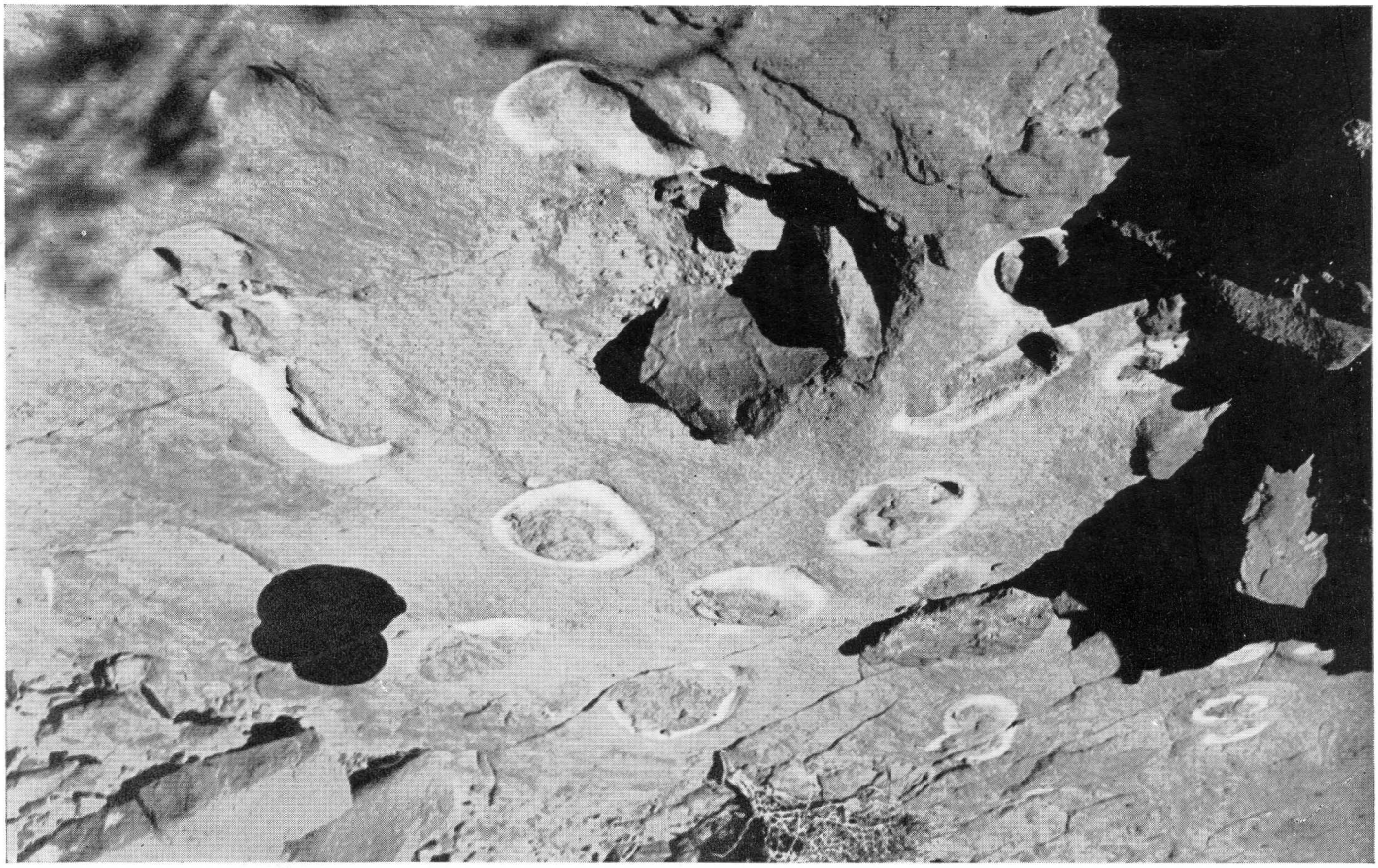


Many of the "tracks" have the definite and uniform shape shown above. A few of them such as are shown here have received a deposit of alkali carried down by rainwaters and stand forth in bold relief. Note the section just below center that has been chiseled out by a souvenir hunter. It is hoped for his sake and other vandals like him that they are NOT dinosaur tracks. For size comparison note the black hat in the upper right hand corner.

"Dinosaur Tracks" at Split Mountain

In the sandstone floor of a little side canyon near Split mountain gorge there are indentations that look to the untrained observer like the tracks of some prehistoric monster. For many years they were accepted as such—until the scientific men came along and said it wasn't so—that this sandstone was formed long after the age when giant reptiles roamed over the face of the earth. The controversy still goes on, and you can choose your own side—but regardless of what caused these strange dents in the rock, you'll find this a gorgeous spot for a weekend excursion into the Southern California desert—when cool weather comes.

By HULBERT BURROUGHS

"YOU fellers been to the dinosaur tracks?"

I glanced quickly at the desert-lean face of the man filling our gas tank.

"What dinosaur tracks?" I asked hopefully — hopefully because thus far our week-end on the Southern California desert had been a dismal failure. Not through any fault of Mother Nature, but only because we had been fools enough to get our car stuck in some of her artistic handiwork on the edge of Salton sea. After spending Friday afternoon and all day Saturday digging out, we finally limped into a service station late in the afternoon, tired, thirsty, disappointed at having ruined a vacation trip we had been planning so long.

So when we heard mention of "dinosaur tracks" we were interested.

"Why, sure," the attendant was saying, "those tracks've been there close to a million years! — right in the sandstone plain as if the critters that made 'em had walked over the rock yesterday!"

Chuck Sheldon and I looked at each other. Funny how quickly that tired feeling leaves you when excitement begins to brew. Dinosaur tracks! This was getting closer to the adventure and mystery we had hoped to find on the desert.

" . . . and you go south down high-

way 99 to the Julian and San Diego road, highway 78 — that's just this side of Kane springs. Turn to your right, which is west, an' keep going till you come to a little place called Ocotillo. It's on the left hand side of the road. There's a dry lake on the right which the army and navy aviators use for bombing practice. Turn south at Ocotillo on a sand and gravel road. Continue south seven or eight miles toward the Vallecito mountains. Just before you come to an old gypsum mine the road crosses a big dry wash comin' diagonally down from the right. That wash is the trail to the dinosaur tracks. If it ain't rainin'—an' there's no prospects of it—head your car up the wash. You won't get stuck—the sand's hard. Pretty soon you'll be going through Split mountain canyon. As soon as you get past that narrow gorge keep your eyes peeled, because the tracks are up a side canyon to the left. Somebody painted a red arrow on a boulder so's people could find it. Don't know if it's still there or not. You boys'll find it though —can't miss it."

I think our profuse thanks puzzled the old fellow, but we were really grateful and excited over the prospects of seeing some real dinosaur tracks.

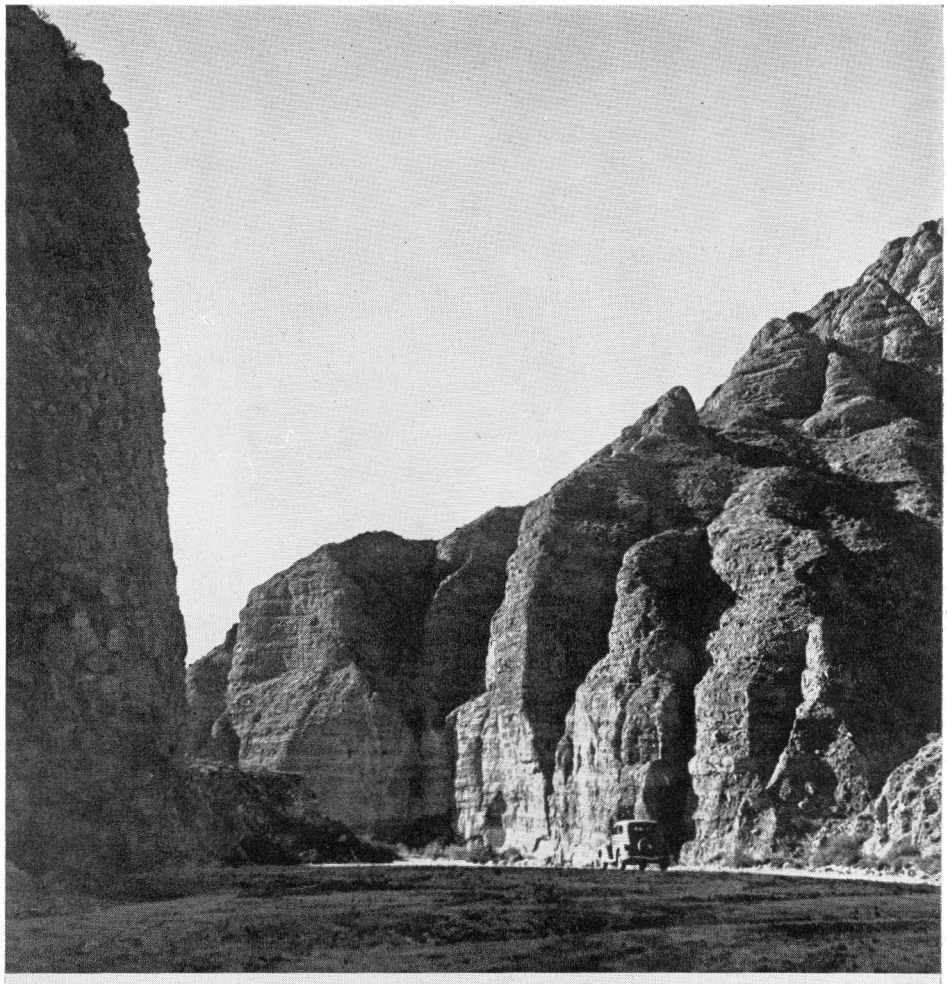
It was nearly 5:30 in the evening when we turned west on highway 78. And by the time we reached Ocotillo the sun had dropped behind the western mountains.

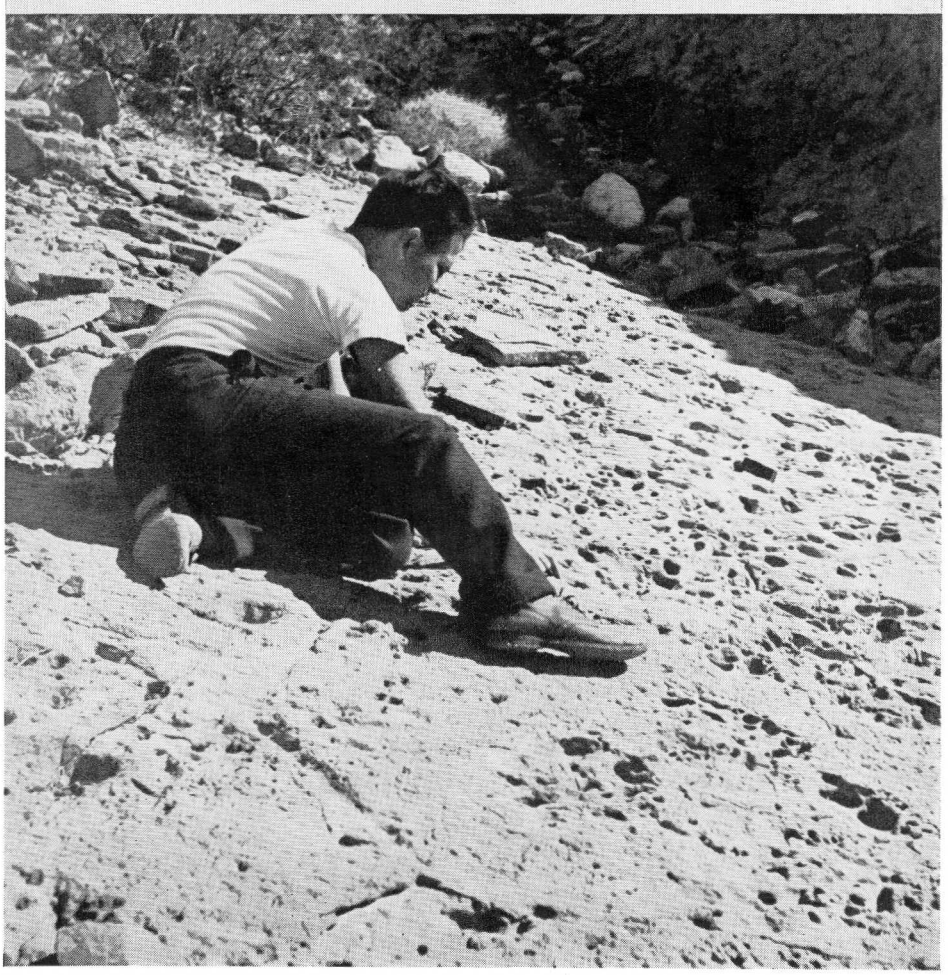
By rights, we should have started looking for a campsite. But the darkening shadows of the Vallecito range ahead of us were an invitation we couldn't resist.

"The moon'll be pretty close to full tonight," I told Chuck, "and it'll be fun to see if we can find the tracks at night."

We had no difficulty recognizing the big dry wash coming out of Split mountain canyon below the gypsum mine. It was nearly dark as we turned off the road and headed up the dry hard sand of the streambed. There was no wheel track—no visible sign that anyone had ever traversed the wash before, and we had the feeling that we were pioneering a hitherto unexplored territory!

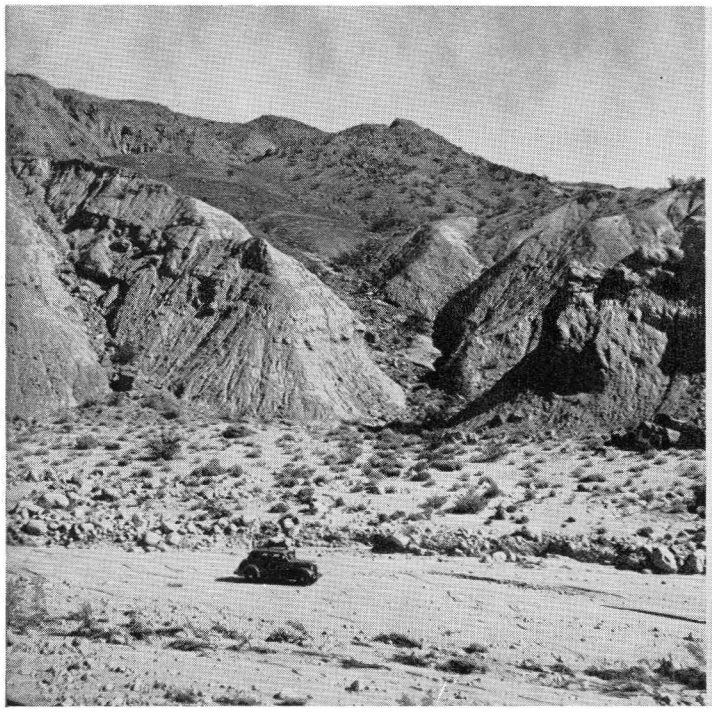
Dodging among huge boulders, gliding along over velvet smooth stretches of sand, stopping to measure the clearance over a big rock — it was not long





Above—Entering the gorge of Split mountain canyon. This is one of the scenic spots in the proposed new Anza Desert State park.

Below—Most of the markings are a hodge-podge of shapeless small pits in the surface of the exposed sandstone. Chuck Sheldon who accompanied the author of this article is examining the formation.



In the center of the picture is the small canyon in which the so-called dinosaur tracks are located. They appear in the bed of the canyon on the light sandstone clearly visible here. The car faces up-stream in the dry wash which runs through Split mountain canyon. Geologically, most of the sedimentary strata of this region are of the Pliocene or Miocene eras.

Excellent examples of the so-called dinosaur tracks. Geologists explain these interesting markings as the peculiar result of Nature's erosive forces upon concretions imbedded in the sandstone. The small white object with darker circles around it in the upper right hand corner of the picture is definitely and without question a small concretion.

before the dark entrance to Split mountain canyon loomed before us. Deep within the gloom of the sheer, jagged walls we stopped to cook our dinner. Close beneath the cliffs the light of our fire quivered and leaped among the spectral rocks about us.

By the time we were ready to move on in search of the dinosaur tracks, the light of the moon was falling on the upper walls of the western cliffs. That ride up the gorge of Split mountain is really exciting at night. The half luminous shadows of a moonlight night on the desert are weirdly beautiful. If you like to let your imagination wander it is easy to slip back through eons and eons to the time when prehistoric monsters once roamed those hills. We fancied ourselves hunting not for cold, inanimate tracks of the long-dead dinosaur, but out to find the living monster himself! And when we finally came out of the gorge and found the small side canyon on the left, we were like a couple of schoolboys on a first camping trip.

As we climbed out of the main wash and headed up what we were confident was "dinosaur canyon," the moon was shining full in our faces. The hills about us were low and seemed well eroded. Straight ahead in the bed of the little canyon the moonlight reflected sharply on a stratum of exposed sandstone.

That must be the place!—a flat bed of sandstone the old fellow said!

I never was much of a runner so Chuck won the honor of being the "first living man to track a dinosaur to its lair"—at least in our world of fancy.

There was no doubt that these were the dinosaur tracks. On a tilted surface of coarse sandstone that formed the bed of the small dry wash were myriad imprints and markings. Soon we picked out larger tracks that could have been made by nothing but a dinosaur!

Our trip to the desert was a success! We had found the trail of a prehistoric monster. And as we spread our sleeping bags out upon the sandstone, presumably the first men to sleep in a dinosaur footprint, the satisfaction of conquest came over us—followed during the night by a sad, hard realization that sandstone dinosaur tracks were not made to sleep in.

All the next morning we feasted on dinosaur tracks. We could see clearly among a hodge-podge of lesser shapeless impressions, the larger dinosaur footprints; could see in several instances what were clearly to us the claw marks; were so thrilled at seeing actual prehistoric tracks that we returned home with vivid accounts of our experience.

Since that time, however, there have come vague mutterings of doubt and open statements that the "footprints" of Split mountain were not dinosaur tracks at all. Someone had advanced the theory that they were nothing more than the result of ages of erosion in the sandstone.

Now, no one likes to surrender his fondest beliefs without at least a feeble sort of resistance. So we determined to go once more to the desert for another look, to study and photograph the tracks.

Before our first visit to "dinosaur canyon" we had never actually seen real dinosaur footprints, but had read about those found in other parts of the world. Hence we knew that such things existed. Then, too, someone with red paint had thoughtfully written "Dinosaur Tracks" and painted a large red arrow on a nearby rock. So we were led without question into the belief that these were genuine. But as we walked again up dinosaur canyon we decided that this time we would be less imaginative, more coldly critical.

At first sight the "tracks" appear to be nothing more than indentations in the surface of coarse sandstone. But on closer examination one cannot fail to notice that among them are many larger impressions which have a definite, uniform shape.

Many of these have been battered and others obliterated by countless centuries of erosion as water and boulders have been carried down over the surface of the sandstone. Some have been chiseled out in large blocks and carried away by a more modern agent of erosion — the

vandal souvenir hunter. But there still remains a large assortment for purposes of study.

Those of uniform shape suggest more closely the imprints of the feet of elephants—they are more clearly circular, but with no toe marks. There is one track, however, which immediately attracts the eye as most likely to have been made by a reptile of the dinosaur class. This impression, if it can be called the track of an ancient reptile, was made by one having one single great middle toe or claw. This track measures approximately 14 inches long by nine inches wide. The other more circular impressions average about 10 or 12 inches in diameter.

We knew that if these markings actually were the tracks of prehistoric dinosaurs we would have to think of them as having been made many millions of years ago when the present sandstone was soft, probably on the shore of a swamp or sea, or on the bank of a river.

Well, from a geological standpoint, how old is the stratum of sandstone bearing the tracks? It is doubtful that this particular layer of sandstone anywhere nearly approximates the great age necessary to place it far back in the time of reptiles. Most of the sedimentary strata of this region are of the Miocene or Pliocene eras which dates them long after the dinosaurs became extinct. Exit romanticism!

Secondly, the Split mountain tracks in no way resemble tracks found in other parts of the world and definitely determined to have been made by dinosaurs. Nor do they, for that matter, resemble any other known tracks.

"If not tracks (which we are loath to accept), what the devil can they be?" we ask ourselves.

Some of our geologically and paleontologically inclined friends answer that they are " — the result of erosive forces upon concretions in the sandstone." Concretions are what our more practical friends term the various nodules or rocks which appear in a matrix of otherwise smooth sedimentary rock layers. It all happened like this: Ages ago, when the sandstone in question was yet soft, there became imbedded in it various rocks or other foreign objects which remained there through the long years as the sandstone matrix hardened. Finally, when the layer of sandstone became exposed by constant erosion of water and wind, these concretions, being harder and more resistant to weathering, were exposed in relief until sufficiently loosened from their base. Then they dropped out, leaving their impressions in the sandstone as we see them today.

On this very point Chester Stock, eminent paleontologist from the California Institute of Technology, has this to say:

"I am of the opinion that they are not tracks but represent peculiar concretionary structures which occur in the sandstone. Such kernels of harder rock occasionally occur in a uniform sandstone matrix and when the entire rock weathers these kernels are exposed in relief or on occasion may drop out, giving the peculiar impressions that look like the imprints of organisms. Dinosaur tracks as I know them have quite a different configuration and their linear series have a wholly different appearance from the so-called tracks at the Split mountain canyon locality."

A large sail suddenly deprived of wind had nothing on us as we saw our visions of real dinosaur tracks receive this final blow. But we are die-hards. There still remains a persistent doubt. Admittedly there can be no question that many of the markings in the sandstone are naught but the result of erosion upon concretionary substances. In fact some of these concretions in small sizes are still in evidence. And were it not for the remarkable uniformity of shape and size of some of the larger tracks, there could be no doubt as to the validity of this explanation.

However, our doubt is based not only on the track-like appearance of the markings, but likewise on this question: Is it likely that there would occur so many concretionary impressions of such remarkably similar shape and size? Furthermore—

But why not let the reader travel to the head of the gorge in Split mountain canyon and attempt to solve the mystery of the dinosaur tracks for himself?