

TULSA GEOSCIENCE CENTER



The Barite Rose The State Rock of Oklahoma

Rose rocks, the reddish-brown sandy crystals of barite that resemble a rose in full bloom, are more abundant in Oklahoma than anywhere else in the world. They have been reported in small quantities in California, Kansas, and Egypt, but are in greatest concentration in the Permian Garber Sandstone in a narrow belt that extends 80 miles through the central part of Oklahoma between Pauls Valley and Guthrie. The most abundant and well-formed specimens are found in an area just east of Norman, near Noble, also known as the "Rose Rock Capital of the World".

The rose-like appearance of the rock's petal-shaped clusters is due to the intergrowth of crystals of barite (a mineral compound of barium sulfate) into a cluster of divergent blades. Barite was precipitated in interconnected voids in the rock, probably from barium-rich marine waters that covered the Permian Garber Sandstone during or shortly after its deposition about 250 million years ago. The rose-like concretions incorporated the iron-stained quartz sand grains and thus acquired the red color of the host Garber Sandstone.

The rosettes are harder and more durable than the surrounding host rock and weather into positive relief on outcrops. As further weathering occurs, they are separated from the rock and scattered through the residual sandy soil. Slow weathering and erosion of the host rock continually expose additional rosettes at the surface.

Well-formed specimens are highly prized and have become a basic part of most mineral collections. The quality of the rosettes range from delicate and thin-petal forms to those that are somewhat rounded with poorly developed petals.

Most rose rocks are 1/2 to 4 inches in diameter and consist of 5 to 20 radiating plates. The largest known single rosette is 17 inches across, 10 inches high, and weighs 125 pounds. Clusters of rosettes 38 inches tall and weighing more than 1,000 pounds have been found.

The rose rock became the official state rock on April 8, 1968, when Governor Dewey F. Bartlett signed House Bill 1277. The rose rock, also called the "barite rose" or "sand-barite rosette," then joined the state bird: scissor-tailed flycatcher; the state song: "Oklahoma;" the state wild flower: Indian blanket; the state tree: redbud; the state reptile: collared lizard or mountain boomer; the state animal: American buffalo; the state fish: white bass; the state grass: Indian grass; and the state flower: mistletoe; the state fossil: *Sauropogon Maximus* (dinosaur); and state dinosaur: *Acrocanthosaurus Atokensis*, as official symbols of Oklahoma.