

## Amateur rock collectors add to understanding of Mississippi geology

By Beverly Pettigrew Kraft

Some of the best finds in the field of geology are made by amateur enthusiasts, geologist James Starnes told MGMS members during an Aug. 26 presentation.

"Most of our discoveries come from people in the field like you all doing avocational work," Starnes said.

Later, Rosina Echols handed Starnes a purplish gray rock for identification. His face lit up. It was St. Francois Mountain rhyolite, more than a billion years old. The volcanic rock would have likely been brought down from Missouri by glaciers.

"This is incredibly important," Starnes said. Part of its significance lies in positive identification

of the location where it was found. Echols found it in March on a field trip to Hammett Gravel at Redwood, in Warren County.



"I was shocked," Echols said. She picked it up because of its color. Fascinating stuff that originated hundreds of miles away turns up in the gravel pits and streams frequented by MGMS members. Sioux Quartzite and Keokuk geodes have been found among gravel.

"There were a lot of interesting and wild things going on to create the geology of Mississippi," said Starnes, who works in the Surface Geology division of the Mississippi Department of Environmental Quality.

Buried volcanoes, two buried mountain chains and salt domes lie under the surface. Seas came and went. The retreating sea left behind the Yazoo clay that is the bane home foundations. But the clay beds hundreds of feet thick also yielded great primitive whale fossils.

"Yazoo clay is full of these things. They are probably best preserved here of any place in the world," Starnes said.

Geologists use fossils to help date formations. "We can't do geology without doing paleontology," Starnes said.

Scientists' understanding of the geology and the age of formations has evolved. Starnes passed around a stack of publications. One has to take into consideration the age of each. The information was good for the time it was published. Showing a geologic map of Mississippi, Starnes pointed out areas that need to be updated.

"Every time we map a county, we learn something new."