

FULGURITES
WHILE YOU WAIT

by MATHILDA NEWMAN REED
CAVE CREEK ROCKHOUND CLUB

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A rainstorm in Arizona is unusual. For lightning to strike the earth and make a fulgurite is more unusual. But, to be present in the rainstorm and see the lightning make the fulgurite is most unusual.

Nevertheless, only a few days ago, Jim O'Neal, an avid rockhound from Cave Creek, Arizona, had that experience. Jim was out looking for interesting rock specimens in the Bradshaw Mountains. Driving along a mountain road near Cleter, he saw the flash and noticed that the lightning struck the high voltage power line and then leaped to the earth. He investigated, and found that the lightning had melted the electric wire which, falling to the ground, had blackened the earth.

Jim realized that before his very eyes a fulgurite had been formed. As president of the Cave Creek Rockhound Club he decided to get the members to come up and evacuate this strange tubular crust of rock produced by lightning.

When an extra heavy bolt of lightning strikes the ground in certain places it may enter at one place and disperse under the ground into a network of smaller discharges. Due to the resistance of the ground the lightning generates great heat, melting most of the matter which it travels through.

Sand fulgurites are quite scarce but rock fulgurites are extremely rare and occur practically only on mountain tops. So the experience Jim had was certainly rare, a rock fulgurite made before his very eyes along a mountain road.

The lightning discharge takes place in less than one-ten-thousandth of a second but the heat generated runs over 1800° C. or 3240° Fahrenheit.

The type of fulgurite depends upon the nature of the ground or rock, but it usually has a central tubular cavity. This is usually lined with "glass" due to the melting of the silica in the soil. The cavity varies in size but frequently is about finger size though parts of it may be a little larger, as is the fulgurite found by Jim. Around the central cavity, for about 1 to 2 inches, the rock and soil are carbonized and look like carbon.

THE EVENT

PETRIFIED LIGHTNING FROM CENTRAL FLORIDA

A PROJECT BY ALLAN MCCOLLUM

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