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10th Annual SEA Symposium Abstract

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Isolation and Characterization of Four Novel Mycobacterium Phages from the Sandhills Region of North Carolina

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Bacteriophages are the most numerous microbes in the biome and display massive genetic diversity. Thirteen phages capable of replication in Mycobacterium smegmatis mc2155 were isolated in the Sandhills region of North Carolina. Four phages (Datway, FrayBell, Leogania, and Lephleur) were sequenced at the Pittsburgh Bacteriophage Institute. All four of the sequenced phages were novel. Fraybell demonstrated myoviridae morphology and Leogania was siphoviridae. Datway and Leogania appear to be temperate phages due to their turbid plaques and the presence of lysogeny-associated genes such as integrase and immunity repressor. Continuing work will involve seeking related phages from the same geographic region using Datway and Leogania lysogens.