John Wesley Powell Student Research Conference

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Genetic Analyses and Annotations of Two Newly Discovered C1 Mycobacteriophages

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Robert Shafer; Julia Lennon; Megan Dolan; Morgan Braun; and Richard Alvey, Faculty Advisor, "Genetic Analyses and Annotations of Two Newly Discovered C1 Mycobacteriophages" (April 16, 2016). *John Wesley Powell Student Research Conference.* Paper 2.
http://digitalcommons.iwu.edu/jwprc/2016/posters2/2

Poster Presentation P4

GENETIC ANALYSES AND ANNOTATIONS OF TWO NEWLY DISCOVERED C1 MYCOBACTERIOPHAGES

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While viruses, specifically bacteriophages, are some of the most diverse and abundant organisms on the planet, there is still a lot of unknown information about them. This research project aims at gaining an understanding of the genetic components of viruses. Of the sixteen bacteriophages isolated from soil samples, two in particular showed promising signs of intrigue and novelty. DNA from phages Yucca and Erdmann was sent to the University of Pittsburgh for sequencing. Both were classified as C1 cluster phages, which are known for having long sequences, averaging about 155,000 base pairs. Yucca and Erdmann were strikingly similar to each other and to two phages found in nearby locations by previous IWU SEA Lab students five years ago. In order to decipher and annotate the genome, various bioinformatics programs were utilized. These programs were crucial in determining the location and number of genes in addition to their potential functions. Our annotations revealed a few new genes but the majority of the genes had no known function. The completed annotation of both genomes will be submitted to the GenBank database for further analysis.