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2025 SEA Symposium Abstract

Virginia Tech

Blacksburg VA

Corresponding Faculty Member: Stephanie Voshell (svoshell@vt.edu)

FreakyGoo and EGUnicorn: two novel mycobacteriophages from the M1 and N clusters

Ethan M Andres, Gabrielle R Armstrong, Kayleigh M Bartholf, Andrew S Bendesky, Zach R Boyle, Elizabeth M Caffyn, Alice T Cao-Dao, Andrew K Caputo, Anna K Chavez, Darence E Cooks, Hallie P Darnall, Emily E DeWitt, Margaret E Fischman, Hamad Gill, Gracie M Gonzalez, Danae E Gravette, Tamra M Green, Chloe Hannum, Alison M Harvey, Thomas J Hausler, Emma Henderson, Garrett Henderson, Ilan L Litvak, James D Logan, Katherine MacNeilly, Lily Martinez, Owen K McCormack, Colin J Mutter, Rutha Patel, James D Quill, Abdullah Raja, Anshu Reddy, Sam E Rojas, Noah P Rupp, Sofia K Shaffer, Allie R Sherman, Abigail K Smith, Montasia Smith, Amanda White, Neeharika Yallayi, Nazanin N Zahiri, Zhuang Zhou, Stephanie M Voshell

Two novel mycobacteriophages, FreakyGoo and EGUnicorn, were discovered in local soil and annotated by students in the SEA-PHAGES program at Virginia Tech during the 2024-2025 academic year. The class was unable to formulate a subcluster hypothesis for FreakyGoo or EGUnicorn during the discovery portion of the course, but sequencing revealed the phages to be members of the M1 subcluster and N cluster, respectively. Both phages contain regions of unique DNA not shared by the closest relatives. Numerous adjustments to the original auto-annotations were made to each genome. FreakyGoo contains many tRNA genes and has an extremely long tail, both features have been reported in other M1 subcluster phages. Integrase genes were found in both phages suggesting that they are temperate.