



Apr 16th, 9:00 AM - 10:00 AM

Genome Annotation of 3 New *Rhodobacter Capsulatus* Bacteriophages

Seth Borrowman
Illinois Wesleyan University

Niyant Vora
Illinois Wesleyan University

Emily Erdmann
Illinois Wesleyan University

Madeline Gibson
Illinois Wesleyan University

Richard Alvey, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>



Part of the [Biology Commons](#), and the [Virology Commons](#)

Borrowman, Seth; Vora, Niyant; Erdmann, Emily; Gibson, Madeline; and Alvey, Faculty Advisor, Richard, "Genome Annotation of 3 New *Rhodobacter Capsulatus* Bacteriophages" (2016). *John Wesley Powell Student Research Conference*. 2.
<https://digitalcommons.iwu.edu/jwprc/2016/posters/2>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation P3

GENOME ANNOTATION OF 3 NEW *RHODOBACTER* *CAPSULATUS* BACTERIOPHAGES

Seth Borrowman, Niyant Vora, Emily Erdmann, Madeline Gibson and Richard Alvey*
Biology Department, Illinois Wesleyan University

In the past several years, bacteriophage research has accelerated. Despite these recent advances, relatively few bacteriophages that infect *Rhodobacter capsulatus* are currently known. Six new phages that infect *R. capsulatus* were discovered and isolated, and three of them (McDreamy, Dormio, and Tiptonus) were classified using information from host-range testing and genomic data. McDreamy and Tiptonus were discovered in the Bloomington-Normal area, and Dormio was found in the Chicago area. Purified DNA of all three phages was sent to the University of Pittsburgh to be sequenced. When the sequence files returned, they were annotated using bioinformatic resources. In order to analyze the genes of the three sequenced phages, their genomic data was compared to past data found for other *R. capsulatus* bacteriophages. The phages currently known to infect this bacterium are grouped into 3 clusters; these clusters have genome sizes averaging 39,072 base pairs. Our research shows that McDreamy and Tiptonus may represent two previously uncharacterized clusters of phages. Both have a genome size significantly greater than any previously discovered *R. capsulatus* phages. Dormio is believed to represent a group that previously had only one member. The annotations of all three genomes will be sent to the GenBank database upon completion.

