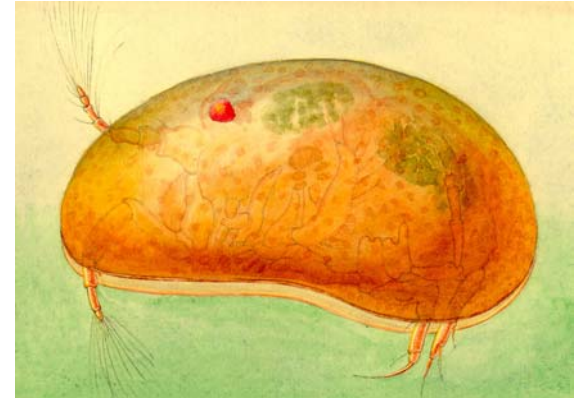




Special Species



Ostracod

The park is not known to contain any species that are federally listed as threatened or endangered. Five species are presently known that require special protection. Two areas within the park have received special designations from the state of Arkansas.

Early Scientific Discoveries

The first scientists to visit the hot springs were William Dunbar and Dr. George Hunter in 1804. President Thomas Jefferson sent them to explore "the hot springs on the Washita" soon after the Louisiana Purchase was made. Their expedition began near Natchez, Mississippi and went down the Mississippi River to the Red River to the Ouachita River to Gulpha Creek. From that point they went overland to the hot springs.

They noted a small "animalcule" in the hot spring pools. More recent studies have identified ostracods in the open springs. Ostracods are a crustacean with a small jellybean-shaped shell, about the *size of a sharp pencil point* that live in the bottoms of the exposed hot spring pools. They have been

identified as the genus *Darwinula* but a species has not been determined. It could be a species that is found only in the park, but we don't know.

Dunbar and Hunter also noted green "moss" growing in the hot spring water. We now know that they saw many species of algae. Trelease's Blue-green Algae, *Phormidium treleasei*, is one of the species found in some of the open hot springs. Trelease's blue-green algae are rare. It has only been found at one other place in North America (Banff, Canada) and just a few other places in the world.

Recent Discoveries

Until 1997, ostracods were the only known animal life found in the hot springs. In 1997, samples of the hot spring water were taken to a NASA laboratory to be examined under a high-powered electrode scanning microscope. Scientists saw what looked like very small bacteria--nanobacteria, one billionth on a

meter in size. The NASA scientists think that these bacteria look like fossils of bacteria found on a meteorite from Mars that was found in Antarctica in 1984. They think that conditions on Mars at one time must have included hot water.

Larger Lifeforms

The Ouachita Madtom (*Nocturus lachneri*) is listed as rare by the state of Arkansas and was found in the park in 1989. This small catfish could qualify for federal listing at some time in the future.

The Ozark Chinquapin (*Castanea ozarkensis*) has become increasingly rare in the state of the past few decades. It is a native tree but is susceptible to the chestnut blight that also affects the American Chestnut tree. Twelve stands have been identified in the park. As populations decline, it may be federally listed as threatened or endangered.

Grave's spleenwort fern (*Aspleniumx gravesii*) was discovered in the park in the early 1980s. It is a rare, sterile hybrid; it cannot reproduce.

This is the only known location in the state.

In 1982 the Arkansas Natural Heritage Commission designated approximately 300 acres of Sugarloaf Mountain and Hot Springs Mountain as a "Natural Area" because those areas have some stands of pine around 200 years old. Old pines are unusual because logging has taken most of the old growth trees in the state.

Even though the park was created to protect the hot springs, by protecting the watershed, these other plants and animals are also preserved.