, 257 pages, \$4.95.

FACETING FOR AMATEURS by Glenn and Martha Vargas. All aspects of the craft are covered in this book from selecting, buying, orienting before cutting, methods of obtaining the largest and most perfect stone from the rough material, to the ways of using the many different faceting machines on the market. Glenn Vargas is Lapidary Instructor, College of the Desert, Palm Desert, Calif., and a columnist for *Desert*. Hardcover, many illustrations, tables, formulas, 330 pages, \$15.00.

WILY WOMEN OF THE WEST by Grace Ernestine Ray. Such women of the West as Belle Starr, Cattle Kate and Lola Montez weren't all good and weren't all bad, but were fascinating and conflicting personalities, as researched by the author. Their lives of adventure were a vital part of the life of the Old West. Hardcover, illustrated, 155 pages, \$5.95.

OLD FORTS OF THE NORTHWEST by H. M. Hart. Over 200 photos and maps. Exciting pictorial history of the military posts that opened the West. Orig. Pub. at \$12.50. New Edition \$3.95.

GHOST TOWN ALBUM by L. Florin. Over 200 photos. Fascinating pictorial accounts of the gold mining towns of the Old West—and the men who worked them. Large format, orig. pub. at \$12.50, new edition \$3.95.

TALES THE WESTERN TOMBSTONES TELL by L. Florin. The famous and infamous come back to life in this great photo history including missionary, mule driver, bad guy and blacksmith—what tales their tombstones tell. Pub. at \$12.95, now \$3.95.

DESERT EDITOR by J. Wilson McKinney. Known by his many friends throughout the West as "Mr. Desert" the late Randall Henderson founded the *Desert Magazine* 35 years ago and for more than 20 years was editor and publisher. His former business partner and long-time friend, J. Wilson McKinney has written a book about Henderson, *Desert Magazine* and the growth of Palm Desert since Henderson moved the magazine to the area in 1948. This is a story about a man, his dream, and how he made it a reality. Hardcover, illustrated, 188 pages, \$7.95.

LOST LEGENDS OF THE WEST by Brad Williams and Choral Pepper. The authors examine the "lore, legends, characters and myths that grew out of the Old West" in a sequel to their popular first book, *The Mysterious West*. Included among the more than 20 "lost legends" are such intriguing subjects as lost bones, lost ladies, lost towns, and lost diamonds. Hardcover, illustrated, 192 pages, \$5.95.



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.

MEXICO by Auto, Camper, Trailer by Cliff Cross. Revised edition. Excellent guide with information on trailer parks, butane and ice suppliers and street maps for villages and cities. New enlarged edition includes Baja and Yucatan. Large format, paperback, \$3.50.

SOURDOUGH COOKBOOK by Don and Myrtle Holm. How to make a sourdough starter and many dozens of sourdough recipes, plus amusing anecdotes by the authors of the popular *Old Fashioned Dutch Oven Cookbook*. A new experience in culinary adventures. Paperback, 136 slick pages, illustrated, \$3.95.

THE WEEKEND TREASURE HUNTER by A. H. Ryan. A companion book to his *Weekend Gold Miner*, this volume is also concise and packed with information on what to look for and what to do with your treasure after you have found it. Subjects range from Beach Combing to Sunk-en Treasures. Paperback, 76 pages, \$1.95.

THE OREGON DESERT by E. R. Jackman and R. A. Long. Filled with both facts and anecdotes, this is the only book on the little known but fascinating deserts of Oregon. Anyone who reads this book will want to visit the area—or wish they could. Hardcover, illustrated, 407 pages, \$7.50.

DANCING GODS by Erna Ferguson. Many Indian dances and ceremonies of the Southwest are open to the public, but some are restricted or closed to viewing. How this came about is explained by the author who describes and locates the dances open to the public, and why some are not. Paperback, illustrated, 280 pages, \$2.45.

A FIELD GUIDE TO INSECTS of America North of Mexico by Donald J. Borror and Richard E. White. This is the most comprehensive, authoritative and up-to-date guide to North American insects ever published. It covers 579 families of insects and has more than 1300 line drawings and 142 color plates. Hardcover, 372 pages, glossary, references, \$5.95.

GEM TRAILS OF ARIZONA by Bessie W. Simpson. This field guide is prepared for the hobbyist and almost every location is accessible by car or pick-up accompanied by maps to show sandy roads, steep rocky hills, etc., as cautions. Laws regarding collecting on Federal and Indian land outlined. Paperback, 88 pages, illustrated, \$3.00.

UTAH GEM TRAILS by Bessie W. Simpson. The casual rockhound or collector interested in collecting petrified wood, fossils, agate and crystals will find this guide most helpful. The book does not give permission to collect in areas written about, but simply describes and maps the areas. Paperback, illustrated, maps, \$3.50.

RELICS OF THE REDMAN by Marvin & Helen Davis. Relics can be valuable! Those dating back to Indian history in our land are becoming almost priceless, say the authors. How to search for these "hard to find" Indian relics, where to search and at what time of year, and types of tools needed, are among the many helpful suggestions given. Large format, many color and b/w illustrations, a striking cover. Paperback, 63 pages, \$3.95.

RELICS OF THE WHITEMAN by Marvin & Helen Davis. A logical companion to *Relics of the Redman*, this book brings out a marked difference by showing in its illustrations just how "suddenly modern" the early West became after the arrival of the white man. The difference in artifacts typifies the historical background in each case. The same authors tell how and where to collect relics of these early days, tools needed, and how to display and sell valuable pieces. Paperback, same type format and cover, well illustrated in color and b/w, 63 pages, \$3.95.

THE BEAUTIFUL SOUTHWEST by the Editors of *Sunset Books*. A pictorial with a brief text showing modern day activities of cities such as Phoenix, El Paso, Taos, and communities below the Mexican border, and covering the Southwestern states, canyons and deserts. 240 photographs of which 47 are four-color, large format, 223 pages, hardcover, \$10.95.

GUIDEBOOK TO THE COLORADO DESERT by Choral Pepper. Rich in history and beauty is the Colorado Desert which lies below the Mojave and extends into Mexico. The author describes areas of interest for passenger cars as well as for four-wheel-drivers. Paperback, 128 pages, \$1.95.

PLANTS USED IN BASKETRY BY THE CALIFORNIA INDIANS by Ruth Earl Merrill. Seventy-odd plant species, their uses and combined uses, limitations, patterns, waterproofing, etc., are all brought into focus in an easily read presentation. Appendix lists basket materials according to part, use and Tribe. Paperback, 25 pages, \$2.00.

YUMAN POTTERY MAKING by Malcolm J. Rogers. This publication from the San Diego Museum Papers, No. 2, February 1936, and reprinted in 1973, presents the subject of Yuman ceramic technique in its aboriginal form. Comparative studies and charts of the various Divisions and Tribes help to clarify the ethnological interpretations, and both archaeological data and that obtained from Indian informants have been equally drawn upon. Paperback, 52 pages, \$2.95.

Chief Nino Cochise

by Ida Smith

SUMMER WINDS move softly through the Dragoon Mountains in southeastern Arizona and over the secret burial place of the great Chief Cochise. "My grandfather has the most impressive headstone of anyone, the Dragoon Mountains," says his grandson, Chief Ciye (Nino) Cochise.

Nino Cochise spends part of each week at the new, modern Cochise Visitor Center and Museum of the Southwest, in Willcox, Arizona near the Dragoon Mountains. In a document describing the Center, The Dragoon Mountains and the great Chief Cochise, the founders of the Center state, "Also here was born a grandson of Cochise, still living today, Chief Nino Cochise, hale and spry."

Nino Cochise greets tourists and friends, relates Indian legends, and directs visitors to scenic areas in the vicinity. One of the legends describes an Apache Spirit Bell designed by his grandfather's Medicine

Man, Nochalo. The legend tells that when the north wind rang the bell, it so frightened the evil spirits that had made his grandfather ill, that they fled and his grandfather recovered. The incident occurred near the time of the famous peace treaty.

One hundred and one years ago the peace treaty was signed that made possible the opening of the West. The treaty was made between Apache Chief Cochise, Captain Thomas J. Jeffords and General Oliver O. Howard. How Thomas Jeffords negotiated the treaty in 1872 is well known. The story was carefully researched and told by Sherman Baker in *Desert Magazine*, November 1942. Many events which followed have never been revealed to the white people until Nino Cochise recalled them from memory, from stories told by his mother and others in his clan.

The peace treaty provided that the Apaches were to be given 3,100 square

miles in the center of their Stronghold in the Dragoon Mountains, not far from the present town of Willcox, Arizona. The terms of the treaty were approved by President Grant, and the Chiricahua Reservation was established December 14, 1872 by executive order. Thomas Jeffords, respected by both Apaches and the U. S. Government, was appointed Apache Agent of its reservation with its 2500 population.

The treaty was broken by the government in 1876. "History records," says Nino Cochise, "that U. S. Agent John Philip Clum came with scouts and cavalry in 1876 to force the Chiricahua to vacate our reservation and march to his adjacent San Carlos Reservation. History further records that Clum's vainglorious efforts succeeded in moving only 831 Apaches. Two hundred and twelve from scattered clans followed later to San Carlos. But more than 1,000 others disappeared."

One dark night enroute to San Carlos, 38 members of the Cochise (Eagle) Clan, led by Nino's mother, Nodosti, disappeared. After many hardships they arrived at a stronghold in the Sierra Madre mountains of northern Mexico, where they established a rancheria. Nino was at that time about two years old.

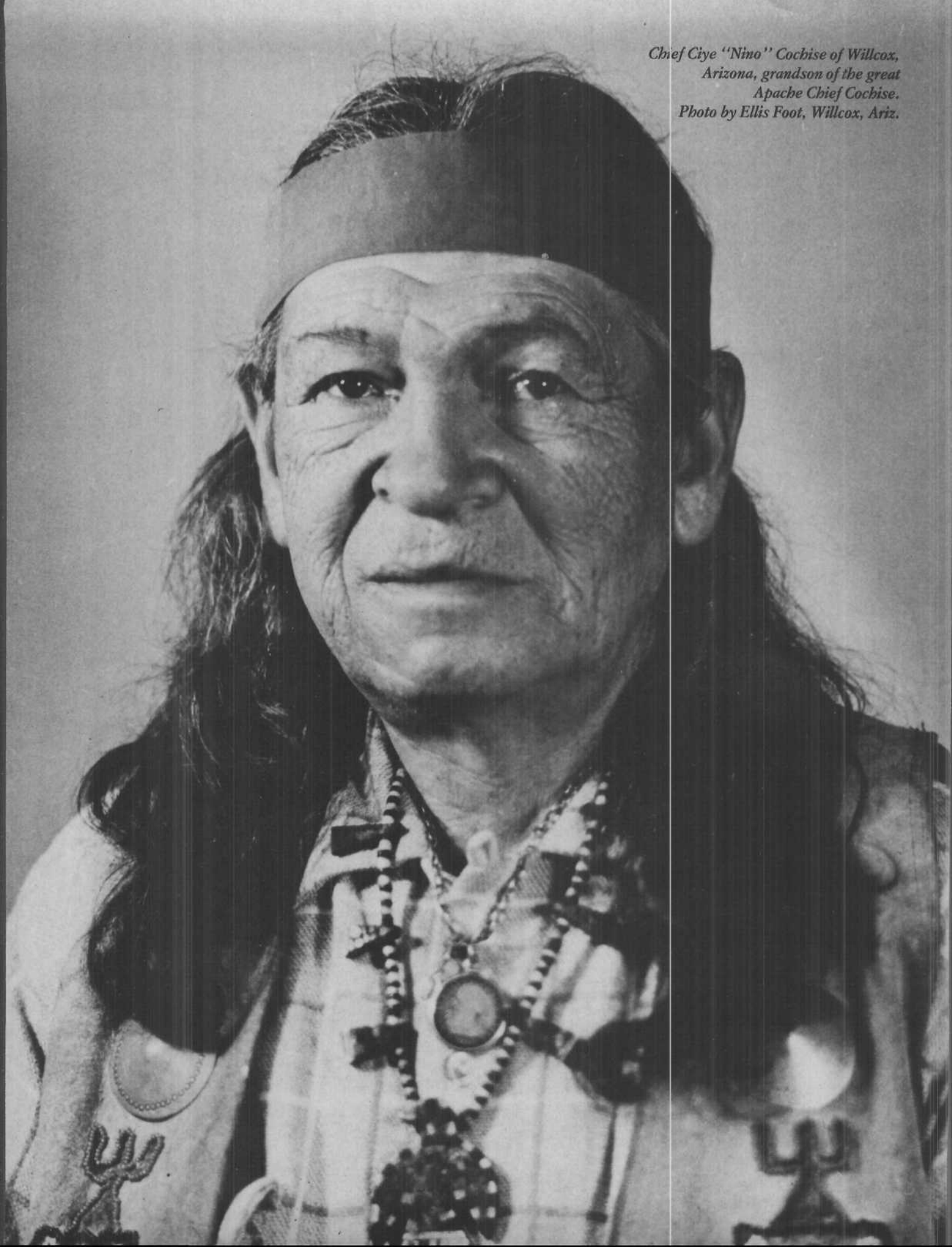
Nino's father, Tahza, who had engineered the escape because he was fearful of the fate of his people, went to Washington, D. C. with a delegation. There he contracted pneumonia and died. Later the Society of Arizona Pioneers erected a headstone at his grave.

Nino Cochise tells the fascinating story of his clan during their years in Mexico and afterward in his book, "The First Hundred Years of Ciye (Nino) Cochise" as told to A. Kinney Griffith. In February 1973, Nino Cochise celebrated his 99th birthday. At the age of 15 Nino Cochise was made chief of his clan. Under his

The Dragoon Mountains near Willcox, Arizona where Nino Cochise was born. Photo by Ellis Foot.



*Chief Ciye "Nino" Cochise of Willcox,
Arizona, grandson of the great
Apache Chief Cochise.
Photo by Ellis Foot, Willcox, Ariz.*



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leadership and that of his old shaman (medicine man) Dee-O-Det, the rancheria grew crops and cattle and formed a lasting friendship with the white American ranchers and friendly Indian tribes of the locality. They also worked their rich gold mine.

When Geronimo, Nino's mother's brother visited the rancheria, Nino's mother protested Geronimo's savage raids so vehemently that he moved out of the rancheria. After his surrender to the American troops peace came for a time to the clan.

The white man's influence was both good and bad. Nino made outstanding changes in Apache law. Old people were no longer abandoned but were cared for. Maidens could choose their own husbands and marriage ceremonies as always were held sacred and strict. A school was established with the aid of an educated visitor. All were taught to read, write and speak English. Later, Chief Cochise acquired other textbooks for further education.

President Diaz was friendly to the ranchers and Indians but could do nothing with his governors who tried to collect exorbitant taxes. War broke out. Americans and Indians fought together to protect themselves from the red coats. During a battle Nino's beloved young wife was killed.

After the war Colonel William C. Green, the big copper king of Cananea, Mexico moved Nino and his mother, his mother's sister, and Thomas Jeffords, who had been working at his mines, into a modern home in Cananea. The men worked for the mining company. Nino became Colonel Green's bodyguard.

In later years, his family gone and his clan scattered, Nino found himself in



Hollywood playing in such movies as *High Chaparral* with a score of famous movie stars. From his background knowledge of the Red Man he authored movie and television scripts and co-authored books and magazine articles. Nino had furthered his education at Brown's College and Northwestern University in Chicago.

During World War I he was past enlistment age, but lent what aid he could to the war effort. At one time he was part owner of a crop-dusting outfit. He learned to fly their airplane and had soloed successfully. But one near-fatal day the plane crashed and Nino found himself in the hospital minus his left leg.

Before moving to Willcox, Nino oper-



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*Chief Nino Cochise presents
Centennial Apache Spirit Bell to
Governor Jack Williams of Arizona.
Photo by Ivan J. Machek,
Phoenix, Gazette.*

Nino had acquired a complete description of the bell from his mother who drew the bell's shape and design in the sand. From this a new bell was made to commemorate the peace treaty of over 100 years ago.

The bells can be found in the finest shops and trading posts. They are known as Apache Spirit Bells.

When Nochalo, the Medicine Man, created the first Apache Spirit Bell, he proclaimed that "Eventually peace will someday come to the Apaches." The proclamation seems to have come true. The Apaches have not been involved in any of today's turmoils, but have conducted themselves peaceably and have made the most and the best of their San Carlos Reservation.

ated his own trading post in Tombstone, Arizona, where he is well-known among many friends and tourists. One day Mack Baulch, from Many Feathers Trading Post in Wickenburg, Arizona, walked in and met Nino Cochise, and thus began an interesting friendship. The legend of the Apache Spirit Bell so intrigued Mack that, after much discussion, it was agreed that he and Nino would reproduce a bell exact in every minute detail to the original. "In an effort to duplicate the legendary bell authentically," says Mack Baulch, "Nino worked very closely with both the mold maker and the custom producer. All details, profile, design, color, leather, et cetera, had to meet with Nino's approval."

Nino Cochise is an educated man who keeps up with all the findings of science. "I have no superstitions," he says. But there is an integrity in his bearing and a gentleness of spirit that have remained unspoiled by the white man's conflicting world. Civilization has not rubbed out all the background teachings of his people, his fine mother, and his old shaman "who taught me how to get along with people I did not understand." And he has kept a sense of humor.

When my husband, Moulton Smith, asked Nino if he was going to follow the custom of his people and live to be 110 and more, he said, "I'll have to do better than that! I'll have to live long enough to write another book, 'The Second Hundred Years of Nino Cochise'." □

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THE DESERT

by K. L. Boynton

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ACCORDING TO snake standards, *Crotalus atrox*, the desert diamondback rattler, is a very handsome fellow—all six feet of him. According to herpetologists, he's a No. 1 Cuss by unanimous vote, snake-expert Laurence Klauber awarding him the additional title of Possessor of the Rottenest Disposition of all rattlesnakes.

Morose, quick tempered, he'd mostly rather coil and strike than try to escape when confronted by man. If sufficiently annoyed by the current situation, he may even launch an aggressive attack on his own. Why he should be such a premier stinker nobody knows, unless it's because he finally got wind of the fact that even though in Texas the *atroxes* may reach a whopping 7 feet 8 inches, they have to

take a back seat to their still bigger Florida cousins in the matter of length.

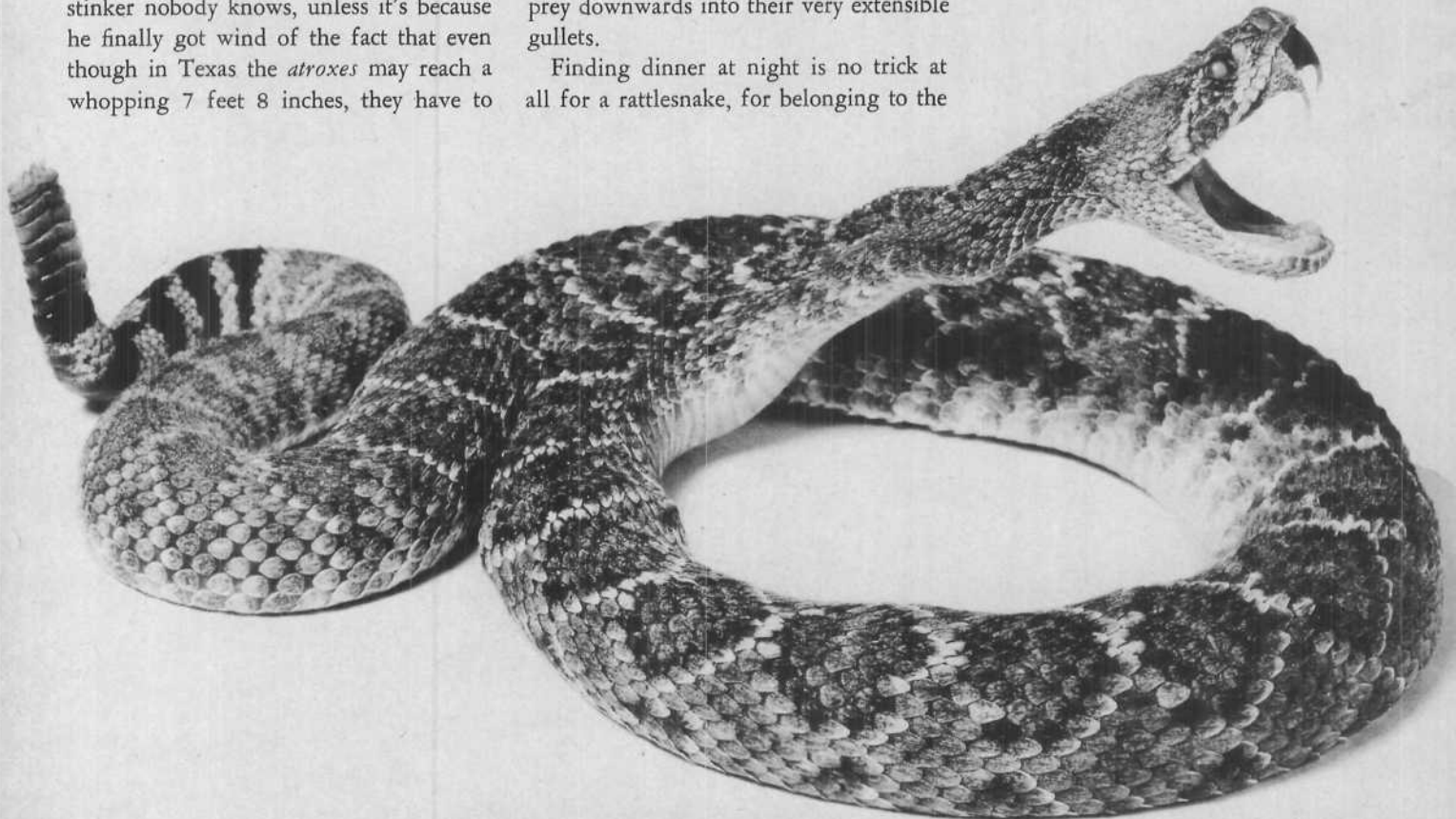
The diamondback likes the desert lowlands, good old flats with creosote, cactus, chaparral, mesquite thickets, stands of desert willow, dry washes, particularly. Resting in the shade during the heat of a summer's day, he's ready for hunting in the cool of evening and throughout the night. Mammals are his main food: pocket mice, woodrats, ground squirrels—a good-sized adult snake being able to handle a full grown cottontail, no mean accomplishment since snakes have no way of cutting up their food but must swallow it whole.

It is possible to take aboard prey of such dimensions first because of their exceedingly wide gape due to their skull-jawbone connections, and second because their loosely-put together jawbones work like a kind of chain conveyor drawing the prey downwards into their very extensible gullets.

Finding dinner at night is no trick at all for a rattlesnake, for belonging to the

pit viper group, he has their standard equipment: a small hole on either side of his head below and in front of each eye. Across the bottom of each pit is a thin membrane packed with receptors sensitive to the slightest warmth, so while tracking the prey is done mainly by smell and chemical sense, it is these warmth-detecting pits functioning together that zero the snake in on target even in pitch dark. The snake strikes, venom from the poison gland flows through his hollow fangs into the wound, and then there must be a waiting period for it to take effect, for not being a constrictor, the rattlesnake cannot simply crush his victim.

The snake does not use his rattle during hunting, for this is a warning device. Composed of keratin, a tough dry substance also found in horns, fingernails, etc., it is made in sections which are grooved and furrowed to fit loosely to-



DIAMONDBACK



Crotalus Atrox

Photo by George Service, Desert Expeditions

gether. A new segment is added each time the snake sheds, which he does several times a year, the new growth taking place at the body end, the older sections being pushed outward. The vertebrae at the end of the snake's spine are fused into a rod which supports the rattle at the base, and connected to his stiff tail-shaker are six bundles of muscles that do the job.

The team of zoologists James Martin and Roland M. Bagby, greatly impressed with atrox's loud and long rattling ability, set up some lab tests to investigate rattle frequency, and were astonished to

find that after three hours of continuous rattling there was no decrease in maximum frequency. Now the ability to maintain such a high rate of activity over such a long period of time means that the snake has to have a highly efficient energy supply. Anatomists J. E. Forbes and C. T. Kerins, working separately, both showed that his metabolism is geared for it, while L. T. Pastore's work on the muscles proved them to be structurally specialized for a high rate of activity. The final word came from Martin and Bagby again who showed that the bright red color of the tail-shaking muscles is due to greatly increased blood

supply and oxygen transport, both needed for sustained work. Hence, with all this anatomical and physiological specialization, atrox can keep his rattle going at high speed.

For a long time biologists have been sure that snakes cannot hear since they have no external ears at all, and do not seem to react in the usual fashion to airborne sounds. They do pick up vibrations from the ground. But now anatomists Peter Hartline and Howard Campbell have come up with some interesting new findings that suggest that scientists don't know it all yet, after all, but that snakes

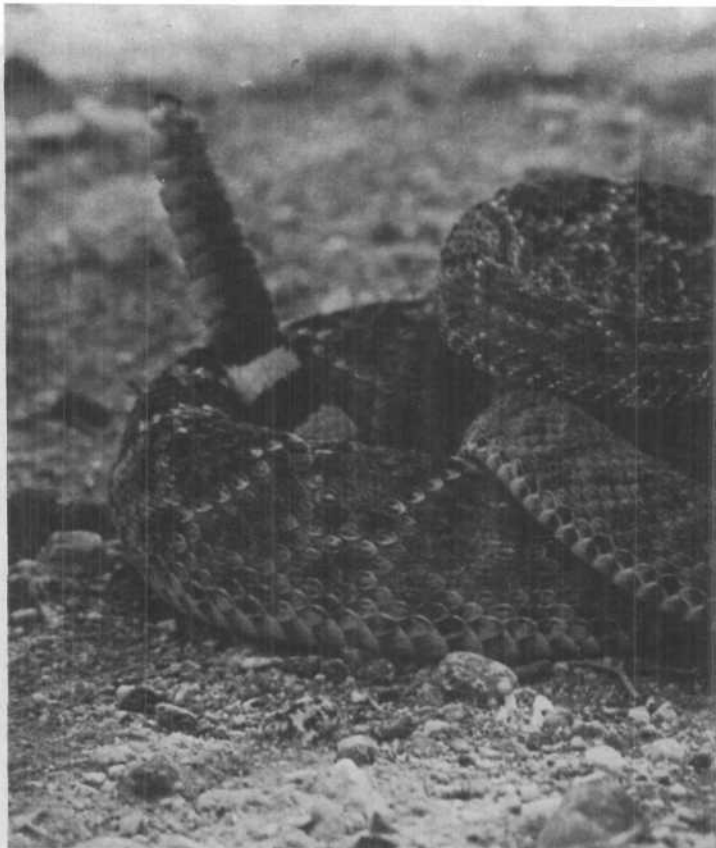
do indeed "hear" airborne sounds.

Working on the part of the midbrain which handles sound matters, they found that there is a reaction here to tones of 50 to 1000 herz, even when the snakes are positioned so they could not possibly pick up ground vibrations. Snakes do have a kind of inner ear, and since much of the snake's body is sensitive to locally applied sounds, these sounds may be transmitted to some mechanical pathway, not yet known, to the inner ear. Here they would be changed to nerve responses and shot along over the auditory nerve (which the snake also has) to the hearing center of the midbrain where the definite reaction to sound was shown in the lab. If, indeed, brain response is an indication of hearing, atrox can hear you coming as well as feel the vibrations in the ground. Which may be an added reason for his quick reactions and notoriously bad temper.

Now while it is true that in the colder parts of the desert range diamondbacks may gather in a winter den, and being sluggish apparently get along all right, things are different when they are active. Particularly irritable when hungry, no atrox is going to be cordial to another in pursuit of the same prey. The gentlemen are especially short-tempered with each other, a chance meeting being all it takes to set them to fighting, although the battles do not seem to be for social dominance or in defense of any terri-

Right: Tail raised and buttons rattling, old Atrox assumes a defensive position.

Photo by Karen Fowler.



tory. Also, while it is obvious that during the spring mating season fights occur more frequently—so strong is male reptilian rivalry for the lady coiled nearby and waiting—it does not take the presence of a female to set things off, since battles take place any time of the year.

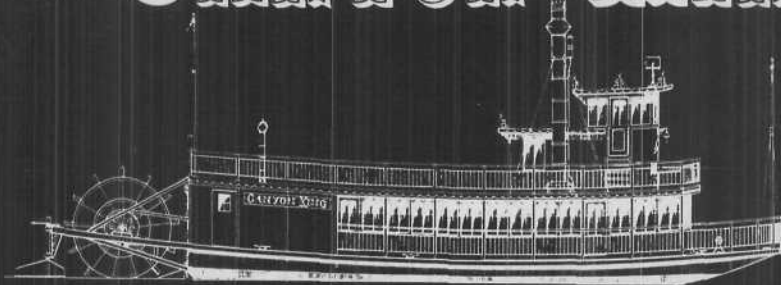
The fight is on when the combatants come together in a flurry of twisting and turning, until their bodies are tight-

ly entwined. Then, rearing upward with trunks upraised, heads weaving, they spar and wrestle. There is no rattling, and neither bites. But the struggle goes on and on until finally one succeeds in pushing the other down under the weight of his body, or until one gives up and calls it quits. At this point the battle is over. The combatants untwine, and the loser moves away.

Biologists Charles Bogert and Vincent Roth, in reporting this ritualistic combat between males, point to the very interesting fact that nobody has been seriously hurt, nobody has asked to waste any venom needed for food purposes, and yet the net result is a big success. The loser gone, the winner remains to continue with his own affairs, the wooing of the lady, the catching of a dinner, or simply shoving around the desert terrain without the irritation of another male being in the immediate vicinity.

Diamondbacks court in the spring, and Donald Tinkle, looking into their affairs in Texas, found that the females reproduce biennially, the number of offspring arriving in September running from 6 to 19. Rattlesnakes are ovoviviparous wherein the eggs are kept in the body until ready to hatch, and the youngsters are then born alive. Fresh out, the young rattlesnakes zip open his fetal membrane with his "egg tooth," a horny projection

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at the end of his snout, and wriggles out into the world. Equipped with venom, he knows how to coil and strike and is an exceedingly dangerous little fellow. And although he vibrates his tail, there is no sound since he doesn't have a rattle yet.

Mrs. Diamondback doesn't take maternal duties seriously, and if youngsters and adult are found together it is because the snakes are newly born and still in the vicinity of the mammal hole or crevice into which the female crawled to give birth to the young. The brood soon scatters, the youngsters feeding on tiny lizards, baby mammals, grasshoppers and the like, although they can live for some months on the egg yolk absorbed prior to birth. The prebutton start of the rattle is lost with the first shedding which takes place in about a week after birth. A button is then formed and with each succeeding shedding a segment of rattle is added. In no time at all, Jr. atrox has a good start on the standard noise-making equipment. Not that life in the desert is going to be any bed of roses, for roadrunners and other predators love a tasty young rattlesnake, and many youngsters freeze if the winter season is a bad one and they have not found warm enough hideaways.

Although tail vibrating is a very old and primitive reaction found in many kinds of snakes, the sound effects of the

rattle is strictly a New World invention. K. P. Schmidt, thinking things over, concluded that the rattlesnake group might well have evolved on the North American continent at the time when heavy hoofed herbivores were also evolving, and the large carnivores as well, and that the gradual addition of sound to the ancient habit of tail vibrating found the world over, was a big factor in the success of the rattlesnake clan.

Not that atrox is always going to use his. Today he may not feel like rattling, but will just let you have it. ☐

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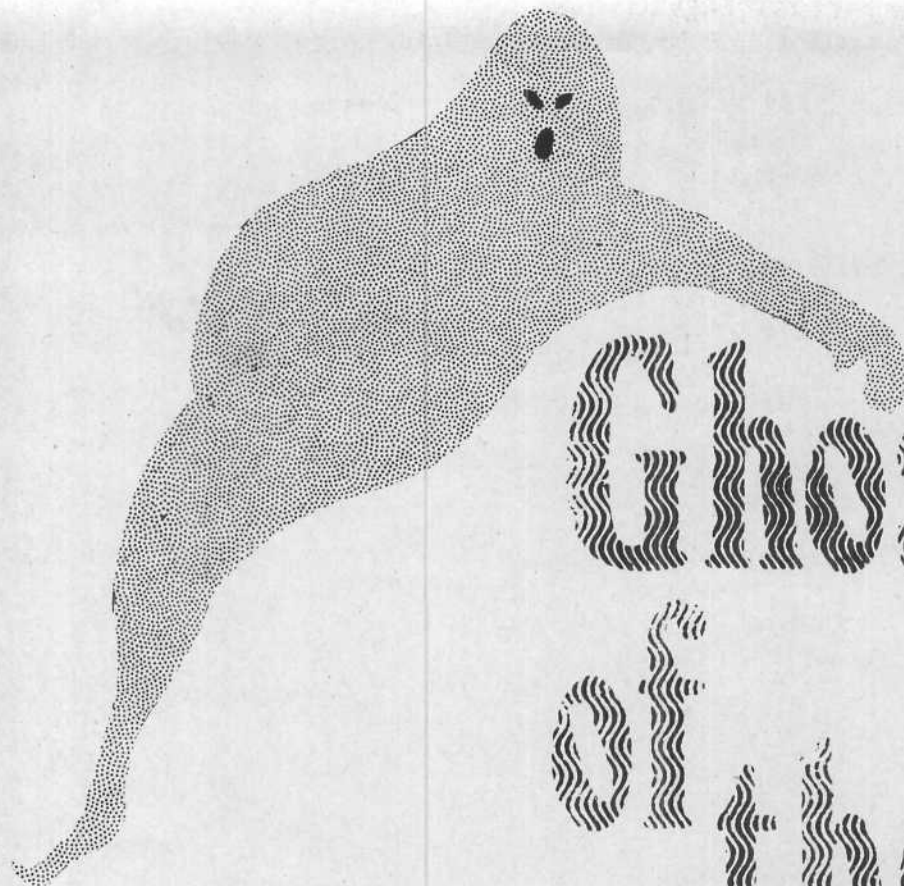
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Ghosts of the Carson Sink

photos
by
Jerry Strong

by Mary Frances Strong

IN RECENT years there has been a remarkable resurgence of interest in old places and old things. In fact, exploring and photographing the sites of old mines, their camps and towns has developed into a fast-growing family hobby. Its disciples increase daily and weekend trips or vacations are planned to center around these new interests.

Nevada has an excellent program for identifying its historical sites by placing markers nearby which describe a brief history of the event or locale. Travelers can use the pull-out area provided for short rest stops and, in so doing, learn a great deal about the history of the "Silver State." Of course, not all of Nevada's historical sites are marked and, quite possibly, they never can be.

Four such areas of early-day mining activities lie in a triangle formed by the

*Nearly buried
by irregular
flooding over the
years, this barrel,
probably, once
provided
drinking water.*

Right: The Desert Crystal Salt Works evaporated brine from this well and harvested salt crystals for use in Nevada's silver mills.

Below: A short distance south of the kiln, an open cut reveals the source of the lime. Fossil gastropods are found here.

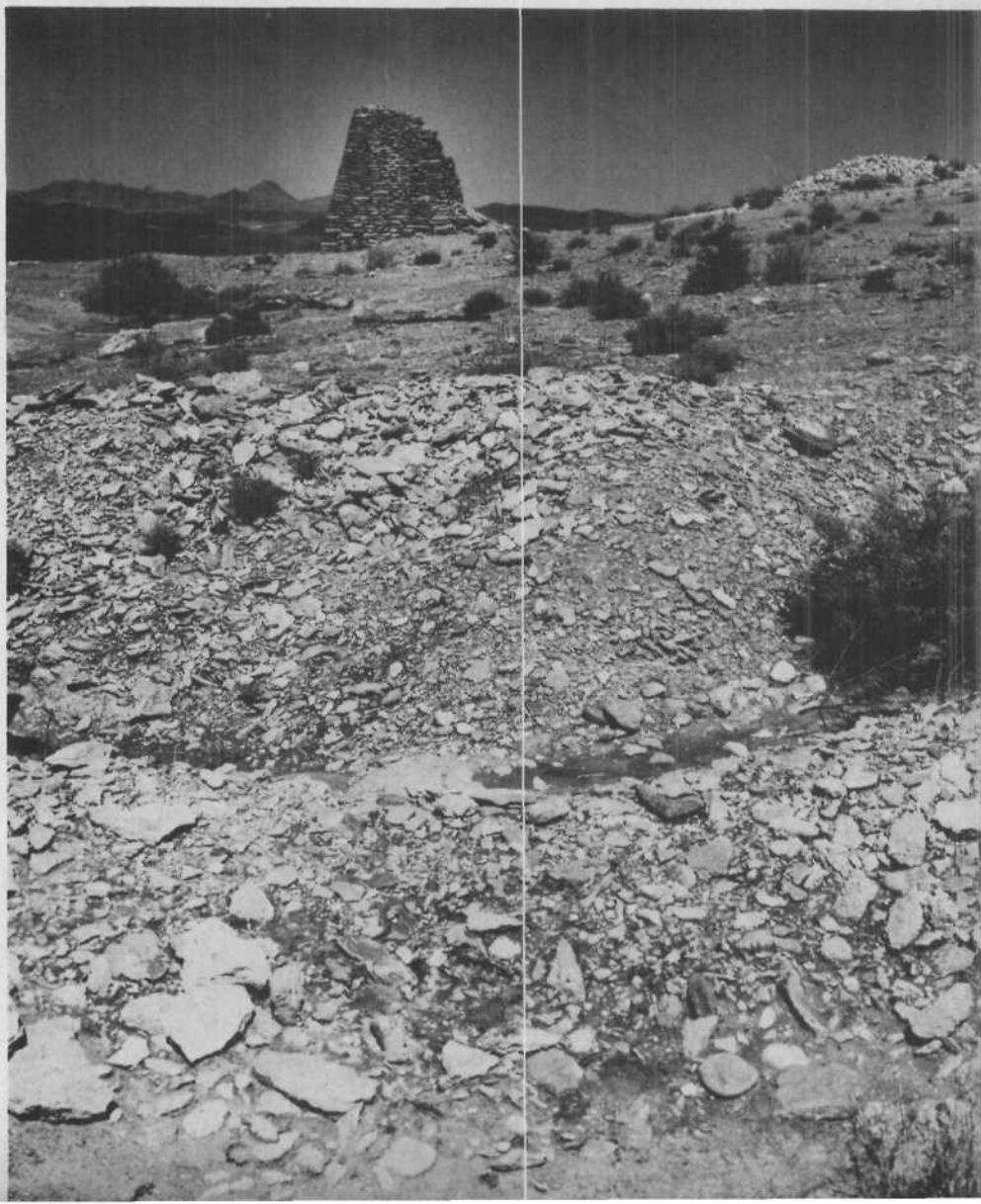


junction of Interstate 80 and Highway 95 in northwestern Churchill County. Few travelers speeding along the highways even realize ghost towns, ruins of a salt works and an old limekiln even exist. History buffs, photographers and fossil collectors can have a field day exploring the "ghosts on the Carson Sink."

A steady rain the previous day had kept us in camp, but the morning dawned sunny and clear. Our destinations were four-fold—hopefully to explore the site of the Desert Crystal Salt Works, an unusual limekiln and two mining camps on the Carson Sink.

Turning south from Interstate 80 onto Highway 95, we were pleased to note a new rest area had been built since we were previously in the area. We took time for a coffee break and viewed the great expanse of the sink—part of the infamous Forty-mile Desert, so dreaded by emigrants enroute to California. From our slight elevation, the tremendous playa appeared to be covered with a film of moisture which reflected in sparkling splendor the rays of an early morning sun. Dark areas indicated wet ground and sink holes. Knowing how quickly a car would mire down if not on the highway, it seemed almost impossible wagons could have crossed this treacherous ground. Even today, it is not wise to pull off the pavement, especially after a rain.

A mile south of the railroad crossing





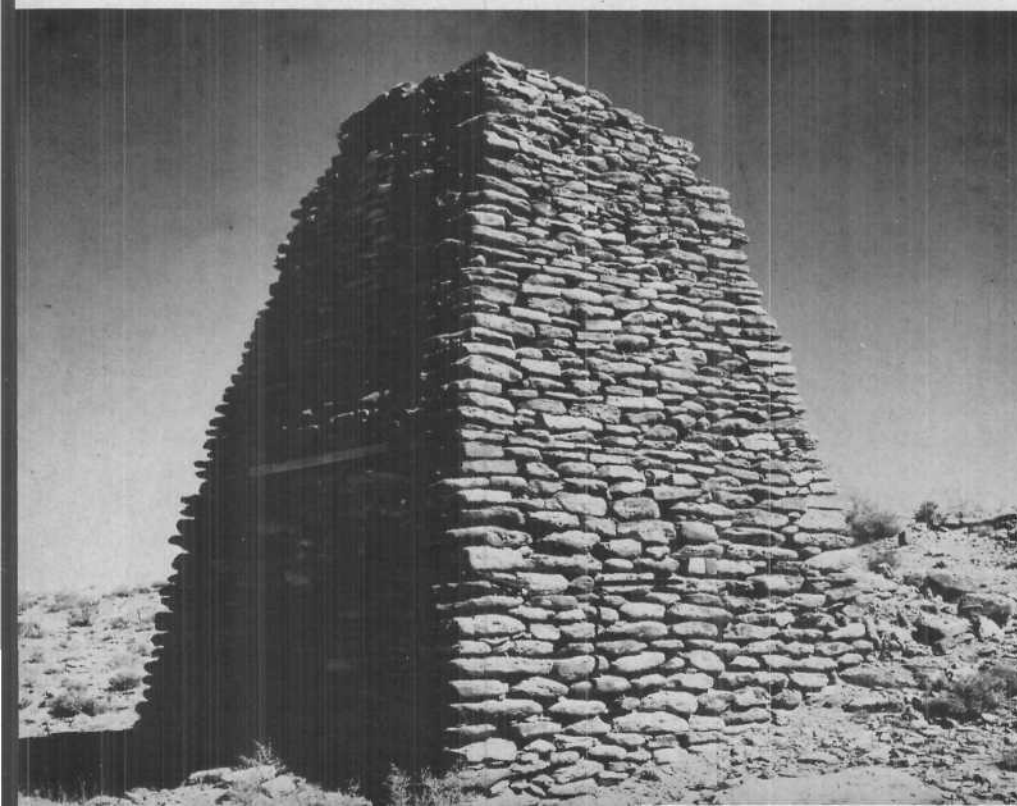
Jerry Strong examines rusted square nails still embedded in the salt-etched wood.

we turned right onto a section of old highway (graded road) and in a few minutes we were parked at the site of the Desert Crystal Salt Works. Square nails indicated the operation had begun well before the turn of the century and, having been subjected to the elements for over a hundred years, not much remained. A large iron vat, a partially buried barrel, plus rotting wood and metal lay about. Two open wells contained water but evi-

dence of the evaporative ponds was almost gone.

Mining salt doesn't have the glamor of its gold and silver counterparts, however, it is commercially important as an industrial chemical and preservative for foods, in preparation of hides for tanning and in the diets of men and animals. Salt was one of the chemicals used in the Washoe process for treating the silver ores of the Comstock Lode. Since Ne-

The old limekiln is very impressive—its masonry a work of art.



vada's salt reserves had not yet been exploited, it was necessary to import salt from San Francisco at \$150.00 per ton.

This need for salt in the Comstock, as well as other mining districts, stimulated interest in salt mining and resulted in the discovery of numerous salt-bearing basins in Nevada. The Carson Sink deposit was located by Walter Smith in about 1870. He formed the Desert Crystal Salt Company and began operations that were destined to last over a period of nearly 45 years.

Surface salt was of poor quality but a simple means of improving this, as well as the yield, was used—solar evaporation. Brine from the wells was forced to flow into a series of open-air vats or ponds, where "nature" became a mining partner. When the moisture evaporated, pure salt crystals were harvested. Approximately 200 tons of salt were shipped annually for use in Nevada's silver mills. A lesser amount of table salt, said to be of exceptionally fine grade, was also produced.

In 1911, the Desert Crystal Company leased their property at Parran to International Salt Company. Its "modus operandi" was similar and a small camp sprang up. However, mining only lasted about two years. The Desert Crystal Company ceased operations three years later in 1915.

Leaving the Desert Crystal site, we drove south to investigate the Parran operation. The night rain had been substantial and pools of water stood in every low area. Enroute we crossed the Humboldt Slough and found it filled with running water.

The site of Parran was partially covered with water and we wondered how people had managed to live and work under such adverse conditions. It would seem our ancestors were a "hardier breed" than we comfort-loving creatures of today. While rain is not too common in this region, it occurs more often than one might think. When we traveled this same route two weeks later on our way south, we drove through another heavy downpour. It, too, continued through the night and we could imagine how much like a vast lake the Sink must have looked.

The usual debris of occupancy will be seen at Parran, including a half-dozen building sites visible west of the railroad. Concrete piers of what seems to have been a loading ramp also remain.

Bottle buffs have been digging heavily

here. No doubt a few good bottles were added to their collections. In the early-days, cans and bottles were usually just "tossed in a pile." During years of heavy runoff and cloudbursts, these rubbish piles were strewn about. There are probably many bottles yet to be found. The problem is—where to dig, it is a big area.

We explored both sites, not digging, just looking around. A salt-etched chunk of wood was our treasure for the day and was destined to become part of a dry arrangement on our coffee table.

From Parran, we retraced our steps north to look for the limekiln. We knew it was only a short distance south of the salt works and had made note of a road leading west on our way to Parran.

Reportedly one of the oldest kilns in the state, we wondered if any evidence of it remained. We turned west onto the dirt road and in less than a tenth of a mile were at the site. Almost intact, the kiln was very impressive—its masonry a work of art. Not constructed in the beehive design generally found in early-day kilns, the square shape (tapered at the top) had been formed by carefully chosen, flat stones held together with mud mortar. The interior was lined with bricks.

Research turned up very little information about the history of the kiln but answered the questions "where did the lime come from." It was made from fossil shells—deposited ages ago in pre-historic Lake Lahontan. A short distance south of the kiln shallow cuts expose the fossil gastropods.

Jerry has a considerable interest in fossils and we have assembled a small collection from the various deposits encountered during our travels. Specimens from new locales are always welcomed so he elected to dig out a few nice ones. They are well-preserved, though not very large—averaging one-half to one inch in size. Not being a fossil expert, we have not attempted to identify the species from this location.

Gastropod, meaning "stomach foot," is one of the main divisions of the phylum Mollusca. It seems best described by "snails and their relations." Included are animals without hard parts—slugs, as well as others with a calcareous shell consisting of one main structure called a valve. The shells can be both coiled or uncoiled.

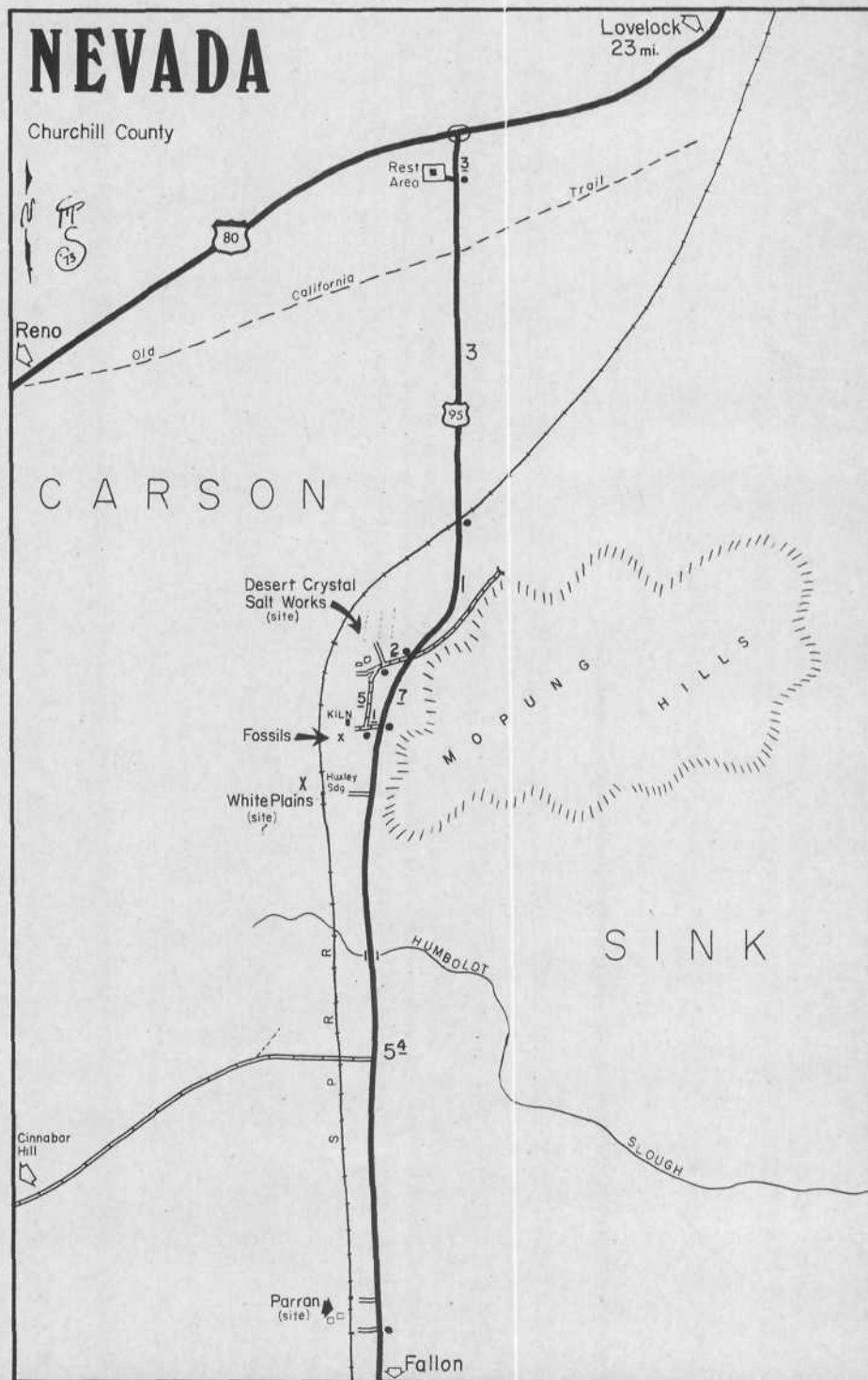
Originally, gastropods were marine animals but during the Mesozoic and Cenozoic Time, large numbers of them adapted

to life in fresh water. They became flesh eaters. Descendants of gastropods are with us today and, collectively, recent and fossil, they far outnumber all other species of mollusks combined. I would be very interested in hearing from any fossil collector who visits this area and identifies the species. Address your letter to me at Valyermo, CA 93563.

By now the October sun was hanging low in the western sky and only an hour or so of daylight was left to us. We still wanted to locate the ghost town of White Plains. Armed with several directions, all

conflicting, we decided to first follow a Bureau of Mines report stating White Plains was at Huxley Station on the Southern Pacific Railroad, four miles north of Parran. Aided by a map we found where Huxley station had been. There were acres of broken glass, old pilings and fences and what appeared to have been building sites. Was this White Plains? Frankly, we were not sure. However, it seemed a more logical place for a town than another reported location—three miles north and four miles west.

White Plains was the result of an 1863



gold strike in the Hot Springs Mountains. A small community sprang up boasting a couple of stores, railroad station, telegraph office, postoffice and a short-lived newspaper when a five-stamp mill was erected to handle the ores of the Desert Queen Mine.

We decided to look over the "other site" of White Plains so quickly drove north to Interstate 80, turned left and con-

tinued west four miles. Taking the Jessup off-ramp, we turned left and followed dirt tracks south. Stanley Paher, in his book on Nevada ghost towns, describes the location as follows, "White Plains, half mile south of I-80 at Jessup Exit (30 miles NW of Fallon)."

Our route followed the alluvial fan slanting toward the Carson Sink and, in less than three-tenths of a mile from the highway, the two-track road became a two-branch creek! Water was running down the tracks which had become slicker than ice. It was easy enough to go down but possibly trouble would develop trying to come back up. Even four-wheel-drive can encounter difficulties under certain conditions.

Jerry noted a high spot just prior to a drop in the road and, seeing standing water ahead, he elected to pull off and park. Once again we could see acres of broken glass reflecting the light of the setting sun. We decided to walk the short distance and look the site over. All was well until I reached a down-grade about a 100 feet from the car. I was sure I had stepped on ice when my feet flew out from under me and I made one of those

unglamorous "prat falls" which husbands always seem to find so amusing. I simply couldn't maintain traction so returned to the car, while Jerry continued ahead.

Running water and pools made any detailed exploring impossible. Jerry reported there wasn't much to see and nothing to photograph. Was this the site of White Plains? We cannot say without visiting the area again—next time before a rain storm.

It was with a feeling of both satisfaction and frustration we headed back to camp. It had been a beautiful fall day and we had explored areas new to us. Specimens had been added to our collection and we had made an historical trip we felt *Desert's* readers would enjoy.

But there was still the frustration of not positively locating the site of White Plains.

"Oh well," Jerry commented, "isn't that what our hobby is all about? The challenge of hunting them down and searching them out is what makes the trips exciting. Right?" he questioned.

"Right," I answered.

We will be back again — I silently promised. ☐

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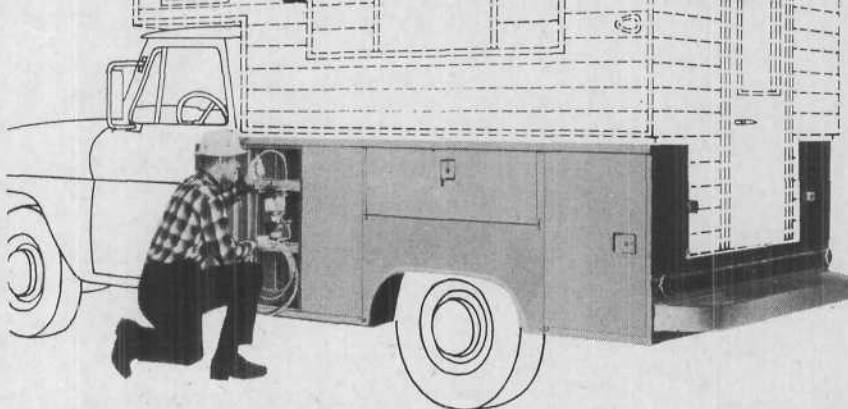
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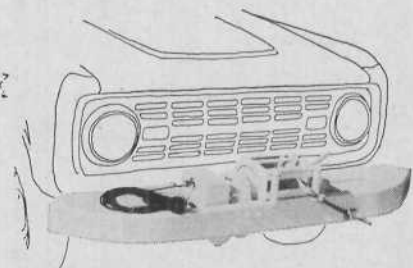
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Photo by George Service, Desert Expeditions



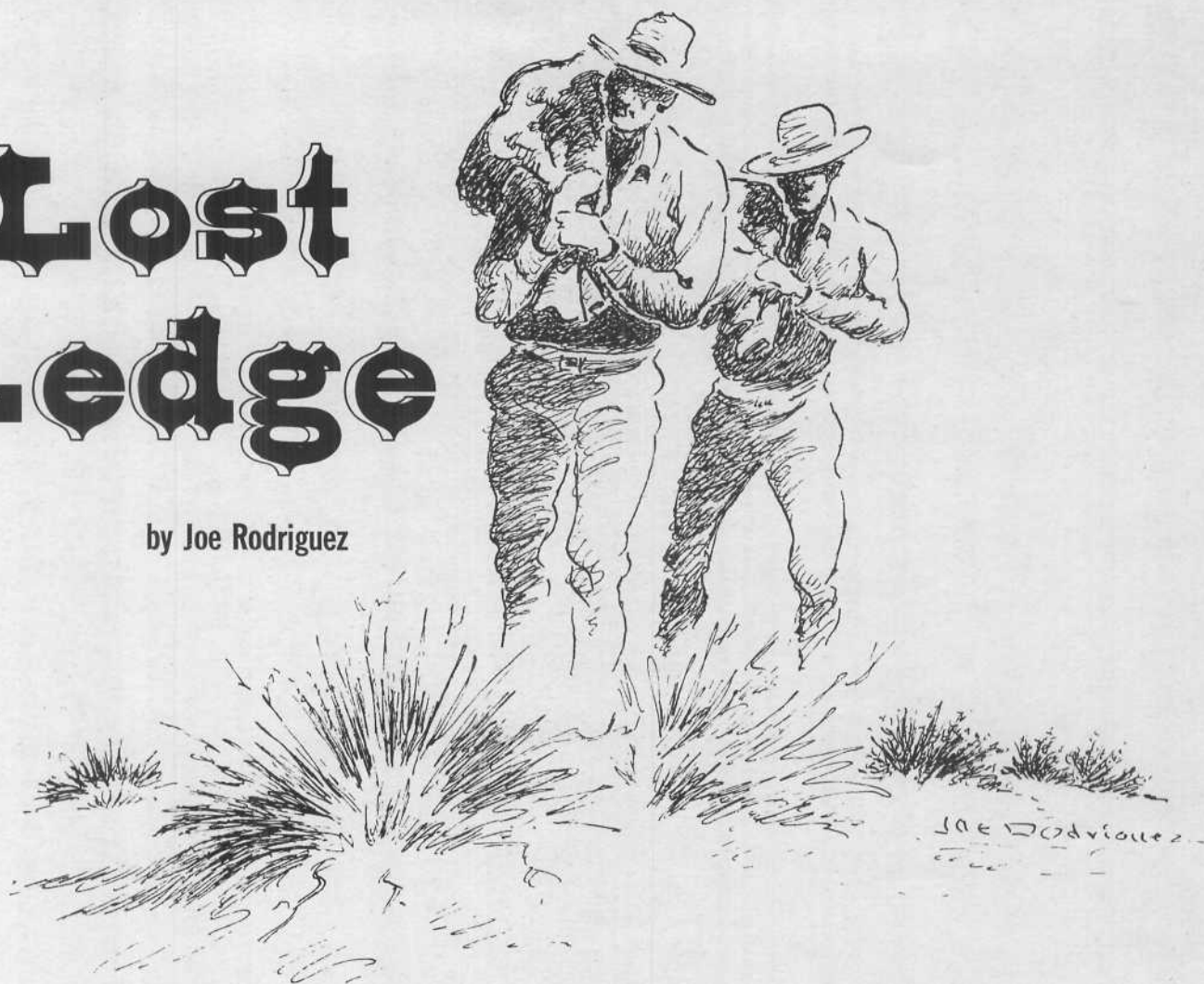
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Christmas,
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They'll
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Lost Ledge

by Joe Rodriguez



**HERE IS A
FIRST-PERSON
ACCOUNT FROM A
MAN WHOSE
FATHER FOUND
AND LOST A LEDGE
OF GOLD JUST
BEFORE THE TURN
OF THE CENTURY**

WE ARE tempted at times to question the credibility of the found-and-lost-again stories of lost mines and fabulous gold finds that oldtimers occasionally yarn about. How can anybody so knowledgeable about surviving in the wilds of the desert wasteland, who can name every wash and ravine, bird and beast, plant and flower in the many miles of an area that he might call his haunt, all of a sudden forget a site so completely?

I have often wondered myself, but I've learned that it can be done. Just recently, accompanied by a metal detector enthusiast, I went to look for an old linecamp cabin where I had stayed some 30 years ago. It had been something of a historic old place. My friend was interested in the old trash dump.

Would I go? Sure, it was only some 15 miles out of town. And would you believe it? We could not find hide nor hair of the place. Even the stone chimney, that

certainly would have remained if the cabin had been burned down, seemed to have been swallowed in thin air!

So I hesitate to render judgment when anybody says he found a gold mine once, but couldn't find it again. And if a man says it wasn't meant to be, why, I believe that too, very often superstition touches on such things.

Writer Harold O. Weight, in his article on Yuma gold, in the August issue of *Desert Magazine*, refers to some of the frustrating for-and-against paradoxes of such a search. And sometimes it seems that the more one pursues such a thing, the more involved it becomes. My particular reference to something close to what he writes about, and its relation to me, is very fleeting. But I found it interesting.

My reference involves my father, for I was not born yet, when he and a companion stumbled on what appeared to them to be a gold-bearing ledge on the desert north of Yuma.

He was working for the Picacho diggings just before the turn of the century, when those diggings were at the peak of their production, which was comparable to some of the great diggings in Nevada. And in essence they were just as wild.

He describes them as scatterings of shacks and tents. Men with families clustered together in their own camp areas for protection. He and my mother, he said, lived in a half tent and half dug-out for coolness, since he often worked a night shift requiring his sleeping during the day.

Water was sold by the barrel for drinking or cooking, and for washing, the womenfolk gathered water from the *tinajas* on the high rocks. Groceries, which were limited to canned goods mostly, were at a premium at the company store. It was badly stocked to begin with, and the only recourse for family men was to buy their supplies somewhere else. Like Yuma, 10 miles south and across the river, or Rillito, six or eight miles east on the Arizona side of the Colorado River.

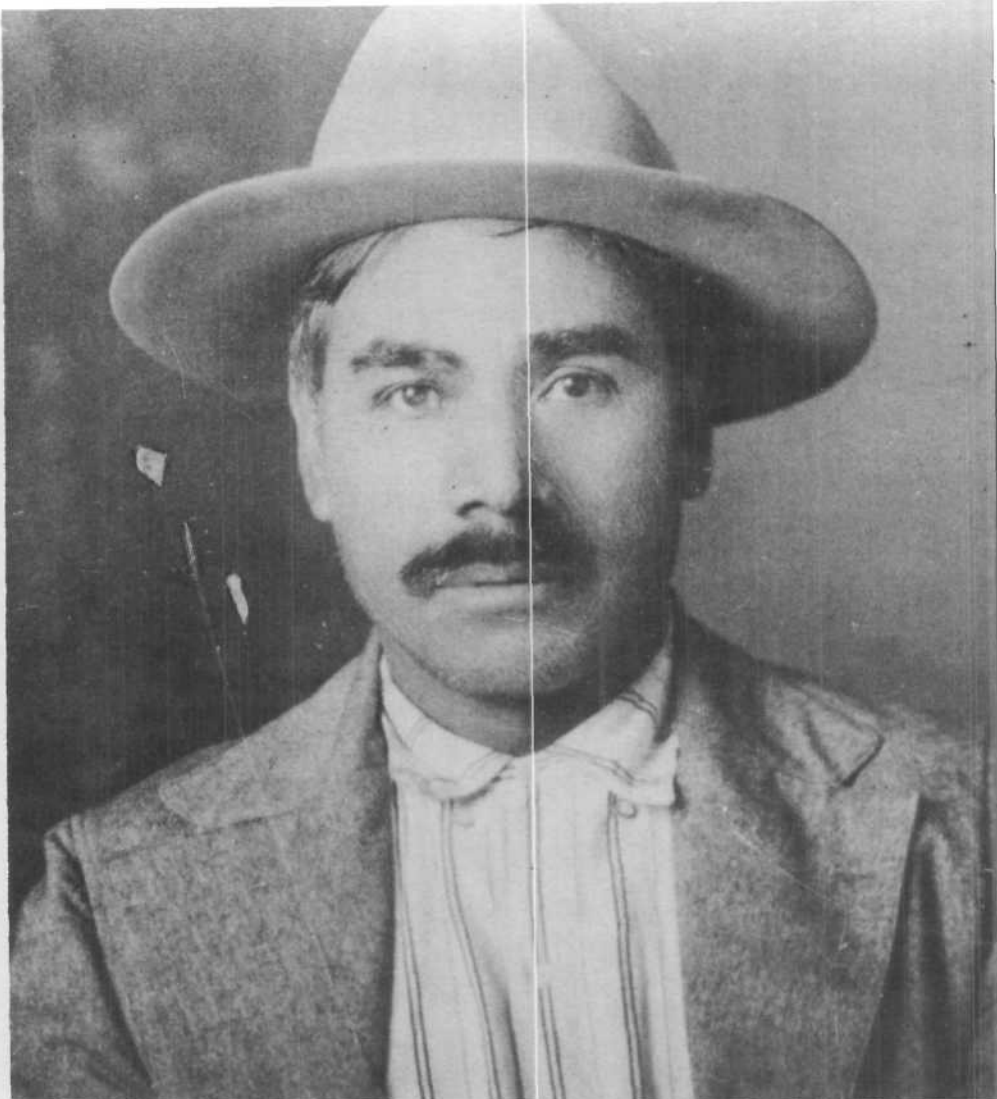
This was something of a hardship that could not be suffered very often. There was no transportation in a direct line to any of these places, requiring the men to walk across the desert country. That was no unusual thing. The country was constantly crossed and criss-crossed by old "burro prospectors" whose hobnailed boots left their prints across most any old road one happened to see.

The diggings at Picacho were discovered by an old Mexican goat herder who grazed his charges in the vicinity of the peak. And contrary to the alleged Spanish vociferous lust for gold, he gave his find to a California mining company, with the stipulation that they furnish his livelihood for all of his days.

The story seems pitiful since the result was a fabulously rich operation, but the company complied generously and the old gentleman lived a tranquil, happy life. His reason: he simply didn't know how to handle money.

On one occasion, my father and Francisco Delgadillo, one of his neighbors, decided to go together on one of their supply-buying excursions to Rillito. That place then was a trading post type of community serviced by the river steamer that plied its freighter and passenger service up and down the Colorado River. Crossing the stream was accomplished by the use

December, 1973



Joe Rodriguez, Sr., 1917.

of a ferry.

Their goods stuffed in gunny sacks, they recrossed the river and started on their way back to Picacho. The sun was beginning to drop and it would be night by the time they returned home. However, it was still afternoon as they staggered homeward across the desert. Now and then they would rest, putting their packs down and letting the air cool their backs. The country was a maze of gullies and washes, blown sand making dunes on the lee side of ledges.

On one such pause for a breather and a smoke, they rested on a rocky ledge which they noticed crumbled a bit as they sat down.

Both men were experienced with raw gold. They dug it for the company every day and the outcropping seemed to contain a good indication of the metal. It parted from the crumbly rocky particles easily.

They stared and grew nervous. As they examined the ledge, they realized that they might have a find on their hands.

But nobody wrote suggestions anywhere on anything as to just what to do if you thought you had a find in those days. Professional searchers knew, but the two men were simple working men who got wages for their work.

They placed a rock marker that would not be too conspicuous to others who might happen by, and decided to come back for a good look another day. It was not far from Picacho, for they were about half way there from Rillito.

Needless to say, they looked, but never found it again. A sand dune shifted, perhaps, and covered it. My father did not dwell on it too much, however. For he did not know the complications involved in mineral claims anyway. And old Mexican adage says: that you need a gold mine to operate another one.

So it was forgotten till years later when he mentioned it to me, then it was forgotten again until author Weight mentioned *his* elusive ledge in the August issue of *Desert Magazine*.

Quien sabe, it could be the same one. □

DUNE BUGGY

by Joe Kraus

*Photos
by
Bob
Young*

*Under full throttle
a dune buggy
nears the crest
of a dune in
the Hugh Osborne
State Park
Sand Hills.*

Desert Magazine

ES ARE FUN!

TAKE A highly colorful dune buggy, add an eight cylinder engine, a mountain of sand and a blind driver and you have what can mildly be termed—a wild ride! But even less adventuresome folk will admit, after shaking out the loose sand, dune buggy bolts and an occasional sand spider, that the ride was worth every scream of it.

Recently a trip was taken into the world's largest sandbox in the Imperial Valley. Located 20 miles east of Brawley, California, the dunes stretch for 40 miles along the east rim of the valley. Once, the only way through them was on a roadway built of bolted planks. These were moved by teams of horses when the wind-blown sand began to cover them. The great humps are sometimes 90 feet high.

Today, a modern highway skirts the area making it possible for dune buggy enthusiasts to join together. And in their powered, climbing and sometimes bucking machines, they make every moment count. After a few hard roars of an engine, the bugs can be seen sand hopping over seemingly endless humps of white emptiness. Speed runs to the top of a large dune and then down into a gully results in only another dune and still another gully. They skirt around the side of sand canyons, dive into what is termed "The Big Hole" and for the grand finale ease their way down the "Giant Slide," an almost vertical sand cliff.

December, 1973



Sand dunes take on a new look late in the afternoon. Here long shadows make various patterns awaiting those who come to explore their secrets.



Above: The rolling dunes provide thrills a-plenty for all ages. Below: If a dune bug isn't working properly often all it takes is a little adjustment here and there to get it running again. Always nearby, however, are others ready to offer assistance.



A ride in one of the dune bugs is an experience not soon forgotten. Depending on the driver, a chauffeured trip can mean anything from mild fright to mass hysteria. And if you have problems a good ride is said to cure everything from suicidal instincts to hiccups.

Today, dune buggies come in all sizes, shapes and colors. But if you're looking around trying to buy one you'll soon come to the conclusion—you just can't. Most of the commercial buggies seen running around locally are not adapted to the rugged life of dune hopping.

Homemade, most are freaks in their own right costing upwards to \$8,000. Others dubbed as coyotes are cheaper conglomerations of three to six different makes of autos and a tractor or two thrown in to boot. Some of the bugs look as if the engines had been obtained from the family washing machine.

Body styles vary, but most have hand-made, rail-type frames. Some use thin spoke wheels in front with oversized double wheels in the rear. Some with two or four seats, but most with single seats gleam in brilliant colors.

Ranging in size and cost from converted Volkswagen chassis and motors to high-priced dragsters with fuel-injection engines, dune buggy enthusiasts can provide fun at almost any cost. If he wishes, a person can merely strip down an old auto and equip it with sand tires to achieve the thrills of dune-bugging.

Longtime dune buggy enthusiast and top eliminator winner at Pismo Beach and other meets started in such a way. "I began with a little old car which I cut down," Sterling said. "Then I built up a fueler which burns nitromethane at \$5 a gallon." Sterling estimates its value at \$6,000 to \$7,000.

Although recently in the limelight, dune riding has a history as far back as Stanley Steamers. Included in the early bugs are such oldtimers as the glamorous Model T's and Model A's. But probably the most well-known was the buggy devised during prohibition days. This was used at the time to smuggle juice across the border.

Talk nowadays is not on the pirating days of old but on the thrills and joys of dune bugging in general. And there is nothing better to some than to gather up their families and head out for a sand mountain adventure. Although there are many individual families who do this on

their own, there are far more who band together in organizations.

With these organizations come responsibilities, goals and projects in which each member can take an active part. Members have devised rules and regulations, safety standards and an unwritten code of looking after one another. In all they are a happy bunch of people who have discovered what nature had to offer and are making well use of their time.

The largest and most well known group of enthusiasts is the Imperial Valley Dune Buggy Association. For not only is it the host club when dune buggy groups have meets in the area, but is active in other projects. Recently the U. S. Navy invited some 50 foreign military officers to its anti-submarine warfare course at the San Diego Naval Station. The Navy asked the dune buggy group to help. As a result, while in the Imperial Valley area, the officers were guests of the Dune Buggy Association and were given rides on the dunes.

Another project of the dune group was "Operation Clean Sweep," a drive to clean up the sand dunes. Said to be the largest campaign of its type in the U. S. history, members of the club organized an event in which 700 people participated. These people came in about 300 vehicles and belonged to 33 four-wheel-drive and four dune buggy clubs. According to Dave Pierson, Imperial County Director of Public Works, and Jerry Isbell, maintenance superintendent, 20 truckloads of trash were hauled away from the area.

As the project was underway a plane from the Bureau of Land Management flew over the area to take pictures. These pictures were edited into a film in Washington, D. C. and is now being shown in schools and various organizations. The film's purpose is to drive home the fact it is possible to keep the desert clean.

In addition to clean-up drives, the group aids in training of handicapped persons through payment of dues and fund raising projects. Members are also available to civil defense officials and the sheriff's office for search, rescue and other chores.

Since the very beginning, the sand hills have been the natural home for the dune buggy enthusiasts. But the dunes are not theirs alone for the buggys share their hills with many others who also enjoy the unusual offerings. □

December, 1973



Above: the serenity of the dunes provide a restful spot for those not attuned to the hustle and bustle of buggy riding. Below: Often the dune bug will fly high as it reaches top of sand hill. The home-made bugs are built to take the extra heavy wear.



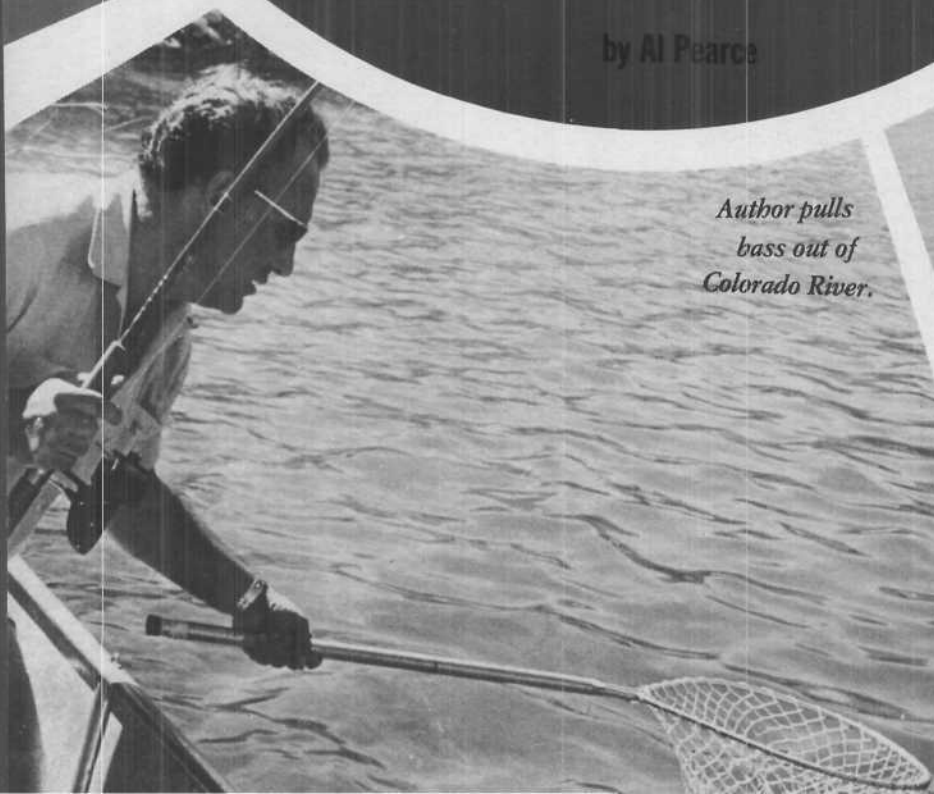
YUMA

Right
in the middle
of

Fifty Miles of Fun!

by Al Pearce

*Author pulls
bass out of
Colorado River.*





*Author's wife reaches for dinner.
Tilapia gather near incoming water.*



IT'S HARD to believe that thousands of tourists must go through Yuma every year without stopping long enough to look beneath the facade of commonplace.

At first glance, it's hard to see anything more than the ordinary. Yuma is just a small town made possible by the magic of irrigation. It's basically a farming community.

Those thousands of people, who race through here every year, would perhaps be astounded if their car broke down and they were forced to stay here long enough to look around.

The first surprise would come within a couple of blocks of the highway that whisks through the middle of town, bordered by a string of hotels, service stations and tourist-type restaurants.

I say surprise because to the first-time visitor, Yuma and the land that surrounds it, is desert. They think only in terms of desert. For 100 or more miles before reaching Yuma, they saw little but sand, thirsty mesquite, and hungry creosote bushes. That's all.

Then, suddenly—two blocks away from the highway in downtown Yuma—they are confronted by the surprising sight of men, women, and children fishing. If it should happen to be sometime around four o'clock in the afternoon, the visitor will see scores of housewives, with fishing

rod in hand, trying to catch an evening meal.

Fishing, however, is not the only surprise the newcomer might experience. Aside from being a remarkable land of contrast, there seems to be no end of attractions.

If the visitor is fortunate, the damage to his automobile might be severe enough to keep him in town for several days. It's worth it.

Yuma came to life during the tumultuous days when an army of fortune hunters scoured the west for gold. That precious metal was discovered in two or three areas around Yuma.

When the gold was gone, Yuma may have died but for its qualities which attracted scores of adventurers and—you might call them dreamers. What a life those early settlers must have lived; most were occupied with either battling the raging Colorado River, or trying to turn a scorching desert into tillable ground.

Every day must have been a battle; and every week must have been a war. Remember, there were no dams along the Colorado River then, nor was there water available for irrigation.

But if Yuma was sired by frustration and anger, its mother must have been patience and peace. Evidence of the former is no longer visible. On the surface it's a quiet, farming community that seems hardly worth a second look.

But let's look beneath the surface—let's take a long, second look.

Yuma is a part of what is loosely called the Colorado Desert. This takes in South-eastern California, the southern reaches of the Colorado River and Southwestern Arizona. It is typically desert, ranging from rolling sand dunes to the west of Yuma to rolling mountains to the east.

If you are one of the growing number of people who think the desert is beautiful, you'll especially like this area which, for the purpose of this article, takes in about a 50-mile circle around Yuma.

To describe this area as it should be done is a tough assignment. A book, many times the size of this article, would still fail to do it justice.

In talking about the area around Yuma you must include the Colorado River, a sportsman's paradise; the Castle Dome Mountains, which virtually have been the breeding grounds for legends; and one cannot overlook the rolling, mysterious sands on the California side of the river.

Nor, can we forget the people. They're friendly; they're generous; and they are eager to explain to any newcomer why they have picked this one little section of the world to live and call home.

I can't help but remember the first time I was in Yuma. I was sharing those feelings that now possess the thousands of tourists we were discussing earlier. I simply couldn't see much.

Perhaps it showed on my face. Perhaps I had that look, "My God. What have You done to this part of the world."

I was sitting in a restaurant gazing out the window, barely conscious of what I was looking at. I did notice that the streets were terribly deserted. It was during the middle of the afternoon—and, frankly, there's wasn't a heck of a lot going on that was really worth much looking.

It was at this moment that a voice came knocking at my dim consciousness. "Looks kind of dull," the voice drawled. "But it ain't."

I turned and looked at the speaker. He was the kind of guy Zane Grey used to joy in describing. A bundle of grey hair, slightly unkept, topped a weather-beaten and wrinkled face. The smile that turned up the corner of his mouth looked permanent; and so did the somewhat mischievous sparkle that seemed to jump from his eyes.

"It's resting time," he suggested. "The local folks are resting up, waiting out the sun."

"I can't say as I blame them," I said.

It might have been the way I said it; it could have been simply because the old man didn't want a stranger to think ill of his town; but before I really knew what was happening I was on my way to the river in one of the oldest pickup trucks I had ever been in.

From the truck, I climbed into one of the most modern boats then available—and went fishing.

I mention this incident briefly, simply to illustrate the generosity and friendliness of the people who live in Yuma. This was not a peculiar event. It happens frequently.

Several years later, a similar incident led my wife and I to the best Mexican food I have ever enjoyed. And, when talking about Yuma, it's difficult not to mention Critens. Not the new one along the highway where tourists stop, but the old one local residents call "Hernando's Hide-away."

You can find it listed in the phone book.

Perhaps the singularly most visited attraction in Yuma is the Yuma Territorial Prison. It sets on the side of a hill overlooking Old Yuma.

This is where the hardened outlaws of the late 1800s and early 1900s spent much of their life. Men like John Wesley Hardin were tamed by this "hell hole" of the Southwest.

The prison is a museum now. It's open to the public. There is a museum of western artifacts and other exhibitions depicting the early days of Yuma. A tour of the inside of the prison makes it easy to

understand why men preferred to die rather than go to Yuma Prison.

But let's get out of Yuma; let's look at a part of that 50-mile circle around the town.

First, forget about trailer parks. It's hard to think of this 50-mile circle as anything but one large trailer park. You can park darn near anywhere—and everybody does.

Sounds like a big mess; but it seems that the people who come to the Yuma area must catch a little bit of the character that represents Yuma. These open campgrounds are as clean as a pin; the people are friendly and every tree seems to be made for a camper or trailer.

The open camping is found mostly in Arizona. You can camp just about anywhere along the river, or anywhere on the open desert east of the river.

So when going to Yuma, don't worry about a place to park. Of course, there are also a score of campgrounds if you prefer the comforts they offer.

The Colorado River has long been a sportsman's paradise; it's a fisherman's haven—right smack in the middle of the desert. Along this great river, you might catch bass, catfish, crappie, or bluegill.

There are also tilapia—thousands and thousands of them. Remember when I mentioned people fishing in the middle of Yuma. There were primarily after tilapia. Generally, a half-hour of fishing in any of the canals that flow through the heart of Yuma will produce all the tilapia a family can eat for supper.

Tilapia is an import. It was brought to this area from Africa several years ago. It's a lot like our own panfish—but they multiply much faster. They multiply so fast that they put rabbits to shame.

A biologist from the Arizona Department of Fish and Game told me that when they were first experimenting with Tilapia, seven pairs produced 30,000 offspring in seven months.

This rate of reproduction scared the dickens out of everybody and for a long time, they would stock nothing but males. Then, to everyone's surprise, they learned that the fish quickly die off when the water temperature drops below 55 degrees.

The Lower Colorado River—with its tributaries became a natural. All the water in this area drops below 55 degrees—except portions of Salt Canal.

So the fish survive during the winter in

*remember the beautiful sunny days;
the cool, crisp, starlit evenings in the beautiful desert?*

*when you return this year come back and stay with us
at the stardust. it's yuma's most complete hotel-motel.*

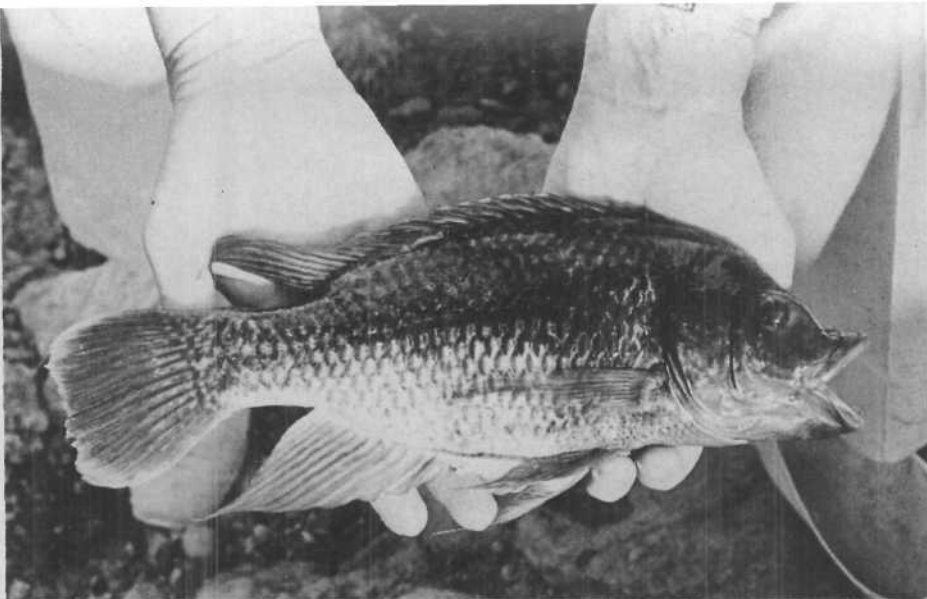
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Close-up of tilapia reveals its similarity to American panfish. The African import has become a popular addition to Southwest fishing.

Salt Canal, then spread throughout all the water around Yuma in the spring. This change in the various water temperatures creates a natural control.

And, along about September or October it's virtually impossible not to catch a whole bucketful of the critters. You don't even have to try very hard.

North of Yuma, off Highway 95—it's well marked—there are several dams that back up the river into lakes. These have become popular recreation areas.

Space does not permit a complete description of all these areas; but briefly the more popular ones can be described.

First, let's talk about the Imperial Dam area. It's just a little bit short of fantastic. And so is the fishing. In recent years, the government has done a lot of work in this area. Just below the dam, the river becomes channeled, but backs up to form several narrow impoundments; the perfect home for bass and catfish. Camping is open and free around most of these impoundments. There are also a couple of pay campgrounds in the area with all the hookups.

Here, too, the American Canal which flows across Southeastern California has its beginning. The canal is also filled with fish.

On the California side, a short distance above the dam, a huge holding reservoir has been built by the government. Its primary function is to hold water to be used at the peak of irrigation demands. But it has also created a large lake and the recreation that accompanies lakes.

Again, there are available—and free—camping areas all around this lake. It's

good for water skiing, fishing, and just plain lazy relaxation.

Imperial Dam backs up Lake Martinez, a few miles farther to the north—this lake is noted for its fishing. Turnoffs from Highway 95 to any of these areas are well marked. It should be mentioned that this whole area around Martinez Lake is within the Imperial Wildlife Refuge.

If you are a wildlife enthusiast, particularly a bird watcher, this area can keep you busy for days. There are scores of egrets and cranes; loons and terns and hundreds of ducks in season.

To the east of Yuma stands the Castle Dome Mountains. There are several local lost treasure-type stories involving this somewhat forelorn, but majestic-appearing range of mountains.

A few hours out of a schedule can be well spent touring the base of this range, or perhaps even taking short walks into one of the many canyons.

And we mustn't forget the rolling sand dunes in California, a few miles west of Yuma. The human animal once avoided these huge piles of sand almost with a passion. But no more — the outdoor recreational vehicle, especially the dune buggy, has brought man into the sand. These dunes are sometimes more crowded than any Southern California Freeway.

People in Yuma are proud of their part of the country. They boast freely—and with good reason. They enjoy strangers and delight in telling newcomers about the joys to be found in their little world.

A smile here is worth more than money. It's sort of like a passport into a world never seen by the tourist. □

YUMA

AMERICA'S SUNNIEST WINTER RESORT!

CALENDAR OF EVENTS

1973

Century House Museum, a branch of Arizona Historical Society, 240 Madison Ave. Open 10 a.m. to 4 p.m., Tues.-Sat.

Yuma Art Center Galleries, 244 Main St. Open 10 a.m.-4 p.m. Tues.-Sat.

December 1

17th Annual All-Breed Dog Show and Obedience Trial. 9 a.m.-7 p.m., Fairgrounds.

December 4

Yuma Symphony Concert, 8 p.m., Snider Auditorium.

December 8

13th Annual Barbershop Show "Memories, Barbershop Style," 8 p.m., Snider Auditorium.

December 16

"Magnificat" by Vivaldi, performed by Yuma Community Chorus.

1974

January 3

Greyhound Races, Wed. thru Sunday nights. Greyhound Park.

January 17-19

Yuma Open Invitational Golf Tournament, sponsored by Caballeros de Yuma, Inc.

January 18-20

Quechan Indian Pow Wow and Parade. Fort Yuma.

January 29

Yuma Symphony Concert, 8 p.m., Snider Auditorium.

February 9-10

Silver Spur Rodeo and Parade. Parade on February 9. Rodeo Grounds.

February 16-17

C-B Radio Association Jamboree, Fairgrounds.

February 22-24

Yuma Kiwanis Gun Show. Fairgrounds.

March 1-3

24th Annual Square Dance Festival.

March 4-10

Military Appreciation Days sponsored by Military Affairs Committee of the Yuma County Chamber of Commerce.

March 8-April 3

San Diego Padres Spring Training, 1 p.m., Desert Sun Stadium.

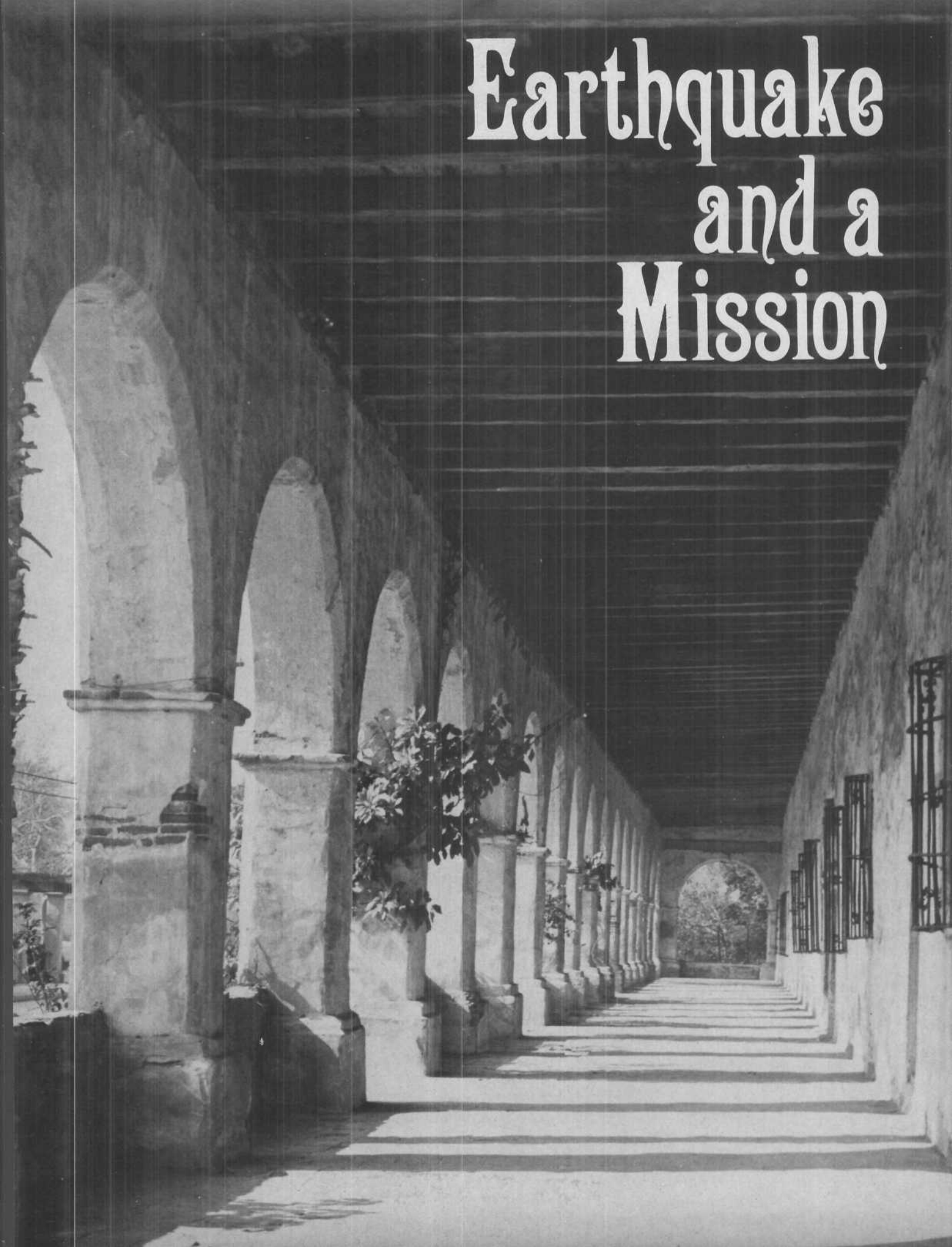
April 10-14

Yuma County Fair, Fairgrounds.

July 6

8th Annual World Championship Inner Tube Race and Float-Down Parade, sponsored by the Yuma County Chamber of Commerce.

Earthquake and a Mission



*Opposite page:
The corridor of Arches,
San Fernando Mission
before the earthquake.*

*Right: Bell tower
from courtyard after
earthquake.*

by Pat Holmes



EARTHQUAKES. CALIFORNIA has had many of them—some more destructive than others. But the effects of the one that hopped, skipped and jumped over the land February 9, 1971 will long be felt. People died. Homes, hospitals and businesses were destroyed.

Among the heavily damaged structures in the San Fernando area, was a bit of historic old California—the Mission of San Fernando Rey de Espana.

Most of the buildings at the Mission rode out the earthquake fairly well, but many of the items and furniture on display were tossed about and broken. However, the two oldest buildings took the brunt of the rolling, heaving motion. In the Convento, which was built in 1882, the chimney of the huge kitchen fireplace collapsed inside the building. And the 1806 church—one wall bowed outward while large chunks of adobe and plaster were torn from the walls both inside and out and some of the restored Indian artwork decorating the plaster was destroyed.

Both the Convento and the church were closed to the public, although the Mission itself remained open. Now, after

repairs were made, the Convento was open to the public once more in May, 1973.

Although finally torn down, the future of the church remains a question mark as the amount of the repair work is yet to be determined and could run into hundreds of thousands of dollars. Hopefully, it will be restored and preserved for future generations.

The San Fernando Mission, founded in 1797, has survived other earthquakes and other owners. At one time or another, the Mission has played host to the military—Alvarado, Casto, Pico, Micheltorena, and the American, Fremont. It was also used as a stage stop, a stables, and a hog ranch.

From its beginning, the Mission—the 17th link in the chain of missions that stretched 500 miles along the El Camino Real—flourished. Within two months of the dedication on September 8, 1797, by Padre Lasuen, there were 43 neophytes; by 1811, a thousand. There were grain farms, cattle ranchos, orchards, and vineyards; a tannery, olive press, soap, and candle works. Its goods were sold to other missions, presidios, and trading ships. And the Mission became a popular stop-

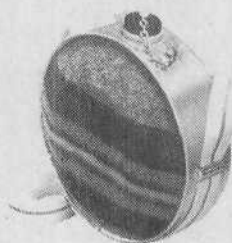
ping place for travelers.

Although the first buildings were constructed of poles with branches interwoven, then plastered with mud, and the roofs thatched with rushes, the later ones were made of adobe roofed with tile. But iron was so scarce that the roof timbers were usually lashed together with rawhide thongs, though hinges, locks, etc., were forged out of the iron that came from Mexico. The church, quarters, shops, and homes for the guards and Indian families were built around a quadrangle.

San Fernando outgrew its first two churches and a third was finished in 1806. It was this restored church that was damaged in the 1971 earthquake. From inside the church, the massive walls appear to lean outward due to the wall being five feet thick at the bottom and tapering at the top to three feet.

The Convento, a two story building 243 feet long, with walls four feet thick, is the largest original building at the Mission. A corridor of 21 Roman arches is along one side — the one facing Mission Blvd. Through the double doors of the La Sala, or the reception room, where beautiful primitive Indian artwork (re-

stored) decorates the walls, the Fathers greeted many a traveler. In the kitchen, meat was roasted or smoked in the huge fireplace in the fall for the coming months ahead and stored in a room upstairs. The large vat in the wine celler is where the

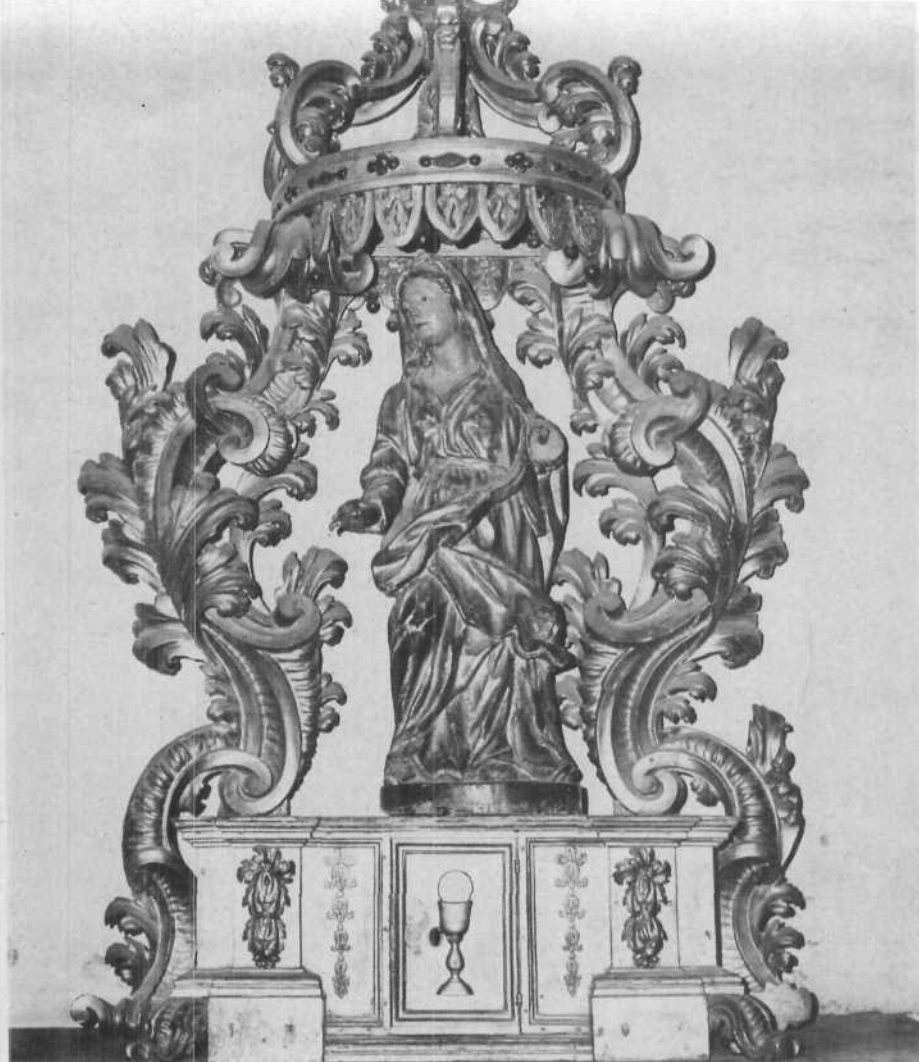


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One of the statues on display in the Convento.

Indians, washing their bare feet first in a little pool of water beside the vat, pressed grapes. Other rooms furnished as they

were then are the Padres room, library, and dining room. The rest of the rooms are used as a museum displaying 17th Century hand-carved, gold-leaved altars, old vestments, and an organ among the many exhibits.

At the far end of the Convento is the Hospice. Since inns were few and far between along the King's Highway, a traveler could find here a bed, dinner, or a cup of wine and exchange the latest news with the Fathers. One of the restored rooms is the Governor's room which was used by important visitors.

Life as it was like more than 150 years ago is seen in the restored Captain of the Guard's house and shops — blacksmith, carpentry, saddlery, pottery, and weaving.

Exhibits in the museum building tell the history of the Mission; there are religious relics, Indian baskets, pottery, and a Spanish pitcher from a trading ship. And about the water system—an ingenious one, too! It consisted of a series of dams connected by an aqueduct and then by open ditches to the orchards and vineyards.

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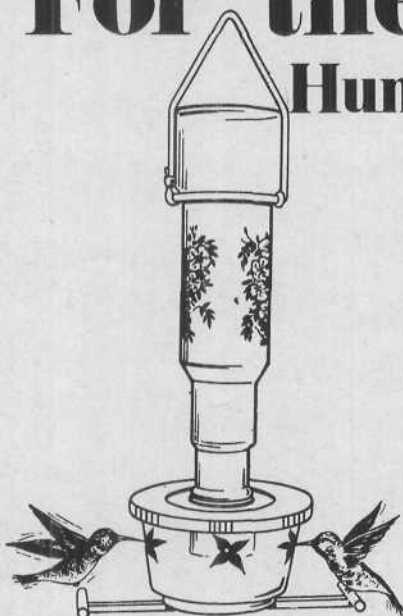
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The petal-shaped fountain in the courtyard with the church in the background, pictured before the earthquake. Mission San Fernando, California.

Serenity is the word for the gardens. Pink azaleas, roses, lillies, and poinsettias bloom in the year-round garden. Many varieties of cacti and banana, palm, and olive trees surrounded a petal-shaped fountain, a replica of one in Cordova, Spain. In the West Garden, a quiet pool, a tree-shaded path, and a ribbon of water cascading over a small waterfall makes it hard to believe that the Mission San Fernando was not always this way.

For in the 1820s a turbulent era began. Mexico declared independence from Spain. New settlers swarming into California wanted land, and some people believed that the Mission's wealth and land belonged to the new republic. The Indians grew restive and rebelled at several of the missions. In 1834, The Decree of Secularization removed the missions from control of the Catholic church.

At San Fernando, new overseers were installed to manage the grain farms, cattle ranches, orchards, and vineyards. Land was sold or rented. Cattle were slaughtered. The Indians drifted back to the wilderness or went to work in towns or ranches. Buildings were left to deteriorate and were ransacked of tile and lumber. Finally, the Mission was sold in 1846, and sold several more times before it was restored to the Catholic church.

Through the years many people have

worked to save the buildings and restore the Mission. They still are. Although the vast ranchos, orchards, and vineyards that once surrounded it are gone, the Mission San Fernando still remains. But will it survive other earthquakes? Only time can tell.

The San Fernando Mission is at 15151 Mission Blvd., about a mile west of the City of San Fernando and is between the San Diego and Golden State Freeways. (It can be reached by either.) There is a 50 cent donation for adults and for children 7 to 15 it is 15 cents. The Mission is open daily from 9 to 5 and the tour is self-guided with a map keyed to numbered explanations. ☐

UNSUNG HEROES OF ESMERALDA

By
Herschelle and
Genevieve Hanson



With tape recorder in hand, Herschelle and Genevieve Hanson talked with many "old-timers" of Fish Lake Valley, Nevada and its immediate environs. They garnered a variety of facts and tales about the region they have called home for 20 years.

In *Unsung Heroes* they relate a brief history of this beautiful valley and its early settlers. Done in a "folksy-style" of narration, it is beautifully illustrated with pen and ink sketches by Ruth Johnson—the Hanson's daughter.

You will meet "Bad Man Asa Wildes" and "Papa Dyer—whose 300 pounds were all muscle, no blubber." Chapter titles such as "Gangrene Anyone?" and "Chicken Hawk Mulligan" will be certain to arouse your interest.

Unsung Heroes is a family project—published, edited and bound by the Hanson family. It is natural that a first effort such as this contains a number of typographical errors. They can be easily overlooked by those who wish to add a book on Fish Lake Valley to their history shelf. MFS.

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ADVENTURE ALONG

by
Jack
Pepper

ADJACENT TO the Colorado River there are several thousand acres of mountains and deserts which are a challenge to explorers who want greater freedom and adventure than can be found in the more popular recreational areas of Southern California.

This area of adventure extends along the Colorado River on the south from Yuma, north to the Imperial Dam and the Picacho State Recreation Area and west to the Sand Hills in Imperial County.

It offers year-round fishing, boating and water skiing on the Colorado River, which also forms the Imperial National Wildlife Refuge. From excellent vantage points, photographers can "shoot" many varieties of native and migratory birds which have found sanctuary in the refuge.

The vast expanse of mostly public lands also contains some of the best rockhounding in California, ghost towns, abandoned mines, prehistoric Indian trails and petroglyphs, excellent "hunting" areas for metal detectors among the hundreds of military sites used by Patton's troops during World War II, designated sand dunes for dune buggy and motorcycle racing, and miles of scenic washes containing a variety of wild flowers, native plants and desert animals.

Somewhere within the area are several "lost" mines such as the Lost Sullivan, Lost Dutchman and the hidden *Yuma Gold* which was featured in the August,



1973 *Desert* in an article by Harold Weight, noted Western historian.

(A word of caution and advice. Although this vast expanse is mostly public lands administered by the Federal Bureau of Land Management, there are certain privately owned sections and some of the "abandoned" mines are again being worked. Do NOT trespass on posted property and do NOT destroy or litter. Also, racing of off-road vehicles is restricted to the Sand Hills at Hugh Osborne State Park.)

Although within a day's drive of San Diego and Los Angeles, this eastern section of Imperial County has many miles of good gravel roads easily negotiated by passenger car and leading to isolated sites where you can park your camper, travel

trailer or pitch a tent and enjoy the solitude of the desert. Even more isolated areas and avenues of exploration can be found by explorers and rockhounds who have four-wheel-drive vehicles.

And for those who want more "civilized" facilities than a "dry camp," there are public and private campgrounds around Yuma; the Imperial Dam Recreation Area; Picacho State Recreation Area; and Gold Rock Trading Post, headquarters for rockhounds and inland explorers.

I spent two weeks gathering material for this article, moving my base camp every two days to both "dry" and "civilized" camp sites. Although on the go from sunrise to sunset, I was able to cover only the more apparent and recognized areas. I know that in the many hidden washes and



THE YUMA TRAIL



Opposite Page: Old sluice box found in one of the washes along the Colorado River. These washes can only be explored by 4WD. Left: View from one of the hills showing Blazer and vast area where jasper and chalcedony and palm root are found in washes. Above: author uses detector to check old miner's cabin. Found three old coins.

along the rugged mountains there are mysteries few white men have seen. But even on a weekend, you will find it a rewarding adventure.

There are four general sections for setting up your base headquarters, depending upon whether your primary interest is fishing and water sports, rockhounding, exploring old mines, metal detecting, or racing over sand dunes.

IMPERIAL SAND HILLS SOUTH

For those who dig bune buggy and motorcycle testing, the Sand Hills around the Hugh Osborne State Park on California State 78, west of Brawley, have been set aside for such activities. (Racing of off-road vehicles in other parts of Imperial County is strictly prohibited and violators are subject to arrest.)

IMPERIAL DAM AND PHIL SWING STATE PARK

For those families whose main interests are fishing and relaxation, the Imperial Dam Recreation Area offers the right lure. There are several camping areas which can accommodate even large travel trailers. You can either fish in the Colorado or in the lagoons formed by the Imperial Dam, which is part of the All-American Canal System. However, this is primarily a fishing area and back-country exploring is limited.

It is located approximately 20 miles northeast of Winterhaven (a small community on the California side of the Colorado River from Yuma, Arizona) and can be reached over paved California State Route 24 from Winterhaven.

PICACHO STATE RECREATION AREA

If you want to combine fishing and boating on the Colorado River and, as an added attraction, look for rocks and photograph the birds in the Imperial National Wildlife Refuge, then head for the Picacho State Recreation Area.

To reach this state park take the same State Route 24 which leads to Imperial Dam. However, six miles from Winterhaven, instead of turning right on Ross Road, continue north and cross the All-American Canal.

From here it is 18 miles over a graded dirt road. Due to the curves and some steep grades, passenger cars should pull only small travel trailers. I had no trouble with my 18-foot trailer, but would not recommend the road for trailers over 20-feet or heavy mobile units with low clearance.

(When I was at the Imperial Dam area I noted that the Picacho Recreation Area was only 15 miles upstream. Since I had a four-wheel-drive, I asked the ranger if I could travel the 15 miles up the river instead of going back to Winterhaven. "You probably could make it,"

he answered, "if you allowed yourself two days and traded your Blazer in for a burro.")

There are 50 campsites at the main campground at Picacho, each with a table and fire ring. The sites are not crowded against each other, and shades come from giant trees and boulders. There is drinking water and a building with rest rooms and showers. More primitive camping areas are available in the 5,330-acre recreation area when the main campground is filled.

There is a public boat marina and launching area (not recommended for heavy outboards or inboards) as well as a concessionaire-operated store where packaged and canned groceries, gas, boating and fishing supplies are available. The store is open seven days a week during daylight hours the year-round. Small boats, both with and without motors, can be rented at a nominal fee. Best fishing is for black bass, channel catfish, crappie and bluegill.

For additional information write to, and enclose a self-addressed stamped envelope: Picacho State Recreation Area, P. O.

Box 1207, Winterhaven, California 92283. There is no telephone.

Temperatures at Picacho range from a wintertime low of 20 degrees to a summertime high of 120 degrees. Best time for camping is between mid-October and the end of April, although, especially during weekends, during this period the main camp may fill early. If you plan to camp along the river away from the main campgrounds from April into mid-summer, bring plenty of repellent as mosquitos are a problem.

When checking into the ranger station, pick up the free brochure which contains a map and information, including the history, geology, types of birds and animals and accessible roads. In exploring the area, either by passenger car or 4WD, leave your trailer at the camp as the roads are narrow and winding.

The park is named after Picacho Peak, a plug-dome volcanic outcropping, which has the appearance of an obelisk and is seen on the left of the road a few miles before entering the park. Although only 2,000 feet, it has been a landmark for centuries. It was first seen by white men when the Spanish penetrated the area in 1540, both by land and water.

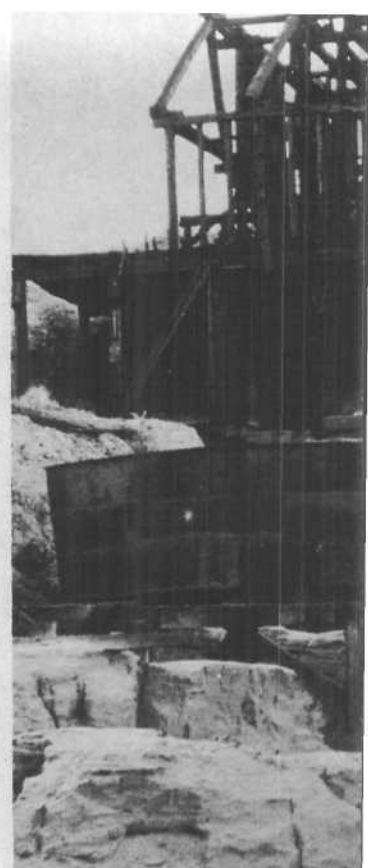
Thousands of years before Hernando de Alarcon came up the Colorado River from the Sea of Cortez and Melchior Diaz traveled overland to meet Alarcon, this entire area of Imperial County was the home of prehistoric Indians.

When the Spanish arrived they found the Kwichyana (Quechen) Indians who crossed the river on log rafts and raised maize (corn), beans, squash and gourds to augment their fish diet. Trails of the Indians and potsherds can be found throughout the area—but only by leaving your vehicle and hiking through the back country.

Historians note that when the Spanish first arrived the Indians were generally outgoing, friendly, enthusiastic, capable of great feats of endurance and "stubborn under provocation." That "provocation" came on July 17, 1781, when the natives revolted and destroyed the Mission La Purisima Concepcion, near the present city of Yuma, killing all the Spaniards, including Father Francisco Garces, a compassionate priest whose warnings the Indians would revolt were ignored by the Spanish military.

Gold was first discovered along the

*Mill
as
described
in
article.*



Colorado River in 1862, however, major activity did not begin until 1880 and in 1890 a large stamp mill was built above the river. Mining gradually gained momentum and by 1904, when production was at its peak, there were 700 men employed at the mine and mill and Picacho had a population of 2,500 men and women. An estimated \$14,000,000 in gold was taken from the mines and shipped by boat down the Colorado. Today, the main sections of Picacho are under water.

However, the 20-ton mill built at the Diablo shaft in 1908 still stands. To visit the giant mill go back on the main gravel road toward Winterhaven. Several miles from camp, after going through a canyon, you will see a white fence around a grave on the right. The mill cannot be seen from the grave.

Hike past the grave and climb down a steep bank to the wash and then up the opposite bank and up a small sand hill where you will see the mill. Be sure and take a canteen of water—and your camera, as this is one of the best preserved and largest mills in California. Again, admire, but do not destroy!

To photograph wild fowl and see the Colorado in a pristine state, take the gravel road north from the main campgrounds at Picacho State Park. Although safe and okay for passenger cars, go slowly and watch for vehicles around the curves.

The road goes through washes (not

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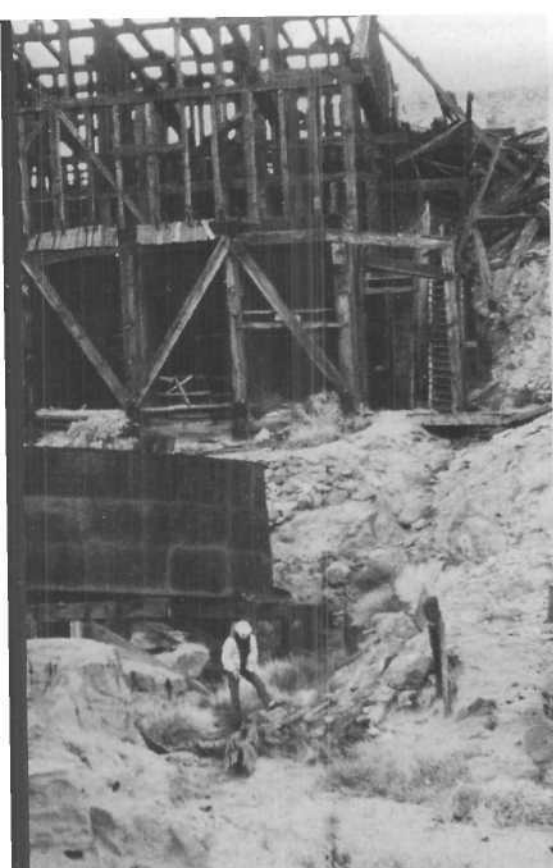
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sandy) and along the side of hills where there are spectacular views of the wild life refuge and the river. Parking areas enable photographers to "shoot" waterfowl, including ducks and geese, blue heron, snowy egrets, ibis, cormorants and many others. The Yuma Clapper Rail is found only in these marshes.

Land birds in the area covered by this article include cliff swallows, sparrows, towhees, cactus wrens, roadrunners, white winged doves, Gambel quail, owls, buzzards and red-tailed hawks to name only a few.

While exploring on foot you might see wild burro, desert bighorn sheep, coyote, bobcat, racoon, striped skunk, southern mule deer and dozens of other smaller animals such as the antelope ground squirrel, pack rat, round tailed ground squirrel, rabbit and a myriad of small lizards.

For passenger cars and heavy campers, the road along the river ends at the turn-off at Gavilan Wash. However, explorers with 4WD vehicles and veteran desert drivers with light campers having positive traction can turn and continue on through sandy Gavilan Wash to Indian Pass.

Indian Pass is a steep grade which tops onto a flat plateau and where are located the Indian "scratched rocks" which even today are a mystery.

The Indian rocks and the plateau, which affords miles of good level camping spots

and is an excellent jasper-collecting area, is easily reached by passenger car from the Gold Rock Trading Post and the paved road as shown on the map. It is about eight miles from the paved road to the top of Indian Pass.

As stated before, unless you have a four-wheel-drive or positive traction and are NOT pulling a trailer so you can go through Gavilan Wash, to get to Gold Rock and some of the best rockhounding areas in Southern California, from Picacho State Park return to Winterhaven.

Take Interstate 8 west for about 11 miles and take the Ogilby Road off-ramp north for about four miles to the railroad crossing.

Cross the railroad and continue on the paved road for another four miles where you will see a small directional sign pointing to Gold Rock Trading Post. On the right can be seen the ruins of Tumco Mine.

For those families who want to spend all of their time rockhounding, visiting old mines and metal detecting, you can reach the Gold Rock area by taking California State Route 78 from Brawley through the Sand Hills and Glamis. Eleven miles from Glamis turn south on the paved road. Gold Rock is about 16 miles south from the turnoff. The wide gravel road which leads to the top of Indian Pass is about 11 miles from the turnoff and five miles north of Gold Rock.

For those coming from the San Diego and El Centro area, take Interstate 8 east to the Ogilby Road off-ramp.

GOLD ROCK TRADING POST

The last four days of my two-week exploration of the eastern part of Imperial County were spent in and around the Gold Rock Trading Post. Rockhounds

from throughout the western states who rendezvous here, either as clubs or individuals, call it "The Ranch" or just "Gold Rock."

Gold Rock is owned and operated by Bob and Margrete "Scotty" Walker. There is a large camping area with overnight hookups for travel trailers and mobile units. Electricity and water are available for a nominal fee.

Many rockhounds from as far away as the east coast have permanent mobile homes at Gold Rock where they spend their winters. Several have built sheds for lapidary equipment, spending relaxing hours polishing the semi-precious stones they have collected throughout Southern California and nearby Arizona.

One of the best collections of antiques, semi-precious specimens, bolo ties, pendants and other jewelry, minerals, native rocks, Indian artifacts and mining relics are on display and for sale at the Gold Rock Trading Post.

It is a veritable treasure trove where you can browse without being pressured into buying, and where Bob and Scotty are always ready to answer questions and direct you to the best rockhounding areas. Whether you spend five minutes or an hour in the Trading Post, you will leave knowing your life has been enriched just by meeting and talking to this unusual couple who have found love and serenity in helping others understand the desert.

I first visited Gold Rock 10 years ago where I met Bob's parents, Carl and "Mom" Walker, who kept me fascinated with stories about their early pioneer days. Since then, Carl and "Mom" have passed away. But Bob and Scotty carry on the informal and friendly atmosphere established by his parents who first home-

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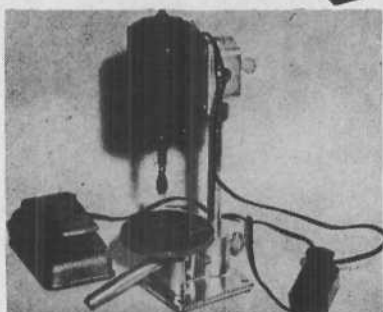
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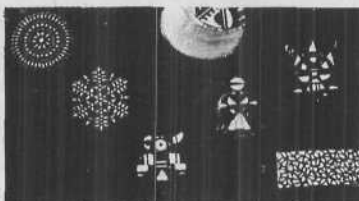


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steaded Gold Rock in 1930, five years after purchasing the famous Tumco Mine in 1925.

Unfortunately for the Walkers, but fortunately for us desert rats today, there was little gold left in Tumco so the Walkers eventually sold the mine and started the Gold Rock Trading Post.

Located two miles from Gold Rock, the now abandoned Tumco Mine was once the home of two thousand people who dug \$11,000,000 in gold from its deep underground shafts. It is one of several former mining activities in the immediate area which can be visited by passenger car. Other abandoned mines and shafts in the hills can be reached only by four-wheel-drives.

(Many of the mines in the area are once again being worked and are posted. Do NOT enter these areas. Not only are they private but there are explosives. Also, while visiting abandoned mines DO NOT enter mine shafts as there may be poisonous gas and fumes which have accumulated during the years. And do not let children wander, as there are still many uncovered shafts which go several hundred feet straight down.)



Anyone for rocks? Although this area of Imperial County has been a rockhound's paradise for many years, there are still acres and acres where you can find anything from poor to fine specimens, depending upon your time and physical endurance. Naturally, the farther you get away from the paved and gravel roads, the better chance you have, since the easier-to-get-to sites have been picked over.

There are exceptions. Once I stopped for lunch just off the paved highway and on the gravel road to Indian Pass. Two feet away from my vehicle I picked up a beautiful specimen of red jasper.

Whether you are an amateur collector as I am, a knowledgeable rockhound, or





Left: Main campground at Picacho State Recreation Area. Below: Main store at Gold Rock Trading Post.

during World War II as he prepared to invade the German strongholds in Africa.

These sites are a potential bonanza for metal detecting. As the tired G.I.s sat down to eat chow, coins fell out of their pockets, along with other valuables. In addition, it is rumored that vast amounts of military equipment were abandoned and buried when Patton suddenly got his orders to end the maneuvers and head for the real war.

I used my metal detector at one of these sites, which looked like a machine gun emplacement to ward off the attack by "enemy" tanks, and found five coins—plus some G.I. rations. The canned crackers were still good and when I tasted them—man, did that bring back memories!

But those were memories of World War II. Today, as I write this article, my memories are of the great times I had while spending two weeks exploring this area of Imperial County—where you can find every kind of outdoor activity, plus solitude. ☐

just someone who likes to find "pretty rocks" to take back home for the fish bowl or to decorate the study, you will find a wealth of material.

In addition to the "pretty rocks" there is red and yellow jasper, agate, blue dumortierite (desert lapis), petrified palm root and chalcedony in the form of "Desert Roses."

Explorers with four-wheel-drive vehicles can go farther into the back country looking for specimens. While driving down the washes or on the hills you'll find emplacements, dugouts and round circles of rocks. These are not prehistoric Indian fortifications, but rather the sites of General Patton's troops who held maneuvers



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THE MICAS:

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THE MICAS are a very important group of minerals. They have many uses in industry, and are of interest to the mineral collector because of their varied colors and associations with other minerals.

They are soft, ranging from two to five in hardness. All have a very perfect cleavage, and are capable of being split into thin flat plates. Most micas form somewhat hexagonal shaped crystals, but there are not common in most species. The cleavage is across the hexagonal crystal, and these will yield very thin hexagonal sheets.

These crystals are often called mica "books." The sides of the crystals are striated and have a close resemblance to the pages of a closed book.

Probably the most common mica is muscovite, usually a colorless mineral. It is sometimes found in huge masses from which sheets more than 12 inches across may be obtained. Muscovite is often found in pegmatite dikes along with gem minerals such as tourmaline, beryl, garnet and topaz.

The most important use of muscovite is for electrical and heat insulation. Sheets of it are used in appliances such as electric irons to electrically insulate the heating element from the metallic portions. The wire element creates great heat, which

muscovite can tolerate without breaking down. Large electric motors, working under high voltages, have mica as an insulation.

In the days of kerosene stoves and heaters, muscovite was very important. It was used as a window to the burner area, in order that the operator could determine the height of the flame. Other forms of heating have largely replaced kerosene heaters in this country, but they and their mica windows are still used in many parts of the world.

Muscovite is not always colorless. Many deposits produce greenish to brownish specimens. A fine pink muscovite has been found in New Mexico and other parts of the world. It is of great interest to the mineral collector, but is not a common color.

The next most common mica is biotite, a brown to black species. To the casual observer, it may appear to be the most common, as it is an important constituent of granite and related rocks. Actually, muscovite is a constituent in these rocks also, but is not as easily seen as is the black biotite.

Biotite usually does not appear in large sheets as does muscovite, and good crystals are rare. It is also found in pegmatite dikes, but not as commonly as muscovite. Sometimes the two form in combination. A crystal may have a black biotite center, and a nearly colorless muscovite outer portion.

Most of the micas alter into other forms. One of the alteration products of biotite is known as vermiculite. It is a soft, flexible mica that has taken water into the molecule during the alteration. If it is heated, vermiculite will give up the original water, and also expand to many times the volume. Small chips of vermiculite are thus heated to make an insulating material for building construction. It is very light, and can be easily blown into

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the spaces between walls and above ceilings, etc. This expanded form also finds use as a packing material for shipping. It will efficiently protect fragile articles because of its softness, and will add very little to the weight of the package.

Phlogopite is a bronze-colored mica that forms excellent crystals. It also has use as an electrical insulator. The crystals are usually found in dolomite, a white mineral. As these are a contrasty pair, they are showy, and are found in many mineral collections.

The most interesting of the micas is the pink to violet-colored lepidolite. The name is from the greek—*lepidos*, meaning a scale. Specimens often have a scaly look. It is also called lithia mica, in reference to the element lithium, which it always contains. Lepidolite is nearly always found in gem pockets in pegmatite dikes. It is the most important indicator that the gem hunter watches for. Pegmatites nearly always show one or more of the other mica species, but the presence of pink mica flakes usually indicates that a pocket is near at hand.

When the pocket is opened, lepidolite will be found lining it, and also attached to some of the other minerals. Fine large crystals of tourmaline, with attached lepidolite crystal books, have been found in some of the California gem mines. One California mine produced masses of good lepidolite in which was intermixed pink tourmaline.

Lepidolite is our most important source of the light-weight metal lithium, and any large deposit is valuable from this standpoint, regardless of whether or not gem minerals are present.

It would be assumed that because of the very perfect cleavage, mica would not be suitable for cutting into gemstones. This is very true in practically all cases, but at times lepidolite forms very small crystals at random within a large mass.

Under these conditions, it assumes a toughness, and cabochon gems can be cut from it. It is true that the polish is not always perfect, but the fine lavender gem more than makes up for it. The California gem mines have produced good quantities of this type.

The micas are divided into two groups: those that are elastic, and those that are brittle. The species discussed above are members of the elastic group.

The brittle group contains only two specimens, margarite and chloritoid. The second is rare and not of any interest. Margarite is interesting as it apparently always is an alteration product of corundum. Many corundum deposits have crystals and masses that are coated with this mica. Whenever corundum is coated with a scaly mineral, it is almost certain to be margarite.

Corundum is best known for its two gem varieties, sapphire and ruby, but its most important industrial use is in the massive form, and then is known as emery. At one time this was our most important source of abrasives. Even though manufactured silicon carbide has largely replaced it, emery is still mined for abrasives. In the mines, the presence of margarite is a nuisance. In relation to emery, it is very soft, and must be removed before the product can be sold.

In one of our past columns we mentioned mica as an imitator of gold, and thus being classed as fool's gold. This is far from what could be called an industrial use, but it certainly can be added as one more way in which the micas have an effect on man and his industries. ☐

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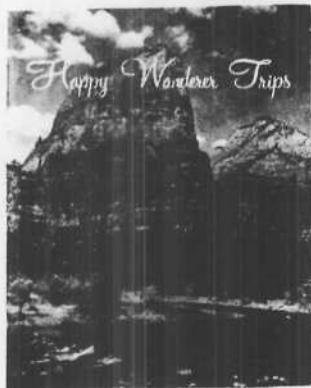
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Letters to the Editor

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Tecopa Country Closed . . .

In your Editorial of the November issue of *Desert*, you praise the BLM for their decisions on management of desert lands. True, some restrictions must be imposed but, in the article by Mary Frances Strong, "Tecopa Country," while a field trip now, will be closed permanently to all vehicular traffic after November 1st.

Not more than 10 percent of the desert travelers are the litterbugs, etc. So the other 90 percent of us who respect the desert environment are denied the use of most of the desert.

Remember this, once a government agency adopts a policy, it is near impossible to alter or drop it.

R. G. LUKE,
North Hollywood, Calif.

Back Issue Needed . . .

When we were visiting your area last Easter Vacation, we had our February *Desert Magazine* along with us, so that we could take in all of the sights written about in same magazine. While there, we were in a restaurant discussing where we would go next and evidently left the magazine.

Due to the fact that we are keeping a library of your magazines, we would appreciate hearing if we could obtain Volume 36, Number 2, February, 1973 issue of the *Desert Magazine*.

DON A. McCULLOUGH,
Las Vegas, Nevada

Editor's Note: Individual copies of Desert are available in most months back through 1964.

Colorado River Mystery . . .

Re the strange cast iron object you found on the Colorado River bank, I believe its original designed purpose was completely foreign to the fate in which you found it.

From what I can see in the picture, I believe it is part of a cam shaft for a stamp mill. The two-pronged pulley you refer to is one of the high lift cams.

DENVER L. HOWARD,
Cypress, California

I have just finished reading your letter on the "Colorado River Mystery" in the November issue of *Desert*.

I believe you will find that the cast iron shaft with two grease cups in the collar at the upper end and the two-spoke wheel was used in the horizontal position in the old days to raise the pistons in a stamp mill for pulverizing ore to a fine concentration.

This has obviously been used as an anchoring post.

CHANCEFORD A. MOUNCE,
La Canada, California

I believe I can solve the "Colorado River Mystery" picture on page 45 of your November '73 issue.

I think it is a shaft with curved lifting cams from an old stamp mill. These are mounted with the center shaft in a horizontal position. There can be from one to five cams on each battery of stamps. The stamps have a stem three or four inches in diameter with a heavy collar on them. The stamps vary from 500 pounds each to a ton. When the cam rotates, it raises the stamps one at a time, then as it drops off the end of the cam, it crushes the ore in a cavity below.

I operated stamp mills 40 years ago and can remember as a child in Idaho Springs, Colorado learning the unmistakable rhythm from mills near town.

LEON M. CAMPBELL,
Agoura, California

Editor's Note: We seem to have solved this "mystery" pretty conclusively. Many thanks to the many other readers who helped crack the case.

Calendar of Events

DECEMBER 1 & 2, FOURTH ANNUAL "RED CARPET" Gem and Mineral Show, Santa Monica Civic Auditorium, 1855 Main St., Santa Monica, CA. Working demonstrations, member and special guest exhibits. Free parking. Contact Mrs. Evelyn Frilot, 8356 Stewart Ave., Los Angeles, CA 90045.

FEB. 8 - 10, 20TH ANNUAL TUCSON GEM & MINERAL SHOW, Tucson Community Center Exhibition Hall, 350 S. Church St., Tucson, Arizona. There will be selected Retail and Wholesale dealers from all over the world with the best available specimens, gems, equipment and every phase of the earth science hobby. Charge for admission and parking on Center grounds. For additional information, write to: Mr. A. C. Thompson, Show Chairman, Tucson Gem & Mineral Society, Inc., P. O. Box 6363, Tucson, AZ 85716.

FEB. 10 - 11, WINTER JOINT MINERALOGICAL SOCIETY MEETING AND SYMPOSIUM, Tucson Community Center Meeting Rooms, 350 S. Church St., Tucson, AZ. Registration fee. Chairman: Dr. John W. Anthony, Dept. of Geology, University of Arizona, Tucson, AZ 85721.

FEBRUARY 16 & 17, FIFTH ANNUAL ANTIQUE BOTTLE SHOW & SALE, sponsored by the Peninsula Bottle Collectors of San Mateo County, San Mateo County Fairgrounds, San Mateo, CA. Admission and parking free. Features beautiful and educational displays of rare old bottles.

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MARCH 16 & 17, SEQUOIA MINERAL SOCIETY'S 37th Annual "Gem Roundup," Dinuba, Calif. Memorial Bldg. Dealers filled. Free admission. Chairman: Sam Carlson, 2012 Merced St., Selma, CA 93662.

MARCH 16 & 17, ANNUAL ROCK & GEM SHOW sponsored by the Northrop Gem & Mineral Club, Northrop Recreation Clubhouse, 12329 Crenshaw Blvd., Hawthorne, CA 90250. Free admission and parking. Live demonstrations, guest exhibitors, refreshments and prizes. Show chairman, Howard Johnson, 20522 Wood Ave., Torrance, CA 90503.



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