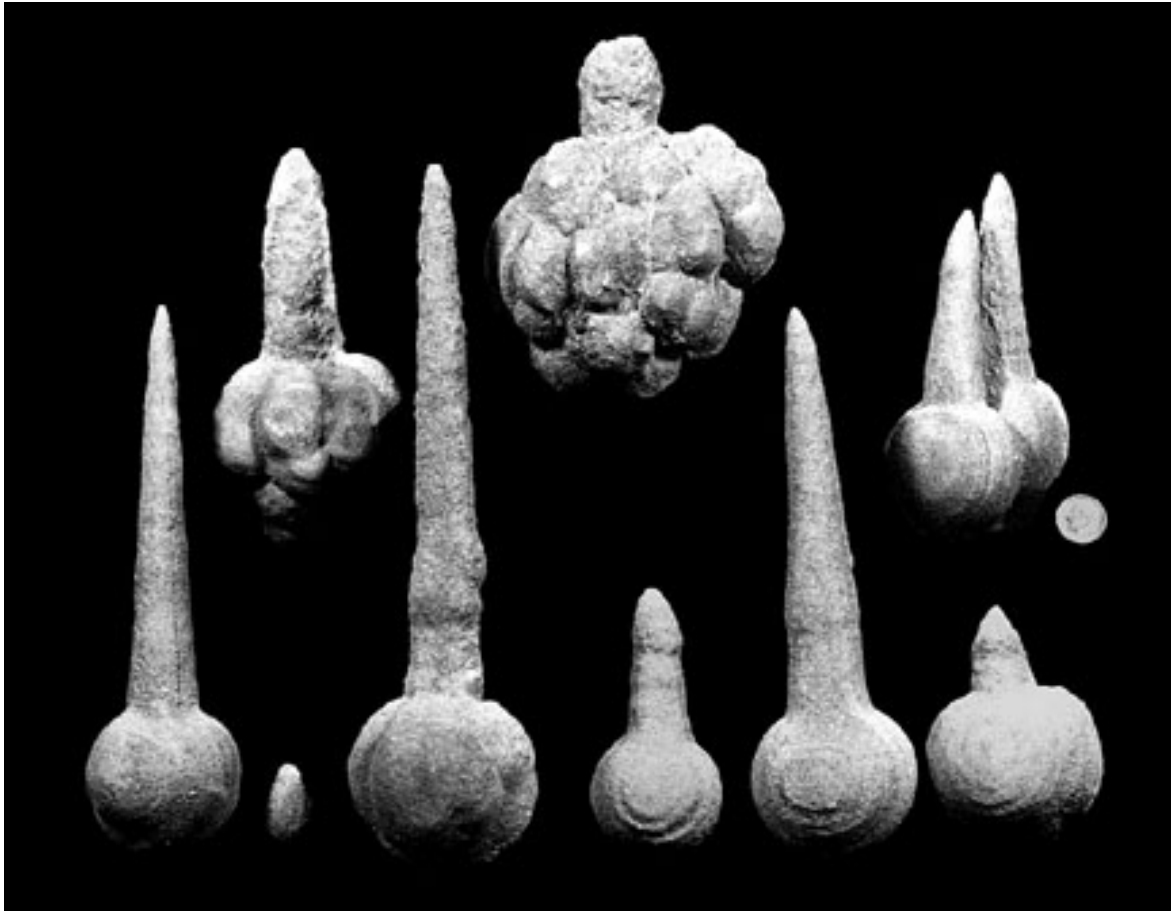


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Sand Spikes. Found at the foot of Mount Signal, Imperial County, California. 6" to 8" long.

These strange concretions, called sand spikes, came from a now-depleted locality near the Mexican-American border close to Mt. Signal, Imperial County, California. The provocative formations of different sizes were discovered in beds of sand, and they all were found pointing to the west!!

THE SAND SPIKES FROM MOUNT SIGNAL

by WILLIAM B. SANBORN

No discussion of concretions would be complete if mention were not made of a real puzzler, a truly unique type of concretion that apparently remains unexplained—sand spikes. The original locality is believed to have been discovered by Mr. H. W. Peirce of Laguna Beach, who amassed a fabulous collection of the fascinating formations and used them as trade items to assemble a very fine mineral collection. Mr. Peirce also made generous donations of these amazing formations to museums throughout the world. A few years ago my wife and I were visiting the superb mineral collection displayed at the museum of natural history museum in Lyon, France and were delighted to see a case devoted to sand spikes, courtesy of Mr. Peirce!

Briefly, the locality consisted of a series of low, sandy hillocks and banks near the Mexican-American border close to Mt. Signal, Imperial County, California. When they were first discovered, many of these unique concretions were weathering out on the surface of the ground. It became apparent, however, that there actually were beds of these strange concretions 3 feet to 8 feet underground!

The following may be almost too much to believe, but, having collected at the locality before it was decimated, I can assure you it is quite accurate. These concretions consist of a ball-like end coupled with a tapering spikelike formation. In uncovering a bed of spikes over 95 percent of the formations were found pointing west. Spikes of similar types or formats seemingly occurred in the same bed or within lenslike concentrations of the sand-spike formations.

They range in size from over 11/2" to over 13" in length and occur in a wide variety of shapes—perfectly round with stubby or long, tapering spikes or knobby with rough spikes. The spikes were usually quite damp and broke easily when uncovered, so they were dried in the sun before being handled. They are composed of absolutely nothing but the identical sand forming the soft little hillocks and banks in which they occur—solid sandstone with no fossil material inside. The mineral cementing the grains together is apparently calcite.

What are they? No one really knows—other than they obviously fall under the heading of concretions by virtue of their method of occurrence and basic mineralogical composition. The long points, westerly oriented, are the most provocative aspect of this truly unique locality. There is no surrounding evidence in the area to indicate any realistic fossil origin. However there have been some truly far-out suggestions offered. Some say that they are fossils of an ancient type of bulbous seaweed that drifted heavy-end eastward on some ancient shoreline. Others have suggested that they have somehow been affected by an unknown magnetic force that oriented their westerly growth. It has also been suggested that they are some type of fulgurite, which is positively incorrect, and not by any stretch of the imagination are they prehistoric man-made artifacts.

In any event, it is always interesting to note that there are, indeed, geological formations that still remain surrounded by an aura of mystery. Incidentally, this locality has been totally exhausted by pick, shovel, and most unfortunately, bulldozer. The latter technique was very unsuccessful, essentially managing only to crush many hundreds of fine specimens.



Mount Signal, back then