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11th Annual SEA Symposium Abstract

Neumann University

Aston PA

Corresponding Faculty Member: Matthew Mastropaolo (mastropm@neumann.edu)



Christopher J Negro

An Expedition in the Leaves, the Characterization and Annotation of Microbacterium Phage Hiddenleaf.

Christopher J Negro, Daekwon M Sequira, Megan Bates, Christian Bjorkelo, Trang Doan, Hailey A Johnson, Nafees Norris, Emily Sasher, Ian M Sigmund-Hamre, Courtney L Womack, Christina T Zacconi, Lauren R Salvitti, Patricia Fallest-Strobl, Matthew D Mastropaolo

In the 2018-2019 academic year eleven students at Neumann University collected soil and water samples from Delaware County, PA. Microbacterium foliorum NRRL B-24224 SEA was used as the host to isolate 10 bacteriophage as part of the first cohort of SEA-PHAGES students. Hiddenleaf was isolated and purified from a soil sample at the base of a garden bird bath under some chive plants. The phage was separated using standard procedures to isolate a genetically unique phage sample and amplified. DNA extraction and sequencing were performed. Analysis of the genome classified Hiddenleaf as Siphoviridae morphology in the EF cluster, which currently has 7 total members, 6 of which are currently annotated. Hiddenleaf has 84 genes and a genome length of 56082 bp, which is the smallest genome of the EF cluster. Seven orphams were identified in the genome. The genome was annotated using PECAAN, NCBI BlastP, HHPred and a comparative analysis was done using phagesdb.org and phamerator.org.