ATBI and Tardigrades

The All Taxa Biodiversity Inventory (ATBI) is a project of Discover Life in America (DLIA) that seeks to inventory the estimated 100,000 species of living organisms in Great Smoky Mountains National Park. The project has developed checklists, reports, maps, databases, and natural history profiles that describe the biology of this rich landscape to a wide audience. The species level of biological diversity is central to the ATBI, but the project is developed within an ecological and conservation context and encourages understanding at other levels of organization, including genetic variation within species and ecosystem descriptions. As of December 2009, discoveries include 907 species new to science and 6,582 species new to the Park.

The Great Smoky Mountains National Park is a 2,200 square kilometer (800 square mile) reserve that straddles the mountainous divide between the states of Tennessee and North Carolina. The park contains some of the highest peaks in eastern North America, and has very complex geology. The park is known for its temperate forest richness and extensive old-growth forests; however, the park is challenged with a number of threats to its ecological integrity. These threats include invasive, exotic organisms in both terrestrial and aquatic systems; very high depositions of nitrogen and sulfur, as well as high ozone levels; and increasing insularity as a result of human development and fragmentation of adjacent natural areas.

Prior to the ATBI project there were only 3 species of Tardigrades known in the park. Since the ATBI began there have been 55 species of tardigrades found new to the park and 18 new to science for a total of 76 known to be in the park as of December 2009.