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Isolation, Characterization, and Analysis of Gordonia phage Typhonomachy

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Bacteriophages make up an abundant portion of the biosphere. Currently, about 25328 phages have been discovered across the globe. Of this number, 2703 were found in 2023 alone. Typhonomachy is a novel *Gordonia* phage that was amongst those discovered. It was isolated from the host *Gordonia rubripertincta NRRL B-16540* from mulchy soil after rain at George Mason University (38.82968 N, 77.305838S), in Fairfax, Virginia. The plaque size was ~1mm (about 0.04 in) in diameter. It was sequenced using Illumina sequencing at the University of Pittsburgh. Typhonomachy showed significant sequence similarity to the cluster CT *Gordonia* phages, a cluster made up of only lytic phages. Its genome is 49,294 bp long and has a GC content of 60.1%. The Typhonomachy genome contains ~71 gene products. Phylogenetic analysis of cluster CT and related phages will be presented, elucidating the remarkable diversity found in the *Gordonia* phages. Typhonomachy belongs to the Siphoviridae family of phages with regular-shaped capsids and long flexible tails. The “Typhon” in Typhonomachy comes from Greek mythology; Typhon was the last God who battled with Zeus before his ascension as Ruler of Olympus.