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2024 SEA Faculty Meeting Abstract

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The hunt for a bacteriophage to defeat an isolated antibiotic-resistant bacterium

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Antibiotic resistance is one of the major problems in the medical field. Antibiotic resistance is difficult to treat due to the non-specificity of antibiotics and the development of resistance when a full course is not taken. Bacteriophages are a main agent in the fight against antibiotic resistance due to their host specificity and ability to destroy the host. This study had two objectives. The first objective was to isolate an antibiotic-resistant bacterium and conduct biochemical tests and DNA sequencing to determine its identity. The second objective was to isolate a phage to infect and lyse the bacterium. The bacterium was isolated from lab mice on an LB plate treated with kanamycin. The isolated bacterium was identified as *Stenotrophomonas maltophilia*, and phages were isolated from cow feces and soil. Further testing will be conducted to characterize the phages. The discovery and characterization of phages is important in reducing ongoing antibiotic resistance.