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## Lone Star Bears: The Tardigrada of Big Thicket National Preserve, Texas

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### Abstract

We completed an all taxa biological inventory (ATBI) for water bears (Phylum Tardigrada) in the Big Thicket National Preserve (BTNP) of southeastern Texas begun in 2006. Our inventory is based on methods used in a tardigrade ATBI of the Great Smoky Mountains National Park (GSMNP). We sampled lichens, mosses, liverworts, leaf litter, soil, and aquatic vegetation. Tardigrades were present in 47% of terrestrial and 3% of freshwater samples. We identified 631 tardigrade specimens and 63 eggs, representing 13 genera and 37 species. Tardigrade species richness in BTNP is approximately half that in GSMNP. Lower diversity in BTNP is partly explained by the absence of the altitudinal variation characteristic of GSMNP. Freshwater tardigrades were especially poorly represented at BTNP. Streams and lakes in BTNP are eutrophic and muddy, and may be poor habitats for tardigrades. This study confirms previous findings that the high tardigrade diversity found in mountainous areas may not be typical of other landscapes, and that in North America, tardigrades are less numerous and diverse in southern coastal plains and flatlands than in northern forests and mountains.

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