CONSIDER FOR TALK

8th Annual SEA-PHAGES Symposium Abstract

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Isolation, Purification, and Characterization of Bacteriophage Cookies

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The goal of this study was to isolate, purify, and characterize bacteriophages found in the soils of Northern Nevada. In conjunction with the Howard Hughes Medical Institute Science Education Alliances PHAGES program, this research expands our understanding of the diversity of bacteriophages in this region. Specifically, this study aims at sequencing and annotating the DNA of Cookies, a bacteriophage found in Northern Nevada soil along the Truckee River during the summer of 2014. Unveiling the relationship between how bacteriophages interact with organisms and their environment allows for further insight into their ability to evolve under selective pressure. Mycobacterium smegmatis mc2155 was used as the host for this project. After soil collection, samples were enriched with M. smegmatis and screened for possible plaque formation. Through serial dilution purification protocols, bacteriophages were isolated until a uniform phage was found. A High Titer Lysate (HTL) was prepared from pure culture and DNA was isolated for analysis. The bacteriophages were imaged by transmission electron microscopy at the University of Nevada, Reno. Cookies DNA was then sent to Pittsburg State University (PSU) for sequencing followed by annotation using DNA Master Software.