

HISTORIC PERSPECTIVE OF PLAGUE OCCURRENCE IN BRYCE CANYON NATIONAL PARK

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Abstract: In April of 1995 researchers at Bryce Canyon National Park noted a decline in population numbers of the Utah prairie dog (Cynomys parvidens), a federally listed threatened species, both in the park and on the adjacent Paunsaugunt Plateau. Plague was subsequently documented within and adjacent to the park. Research into history reveals that plague has been confirmed in rodent populations on several previous occasions in the park, but has not been published.

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Bryce Canyon National Park was first identified as a plague focus in 1965 under the U.S. Army sponsored Ecology and Epizootology research project on Pasteurella pestis, now Yersinia pestis. Evidence of plague was documented from 1965-1969 and again in 1971 in sciurid rodents, namely Eutamias umbrinus, E. minimus, and Peromyscus maniculatus. During this project serological tests for plague, standard tube agglutinations test, and complement fixation tests employing P. pestis Fraction I antigen were utilized (E & E Research, 1965, 1966, 1967, 1968, 1969; EcoDynamics, Inc., 1971, 1972; Olsen, 1969).

In 1981, Acting Superintendent Tom Henry shipped the carcasses of two dead Utah prairie dogs to the Center for Disease Control, Ft. Collins, Colorado, for testing. The results from these were positive for the presence of plague (T. Henry, 1995, Cedar Breaks National Monument, personal communication). Subsequent to that Bryce Canyon National Park staff applied to the Rocky Mountain Region Office for approval to apply Sevin dust to burrow openings. All Utah prairie dogs in the area of the visitors center died, but dusting of the burrows seemed to have halted the spread of the plague (Bryce Canyon National Park files).

In late April 1995 park staff noticed a significant decline in population of Utah prairie dog during annual counts. After consultation with the Center for Disease Control, fleas were collected from burrow openings in four colonies in and adjacent to the park. These fleas were sent to the Center for Disease Control, again in Ft. Collins for testing. Specimens were evaluated, and subsequently found positive for Y. pestis, the bacterium responsible for plague in it's various forms.

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