

AVA BIAFORE, Dept of Natural and Physical Sciences, Shepherd University, Shepherdstown, WV, 25443 and SARA REYNOLDS Dept of Natural and Physical Sciences, Shepherd University, Shepherdstown, WV, 25443. Characterization of Enterococci species in Town Run

Enterococci are Gram-positive bacteria that support the metabolic functions of the gut microbiome. As fecal coliforms, enterococci are found in surface water alongside other enteric bacteria like *E. coli* and *Salmonella*, indicating fecal contamination. Shepherdstown, WV is home to a surface water tributary called Town Run, designated as a water source for the public in the event of an emergency, such as a sewage spill. It runs through the town, emptying into the Potomac River. Current studies are exploring water-quality indicators and the abundance of bacteria at various sites on Town Run. Data collection began in 2022 and continues, allowing assessment of how these factors change over time. In this study, we characterize various enterococci isolated among the bacteria from Town Run. In brief, water from Town Run was filtered through .45-micron filter paper and placed on Bile Esculin Agar. Colonies that hydrolyze esculin on this agar were isolated as presumptive Enterococci. Isolates were Gram stained to confirm a Gram-positive reaction, ovoid shape and chain arrangement. Finally, enterococci genus was confirmed using a previously published Enterococcus Agar (Identification of Enterococcus spp. with a biochemical key). A diagnostic key to identify species of Enterococci was created using colony color, fermentation of mannitol and other sugars, and motility. Ongoing studies are attempting to identify the species of each isolate and then screen for antibiotic resistance using a Kirby-Bauer antibiotic sensitivity test against ten common antibiotics, including vancomycin and kanamycin.