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2025 SEA Symposium Abstract

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Comparison of MajinBuu and Coldpizza to their Respective Clusters

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Throughout the 2024-2025 academic year, students and faculty part of the College of Southern Nevada SEA-PHAGES program worked together to isolate, characterize, and study the genomes of two novel bacteriophages, MajinBuu and Coldpizza. The students gained experience in the techniques behind the wet lab work and bioinformatics that are involved in studying these two phages. MajinBuu was discovered in Las Vegas, Nevada by the SEA-PHAGES team at the College of Southern Nevada while Coldpizza was adopted from the University of Pittsburgh.  
 Despite the phages sharing the same host bacterium, *Gordonia rubripertincta* NRRL B-16540, and siphovirus morphology, they belong to two different clusters. Examination of these phages revealed an interesting observation during gene annotation. MajinBuu’s related phages Aflac, Figliar, Jodelie19 and TenaciousP displayed more conservation with their related genes and were all found in southern Nevada, whereas Coldpizza’s related phages AnClar, Evaa, and Yago84 are from various geographical locations with a lack of conservation between them despite being the most closely related in their cluster.