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Some specimens are found on the surface, but the greater variety of spikes in better condition are obtained only with a shovel. The group in the picture came from the hole in the foreground.

We Dug Sandspikes at the Border . . .

By HAROLD O. WEIGHT

Photographs by the Author

IN February, 1774, Juan Bautista /de Anza and his followers struggled across the sunstruck wasteland between the lagoons of the Colorado river and the mountains of California. Their guidemark was a dark mountain against the western sky. Beyond it was water; beyond that the end of the great desert. But exhaustion slowed the steps of man and beast. Thirst blocked their way.

And when De Anza abandoned that attempt and turned back toward the lake-side camp of Santa Olaya, the dark peak seemed distant still. The soldiers grumbled about it; with bitter humor they named the mountain they had not reached *Cerro del Imposible*—the Impossible mountain. When the men and stock had rested De Anza tried again. This time Impossible mountain was passed. The company went northward then, found the Wells of Santa Rosa, and finally reached the rich land of coastal California.

The mountain which guided De Anza became a beacon to others crossing the desolate below-sea-level plain. It was fitting, then, that one of the government expeditions should name it officially Signal mountain. Today old Signal, brooding darkly along the border west of Calexico, is as much

a landmark to the dwellers of Imperial Valley and travelers along Highway 80 as it was to the pioneers. But to most of them it is only a picturesque peak, while in the days before far-ranging automobiles, a mountain which rose from the flatlands to orient the weary adventurer and point the way to water often meant the difference between life and death.

For years Signal mountain has been a special sort of landmark for Eva Wilson. Somewhere around its base, Eva knew, old Signal was hiding sand banks full of sandspikes. She had heard about them often and had seen some of the mineralogical oddities from the mountain. But when she asked for mileages and landmarks, her informants became forgetful or hazy. "Besides," they said, "there's no use going out there. They've about all been picked up now."



ROAD LOG

00.0 Seeley. Turn south on Calexico road, Hwy. 98.

08.0 Turn right on graded road. Hwy. 98 makes abrupt left turn. Cross two irrigation canals then, less than one-tenth mile, left again on broad bladed road toward Signal.

09.8 Branch right to gravel pit. Keep ahead on main road.

09.9 Main road curves sharply right.

10.0 Stop. Sandspikes on either side of road.

But Eva did keep going to Signal mountain, because it was a fine field for practicing other hobbies, particularly collecting wild flowers and photography. And it is possible to pick up bits of old Indian pottery in Signal wash, and sometimes find bits of petrified wood on the bajada.

The trips paid off. One day she wrote: "I've found the blamed things. I've been driving right over some of them for years!"

Naturally we motored to Eva's El Centro home on the first free weekend. We wanted sandspikes too, and there are few places where they are known to exist. You can't cut or polish the freakish things. They're really not pretty. But they are one of the strangest attractions in Nature's mineralogical sideshow. And if ever life should become boring, just sit down with a selected group of sandspikes and try to figure out the circumstance or combination of circumstances which led to their formation.

Simple concretions are hard to explain. But some of these things look as if they had been machined. A Desert Magazine reader once suggested that they are petrified gopher holes, but gophers just don't come small enough for the little ones. Some collectors speculate that the Indians made and buried them. Believe me, there just weren't enough Indians and Indians aren't that crazy. There probably is a simple, natural reason for their shapes—if we were smart enough to understand it. Eva believes it to be a form of crystallization.

We left El Centro for sandspikes on a bright, blustery February morning and drove to Seeley, toward San Diego on Highway 80. Zeroing the speedometer there we turned south on the paved Calexico road. At the edge of the cultivated area we stopped to obtain some dry fine sand which Eva intended to use to “pickle” wildflowers.

Eva Wilson is widely known for her collection of pressed, framed desert wildflowers which have been exhibited at the Imperial county fair and at shows of the Imperial Valley Gem and Mineral society, of which she is an active member. The framed flowers represent years of collecting and of experimenting with the best methods of picking, pressing and mounting to preserve color and life-like appearance.

Eva's interest in flowers and rocks goes back to 1923 when she was a teacher in Las Vegas, Nevada. In her four years there she boarded with Nick and Hazel Williams. Nick, who has since died, was one of Nevada's earliest rockhounds. He had his own polishing outfit and he and Hazel and their two children spent most of their free time on the desert hunting rocks. Eva went with them, developed rock fever, and soon was grinding her own specimens in the backyard. Some of the first she collected—copper ores, blue-grey moss agate and pretty jaspers—came from areas now covered by Lake Mead.

On these trips Eva and Hazel started to collect wild flowers, keeping the pressed specimens in notebooks with heavy celluloid pages. Eva's college course in botany—“from which I learned nothing”—had not aroused her interest in flowers. The trouble was that the course started from the wrong end, with microscopic study and tiny details which meant nothing to a beginner. Eva believes that field work with the flowers should come first. She knows that after she met the flowers in their home environment in the Nevada desert she went back to botany manuals with new interest and understanding. And she has become an expert on the flowers of the desert.

After leaving Las Vegas, Eva taught in Los Angeles. Here she started framing the wildflowers she collected. To pay for flower expeditions into the desert, Eva offered some of the framed flowers for sale. Soon exclusive gift shops and one of the best-known department stores took all she could produce and literally were selling them faster than she could prepare them. To speed the process, she started growing wildflowers—baby blue eyes, wild fuchsia, poppies, globe mallow, godetia and others—in her own yard. And she found a large demand for pressed garden flowers.

During the school year her output was small, but in vacations it rose until she was taking in \$140 a month. She soon found that commercializing her flower pictures had spoiled the fun of making them. There were deadlines to meet. There was a demand for certain types to the exclusion of others she wanted to do.



In the sandy soil among these little hummocks near northeastern base of old Signal mountain, collectors may find the geological oddities called sandspikes.

Since moving to El Centro, where she teaches mathematics and is girls' counselor at the high school, Eva has stopped commercial sales except to friends who insist upon having them to give at Christmas and on other occasions. She has not stopped collecting, pressing and mounting flowers, but now she selects the ones she wants and does the work because she enjoys it.

During her years of experimenting Eva has found that, to retain the color flowers should be pressed immediately. For this purpose she carries old numbers of large popular magazines and an antique letter-press in her car. Newly opened flowers retain their color better and in general mountain flowers keep their color better than those from the desert. The primary colors fade less than more delicate tints and mixed colors. Larkspurs, sunflowers and verbenas are color-lasting and she has baby blue eyes, pressed by her grandmother more than 50 years ago, with the blue still intense.

She uses glue or mucilage for mounting the pressed flowers—placing a dot or thin line on the mount with a toothpick. Mats are die-cut and printed with framing lines. Mount, flower mat and glass are bound together with passe partout tape.

While Eva was giving flower-preservation tips we had been following the highway to 8.0 miles from Seeley, where the paving turns sharply left toward Calexico. Here we swung right onto the Yuha cutoff, crossed two canal bridges and turned left from the cutoff onto a wide bladed road which headed for Signal mountain. Gravel pits, workings and roads cover the country here. But we held on the main road to 9.9 miles, where the road turned sharply right. One-tenth mile beyond the curve—10 miles from Seeley, we stopped. Eva pointed down. There, actually in the road, were specimens of the bumpy-headed forms of sandspikes which Eva calls cauliflowers.

We examined the surrounding country, which seems to be formed of low, knobby sand mounds. Broken bits of sandspikes were on the surface in a number of places and a few minutes of digging in the soft sand uncovered perfect specimens. Our investigations indicated that this particular concentration of sandspikes covered a little more than an acre of ground. From pieces of float in the washes it seems likely that there are other deposits in the area.

This one should furnish many sandspikes for those bringing a shovel and willing to dig, however. The sand can be excavated easily, but care must be used in working around the larger spikes or they will come out in pieces or with the points broken off. The smallest spike we located was about an inch in length. The largest recovered in one piece was a foot long. Lengths of spikes lying upon the surface show that much longer ones must occur here. The spikes appeared to be most numerous north of the road.



Rising sharply from the level desert floor Signal mountain—La Centinela, Lower Californians call it—has been a guide for desert travelers since Juan Bautista de Anza's first California expedition in 1774, was an Indian landmark before that time. Photograph taken from the north on U.S. side of Mexican border. Much of peak lies in Mexico.

This collecting field is located near the northeastern base of Signal, which base, incidentally, has been eaten away by gravel-grabbing mechanical shovels almost to the international line. Gravel appears to be the only deposit being worked at Signal, but in the early days it was prospected for gold and was one of the landmarks for the first searchers after the Lost Pegleg mine. According to a story, recounted by Philip Bailey in *Golden Mirages*, Pegleg was rescued from the desert in 1855 by a hostler from the San Felipe station of the Butterfield stage line. He was taken to Warner's rancho where he told the story of his fabulous lost nuggets.

Shortly afterward several parties, including cowboys from Warner's, tried to find the nuggets. All these parties, apparently basing the search upon directions given them by Pegleg, went to the Cocopah mountains just southeast of Signal mountain. In later years the search for the Pegleg has moved north and expanded to cover most of Southern California. But Signal retains its own treasure legend, as fantastic as any in the Southwest. The tale is little known and apparently was first printed by Dr. Fred W. Peterson in 1947, in his fascinating book on the early days in Imperial Valley, *Desert Pioneer Doctor*.

Dr. Peterson heard the story from the old prospector Diamond George who obtained it from Borego, an Indian whose age was estimated as above the century mark. When Borego's grandfather was a young man, he was bodyguard for a young Cocopah chief who had a stronghold in the mountains 30 miles west of Signal. A renegade Yuma Indian from the Colorado river came to the village with the story of a large amount of gold which the Yumas had collected and hidden.

The renegade knew where the gold had been hidden and, as the Cocopahs and Yumas were almost constantly at war, the adventurous young chief decided to raid the Yumas and steal the gold. The invaders reached the river and found the gold, but before they could retreat the Yumas attacked in force. The young chief was mortally wounded in the first assault and his bodyguards carried him and the gold from the field while Cocopah warriors covered their retreat.

The Yumas harried their attackers all the way to Signal mountain before they gave up the pursuit. At Signal, high on the eastern cliffs, the members of the bodyguard buried their chief and the gold which had caused his death, then went back to their home village. There are weak links in the story, if it is examined closely. But who ever looks closely at a tale of lost gold? And if it should be true, it offers a possible solution of Pegleg and his nuggets. much debate as to whether the Lost Pegleg is on one of three buttes or one of three peaks upon a mountain— could have found the “black” nuggets.

But before eager searchers scramble up Signal’s steep slopes to glean nuggets Pegleg might have missed, it would be well to remember that most of the mountain lies in Mexico. And *Norteamericanos* who crossed the border on Signal without proper authorization have sometimes been required by Mexican officials to trudge into Mexicali and account for their actions. Others have climbed the mountain without molestation.

After collecting a sufficient variety of the freakish concretions, we drove through the gravel-pits toward the Yuha cutoff. On a sandy upper level of Signal wash we found a beautiful little garden of early wildflowers—verbena, dune primrose, yellow evening primrose, *Baileya pauciradiata*, palafoxia and forgetmenots. And here Eva gave a demonstration of her latest method of preserving flowers.

About a year ago she started what might be called three-dimensional drying of desert blooms, principally to solve problems presented by cactus flowers too succulent to press satisfactorily and others, like the globe mallow, whose dainty shapes are lost in pressed specimens. Another advantage. she found, is that with this system the original colors are retained more perfectly.

To dry-preserve flowers Eva takes two-pound coffee cans and sufficient fine dry sand to fill them, and a medium-sized funnel. She puts enough sand in the can to hold the flower upright, then carefully funnels sand around and finally over the flower. She is careful to keep the pressure even all around working the sand under the petals in their natural positions before any is poured over them. The sand-packed flowers are left a minimum of four weeks—preferably in a room, to assure a more even temperature. Succulent flowers, of course, require more time. Some of the delicate flowers she preserved in their natural shape by this method are now a year old and show no signs of deterioration.

Drawbacks are the number of containers required and the amount of space necessary during the drying period. Eva has haunted tincan dumps for the containers and sometimes scarcely has been able to carry on necessary activities because the house was bulging with sand-filled cans. To solve the problem of proper display for the finished product, Eva has made arrangements in shadow-box frames and has grouped flowers in plastic corsage boxes obtained from a florist.



Eva Wilson shows how to dry-preserve a dune evening primrose by covering it carefully with fine, dry sand—her own method.

After packing a dune evening primrose to dry in the warm sand, we drove north to the Yuha cutoff road. It was not yet noon and we determined to take the cutoff west, through the edge of the Yuha badlands, and regain Highway 80 at Coyote Wells. After a few miles of reasonably good desert road, we came to Pinto wash. The wash, at this point, is only about 1000 feet wide, but sometimes its soft sand welcomes automobile wheels with an unholy and all-absorbing enthusiasm. Herbert E. Bolton tried to drive across another section of this same wash in 1928, while tracing the trail of Juan Bautista de Anza for his great series of books on Anza's expeditions. They worked all night, he wrote, carrying enough rocks to build a roadway which enabled them to back 140 feet out of the wash.

Once there was a bridge across the wash on the Yuha cutoff road. But a storm carried it away and it has not been replaced. That this scenic drive has been allowed to become virtually impassable is a loss to Calexico as well as to many tourists.

One of the reasons we chose the Coyote Wells road was the desire to visit the magnificent forest of crucifixion trees—*Holacantha emoryi*— which encircle the dry lake on the left, or southwest, side of the road about 7.5 miles beyond Pinto wash. If the visitor enters from Coyote Wells, the lake is approximately the same distance from Highway 80. The crucifixion thorn is an uncommon plant in the western Colorado desert. It is supposed to be a shrub. Yet they grow to more than 15 feet in height at this little dry lake. The forest seems to be little known, probably because from the road the shrubs look like large coarse smoke trees.



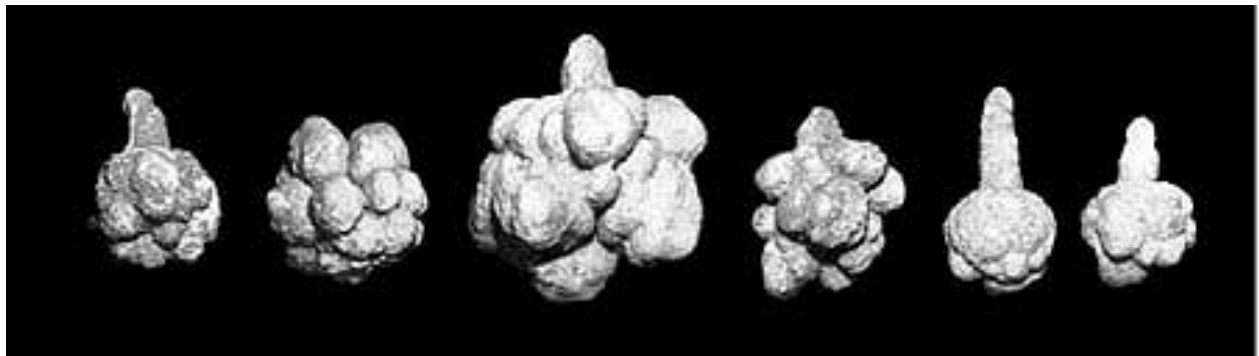
Here are the sandspikes uncovered at base of Signal mountain.

There is another attraction in the area—Vista de Anza—which should not be missed although it becomes more difficult to reach each year. About two miles northwest from Holacantha lake—5.4 miles from Coyote Wells—the winding track called Hocker drive branches southeast from the Yuha cutoff and twists an erratic 1.6 miles to Anza monument. From this point there is a magnificent and unforgettable view of the Yuha badlands. Far below can be seen the mesquites which mark Anza's Wells of Santa Rosa, called Yuha wells today. And immediately around Vista de Anza, along the ridges on either side and in the badlands below, the dark petrified wood characteristic of this desert can be found. Rockhunting in the Yuha, however, is definitely a spring, fall and winter pastime. In the summer there are few hotter, drier and more dangerous spots on the desert.

How long it will be possible for ordinary cars to reach Vista de Anza is questionable. The ruts are washing badly and the southeastern entrance to the drive could not even be located from the Yuha cutoff when we were there. California needs a law which will require road departments to do occasional maintenance work upon roads which they considered useful enough to spend public money in opening.

It was nearly dark when we reached the paving of Highway 80. Across the badlands Signal mountain was still visible. It had been in almost constant sight throughout the day's wanderings. Now its great dark bulk was gathering a crown of crimson clouds.

De Anza is gone. Those who came after him have tamed the barren desert and planted it almost to the foot of Signal. The mountain is no longer needed as a guide for pioneers, pathbreakers, or prospectors hunting gold in the wasteland. But it is—and we hope it always will be—a marker for the new breed of adventurers who penetrate the heart of a land once cursed and shunned to enjoy its strange wonders and to see its vivid beauties.



Some of the concretions in the Signal mountain area are shaped like cauliflowers.