

Sand Spike Concretion

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Photographer: Mila Zinkova; Mila's Web site
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tapering or knobby. The spikes broke easily when uncovered. They were composed of the sand that formed the soft little hillocks in which they occurred -- solid sandstone with no fossil material inside. The mineral cementing the grains together was apparently calcite.

The origin of these unusual concretions has been quite mysterious. Some people have suggested that they're fossils of an ancient type of bulbous seaweed. Others have postulated that they were somehow been affected by an unknown magnetic force that oriented their westerly growth. Perhaps they formed when crabs or other crustaceans burrowed in wet sand. It's known that they're not in any way associated with prehistoric, man-made artifacts. So for now at least just how these spiked concretions formed is still unknown.

Photo details: Camera Model: Canon PowerShot SX40 HS; Focal Length: 21.4mm; Aperture: f/5.0; Exposure Time: 0.0008 s (1/1250); ISO equiv: 100.

Mount Signal, California Coordinates: 32.621928, -115.710839

The photo on the left shows a sand concretion having an odd protruding spike. It was found on Mount Signal or Cerro Centinela, close to the Mexican and U.S. border. At one time thousands of these sand spikes concretions were found here, but nearly all of them were collected or inadvertently crushed by bulldozers in the 1950s.

According to William B. Sanborn's "Oddities of the Mineral World" these concretions consist of a ball-like end coupled with a tapering spike-like formation. He uncovered a bed of these spikes in the 1930s and over 95 percent of the formations pointed toward the west. They ranged in size from about 1 1/2 in to over 13 in long (3 to 33 cm) and occurred in a wide variety of shapes—perfectly round but with spikes that are long,