CONSIDER FOR TALK

7th Annual SEA-PHAGES Symposium Abstract

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The Genome Discovery and Exploration Program at Western Kentucky University isolated, purified, and characterized mycobacteriophages Badger and TheloniousMonk.

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Badger, a siphoviridae phage isolated from a soil sample taken in Bowling Green, Kentucky, is a member of the A4 subcluster and exhibits homology to Mycobacteriophages Achebe and Wile. Badger has an average capsid diameter of 55.2 nm and an average tail length of 182.5 nm, and produces bullseye plaques measuring approximately 1-3 mm in diameter. Badger’s genome is 51,274 bp long and includes a 10 bp 3’ overhang with the sequence (CGGCCGGTTA). It is predicted to have 86 genes.   
TheloniousMonk, a siphoviridae phage isolated from a water sample taken from the Barren River in Bowling Green, Kentucky, is a member of the A1 subcluster and is similar to mycobacteriophages Museum and PattyP. TheloniousMonk has an average capsid diameter of 46.7 nm and an average tail length of 132.3 nm, and produces plaques of varied morphologies. The most common morphology consisted of a turbid plaques with indistinct boundaries encompassing smaller halo plaques. TheloniousMonk’s genome is 52,055 bp long and has a 10 bp 3’ overhang of (CGGATGGTAA). It is predicted to have 88 genes. Further genomic analysis and characterization of Badger and TheloniousMonk reveals additional evidence supporting mosaicism among mycobacteriophages.