

## Symposium Abstract

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### Glide Another Day: Characterization of Wild Isolates of Predatory Myxobacteria

Myxobacteria belongs to a group of predatory bacteria that are found in various soil environments. They are exceptionally unique microbes who use their gliding motility to move towards prey microbes and consume them. They also have the remarkable ability to produce secondary metabolites that have antibacterial, antifungal, antiviral, and antitumor properties. For this reason, they are of interest to us so that we can understand their abilities and apply them to discover their potential as a source of novel metabolites with potential therapeutic applications. Our methodology began by collecting soil samples from various sites around the country. We then standardized a multistep myxobacterial soil isolation procedure. In order to lure the myxobacteria from the soil, we conducted a V-Streak predation using *E.coli* as bait. Through this process, we were able to successfully isolate over 20 different strains of wild myxobacteria. In order to understand potential beneficial aspects of these strains, we sought to characterize them phenotypically and genotypically. The myxobacteria were analyzed phenotypically by performing gram staining, colony morphology analysis, metabolic profiling, and conducting crude predation assays against a varied selection of bacteria including: *P. aeruginosa*, *S. aureus*, *E. coli*, and *B. subtilis*. The myxobacteria were analyzed genotypically by conducting multiple PCRs with myxobacteria-specific primers. By characterizing our wild isolate strains, we can begin to understand what kind of bioactive compounds they are producing and then understand what bacteria would be most susceptible to the metabolites produced.