CONSIDER FOR TALK

2024 SEA Symposium Abstract

University of Mary Washington

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Phage Hunting at the University of Mary Washington

Genevieve Benton, Leila Bilhimer, Isabel Blackburn, Katherine Dickinson, David Dorfman, Addison Felts, Evan Fisher, Ned Gable, Andrew Green, Maddie Hendell, Sydney Krug, Sydney Kuck, Aurora Madson, Trinity Nolette, Trevor Rein, Zoe Rollins, Ella Schmidt, Victoria Smith, Lynn Lewis

UMW Phage Hunters classes have been isolating phages from Bacillus hosts since 2011. Our host this year was *Bacillus thuringiensis* subsp. Kurstaki, which has been used as microbial insecticide for pest control and is used as a simulant for *Bacillus anthracis* in biowarfare/bioterrorism studies. Of the 19 phages isolated this year, two (Joma23 and EMHS) were sequenced. Both were isolated from enriched cultures, both were myoviruses, and found in soil from Fredericksburg, VA. Joma23 has a genome length of 161,021 bp, which autoannotated with 293 features, a GC content of 38.6% and a 2,576 bp direct terminal repeat. There were no tRNAs found with autoannotation. Jumo23 is most similar to Hakuna, MightyMouse and PPIsBest by BLAST. EMHS has a genome length of 162,115 bp, which autoannotated with 297 features, and 3 tRNAs. EMHS contains a GC content of 38.7% and has a direct terminal repeat of 2,823 bp. EMHS is most similar to Freight Train, Azalea and Ilona. Annotation is ongoing and a host range study, including *B. anthracis* Delta Sterne, will be performed.