CONSIDER FOR TALK

7th Annual SEA-PHAGES Symposium Abstract

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JetBlade: A novel mycobacteriophage isolated in Southwest Idaho

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Bacteriophages (viruses that infect bacteria) are the single most abundant biological entity in the biosphere, with a population estimated at 1031 particles. As part of the HHMI SEA-PHAGES program, the College of Idaho’s Fall 2014 BIO210 class isolated and characterized 13 mycobacteriophages from Southwestern Idaho that infect Mycobacterium smegmatis. Electron microscopy revealed that each of these mycobacteriophages displayed morphological characteristics consistent with a siphoviridae morphotype. One of these newly-isolated mycobacteriophages (JetBlade) was selected for genomic analysis. Preliminary studies indicate that the Bipolar genome is 51.3kb in length and contains 86 predicted protein-coding genes, with a nucleotide sequence similar to A4 subcluster mycobacteriophages. These results are important for identifying novel genes, characterizing mycobacteriophage diversity, and for understanding the mycobacteriophages that infect not only Mycobacterium smegmatis but also closely related obligate human and livestock pathogens such as Mycobacterium leprae, Mycobacterium tuberculosis, and Mycobacterium bovis.